

AN ABSTRACT OF THE THESIS OF

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Title: A Study of the Effects of a Multisensory Communicative Approach to English Language Acquisition of Kindergarten Children in Singapore

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The purpose of this study was to determine the effects of an experimental approach to English language acquisition among preschool children attending low-cost community kindergartens in Singapore. Group and sex differences in the performance of four language tasks, as well as the effect of the interaction between group and sex and the relationship among the dependent variables, were investigated.

A posttest-only control-group design was adopted for the study. The total sample consisted of 128 kindergarten children selected through a nested sampling procedure using intact classrooms as experimental

units. Each of the two groups, experimental and control, was composed of 32 males and 32 females.

The experimental group was exposed to the Multi-sensory Communicative Approach designed for this study, while the control group used the traditional approach to language instruction. Both groups were tested after six months of treatment. Children were administered four language tasks: Word Knowledge, Following Instructions, Story Comprehension, and Verbal Fluency.

Data were collected through an interview procedure at the kindergarten center. The statistical tools employed for the analysis of the data were the two-factor analysis of variance, the F-statistic, the t-test, and the Pearson Correlation. Four null hypotheses were tested. The null hypotheses on group differences in language performance and the relationship among the four dependent variables were rejected. However, the null hypotheses on sex differences and interaction of sex and group could not be rejected.

A Study of the Effects of a Multisensory
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Acquisition of Kindergarten Children
in Singapore

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A STUDY OF THE EFFECTS OF A MULTISENSORY COMMUNICATIVE
APPROACH TO ENGLISH LANGUAGE ACQUISITION
OF KINDERGARTEN CHILDREN IN SINGAPORE

CHAPTER I

INTRODUCTION

Singapore is a multiracial, multicultural, and multilingual island state with a population of approximately two and one-half million. The main ethnic group is Chinese, comprising 77 percent of the total population, followed by the the Malay, 15 percent, Indian, 6 percent, and other minority groups, 2 percent. There are 4 official languages, Chinese (Mandarin), Malay, Tamil (Indian), and English (Singapore Ministry of Culture, 1985).

Children in Singapore attend bilingual schools in which English is the primary language of instruction and which offer a choice of three other official languages in the curriculum. The New Educational System (Goh, 1979), now in its seventh year of implementation in Singapore, emphasizes the importance of bilingual education in the schools. Children must learn English in order to have better opportunities in the fields of

science and technology and they must learn their "mother tongue" to avoid losing their cultural identity (Tan, 1986). Thus, students are required to learn English and a local language, which is usually the language of their ethnic origin.

As instruction in the content areas is in English, students without a satisfactory command of the language are at a disadvantage with respect to further formal education. The call to "learn English or be left behind," by Mr. S. Rajaratnam, the Senior Minister in the Prime Minister's Office, should not be taken lightly by parents and their children with respect to the school system. Singapore has made English the working language and it is regarded as the key to economic advancement (Straits Times, July 12, 1986).

Although English is generally widely used as the language of communication and discourse in academic, professional, and commercial circles, it is only one of the four languages of social interactions among Singaporeans, both inside the home and out. A recent survey by the Ministry of Education (1985) has shown that 90 percent of the Chinese students use dialects or Mandarin in the home (Straits Times, July 6, 1986). It is not surprising, therefore, to find that the majority of children from non-English speaking back-

grounds experience difficulty in acquiring English proficiency.

In order to equip preschoolers in the kindergartens with school readiness skills, one of the fundamental tasks of the teacher is to foster the learning of English in addition to the development of basic skills and proficiency in a local language. Parents of young children are anxious that their children acquire at least some functional knowledge of English before they begin formal schooling. The increasing enrollment in preschool learning centers in the country reflects, in large measure, the concern of parents who want to give their children an academic head start in a highly competitive society (Lee, 1982). As the number of vacancies in the middle class private kindergartens is limited, the majority of parents, particularly those in the low-income groups, enroll their children in community kindergartens in their neighborhoods.

Rationale

There is a general concern among both educators and parents about the lack of proficiency in English in the schools. Dr. Tay Eng Soon, the Minister of State (Education), pointed out that English was still the subject with the lowest pass rate in the O-Level School Certificate Examination in the past three years

(Straits Times, July 6, 1986). Proficiency in English is considered to be a crucial factor in school achievement in Singapore. By 1987 all schools will be converted to national-type schools using English as the medium of instruction. The study of a local language continues to be compulsory in line with Singapore's bilingual policy.

Since English is a language that is learned mainly in the schools, there is an urgent need to regularly review and improve its curriculum and methods of instruction. An attempt in this direction should begin at the preschool level. The growing recognition of the importance of the early years in language acquisition and the development of basic skills, together with parental aspirations for their young, have contributed to the immense popularity of preschool education in the last decade. Currently, more than 90 percent of young children in Singapore have attended either nursery classes, child development centers, or kindergartens before entry into grade school at the age of 6 (Lee, 1982). Although all preschool centers are essentially bilingual, with English and Mandarin as the two dominant languages, methods employed in language instruction leave much to be desired. An informal survey of low-cost community kindergartens in Singapore reveals that the common practice of teaching English is the basal reader approach (Lee, 1984). The

choral reading of poorly written texts, coupled with the daily handwriting exercises of isolated and meaningless words often, if not always, results in the failure of English language acquisition in children who lack listening comprehension and oral language skills. It is unfortunate that the rapid expansion of kindergarten education has not caught up with current research on children's developmental needs and learning processes in language acquisition.

This problem is compounded when paraprofessional teachers are employed, as is the case of the low-cost community kindergartens. The majority of these paraprofessionals have only basic training, that is, attendance at a six-month Basic Course for preschool teachers conducted by either the Institute for Education or the Ministry of Community Development in Singapore. Financial constraints, limited budgets, and the scarcity of suitably qualified professionals in the field are the realities school administrators have to face and accept.

Given the state of the art on the preschool scene in Singapore, kindergarten programs which cater primarily to the children of working class families have been found to be highly structured, with emphasis on the "three R's" (Lee, 1984). With little or no training, paraprofessionals often find it difficult to implement the type of comprehensive programs that are

offered in semi-structured private kindergartens which have the necessary funds for employing better qualified teachers. To teach a lesson directly from a basal reader appears to be much simpler and more manageable than carrying out learning activities to meet the varied and changing needs and interests of a large group of energetic youngsters. Furthermore, structured lessons with plenty of seatwork give the teacher firm control of the class and thus reduces the number of disciplinary problems that may arise in a child-centered classroom environment.

The need to examine the programs and instructional methods used in the low-cost community kindergartens and to devise sound, empirically tested approaches is vital and real. The early years should not be wasted, but instead should be capitalized upon to optimize the development of young children who are Singapore's only natural resource. A logical beginning would be to start with English language acquisition, an area of paramount importance to school success in Singapore.

Statement of Problem

This study addresses the problem of the acquisition of English as a second language (ESL) among preschool children attending low-cost community kindergartens in Singapore. Its primary aim is to examine

the effects of an experimental approach to second language instruction which capitalizes on the use of sensory experiences involving listening, touching and feeling, seeing, and physical movement. This approach is termed the Multisensory Communicative Approach (MCA) in the present study. It is based on Asher's (1977) total physical response and the Natural Approach of Krashen and Terrell (1983).

The research questions are as follows:

1. Does the Multisensory Communicative Approach (MCA) facilitate the acquisition of English in the community kindergarten setting?
2. How does the MCA compare with the traditional approach in terms of performance in selected Bernard van Leer (BVL) English language tasks on Word Knowledge, Following Instructions, Story Comprehension, and Verbal Fluency?
3. How do preschool males compare with preschool females in their English language performance?
4. To what extent can paraprofessional teachers be trained in order to function effectively in the classroom using the Multisensory Communicative Approach?
5. What are the relationships among four dependent variables and two independent variables

in this study? The dependent variables are mean scores on four language tasks: Word Knowledge, Following Instructions, Story Comprehension, and Verbal Fluency. The two independent variables are instructional approach to English language acquisition and sex.

Research Hypotheses

The following null hypotheses were constructed for research purposes:

- Ho¹: There is no significant difference between the experimental and control groups with respect to overall English language performance on selected language tasks;
- Ho²: There is no significant difference between males and females in the study with respect to overall performance on English language tasks;
- Ho³: There is no significant effect for the interaction between sex and group with respect to performance on English language tasks;
- Ho⁴: There is no significant relationship among the four dependent variables: Word Knowledge (WK), Following Instructions (LCA), Story Comprehension (LCB), and Verbal Fluency (VF).

Purpose of the Study

The purpose of this study was to examine the effects of an experimental Multisensory Communicative Approach to English language acquisition among pre-school children in low-cost community kindergartens in Singapore.

The objectives of the study were:

1. To examine whether there were differences in English language acquisition between the Multisensory Communicative Approach and the traditional approach in kindergarten children in Word Knowledge, Following Instructions, Story Comprehension, and Verbal Fluency;
2. To determine the relationship among the four language tasks and their relationship to sex and method of approach to language acquisition; and
3. To identify strategies that can be used to promote English language acquisition among kindergarten children from Chinese-speaking backgrounds.

Assumptions of the Study

The assumptions underlying this study were as follows:

1. That English language acquisition could be measured through the use of a sufficiently validated instrument.
2. That the selected Bernard van Leer English language tasks as validated would measure English language acquisition along four dimensions, namely Word Knowledge, Following Instructions, Story Comprehension, and Verbal Fluency.
3. That children in the study would respond as required to the four language tasks in an interview format.
4. That children in the study were comparable with respect to their home environment, linguistic background, and capacities for second language learning, that is, English as a second language.

Limitations of the Study

It was difficult, if not impossible, to apply the necessary controls for randomization of subjects in the study. Thus, a nested sampling procedure was employed. A total number of 128 children from 12 intact

K1 (first year) classes in 6 kindergarten centers participated in the study. The kindergarten centers were located in two public housing districts for low-income families.

All of the children came from Chinese-speaking backgrounds. There was an equal number of males and females, that is, 64 of each sex. However, the sample in the study did not represent the population at large and consequently, the findings of this study are not applicable to the preschool population in Singapore.

Data collection was accomplished through the interview procedure. Owing to administrative and financial constraints, only one interview was accorded to each child. The interview, however, was untimed since it was perceived that the child was placed in an artificial situation and needed time to become accustomed to the interviewer and the testing conditions. The limitations in child interviews was the fact that there was no sure way of distinguishing between the child's reluctance and his or her inability in the performance of language tasks and that a child tired easily, tending to lose his or her attention quickly.

As it was not possible to engage adequately trained bilingual research assistants for the study, the researcher was the sole interviewer and recorder of the child's responses during interviews. The tape recorder had been found to be an inhibiting factor in

an informal pilot study and therefore was not used in the main study. The use of standardized recording sheets was found to be useful (Appendix D).

Operational Definition of Terms

Basic Course--refers to a six-month competency-based course in preschool education for paraprofessional kindergarten teachers in Singapore.

Bernard van Leer Instruments--refers to preschool English language test instruments developed and tested by the research team at the Institute of Education, Singapore, in 1984.

Bilingual schools--refers to schools in Singapore which require students to learn two languages, namely English and a local language.

Communicative competence--refers to basic communication skills, both verbal and nonverbal, in various social situations, with emphasis on language content rather than form.

Community kindergartens--refers to low-cost kindergartens located in public housing districts which conduct two-hour programs for preschoolers in the neighborhood.

English language acquisition--refers to language acquired through exposure to rhymes, songs,

storytelling, role play, and physical movement; no direct teaching is involved.

English language learning--refers to formal methods of language instruction in the classroom.

English language performance--refers to the child's performance on the four language tasks investigated in this study.

Listening comprehension--refers to the understanding of a) instructions or commands given in English and b) understanding of a story read by an adult.

Mother tongue--refers to the language of an ethnic cultural/racial group.

Multisensory Communicative Approach--refers to second language acquisition based on sensory experiences in listening, touching and feeling, seeing, and physical movement, as well as the use of language for communicative purposes.

Traditional approach--refers to instruction based on drills, worksheets, and choral reading of texts.

Verbal fluency--refers to the spontaneous utterances of the child.

Word knowledge--refers to the child's knowledge of vocabulary items in this study, limited to body parts, color, and shapes.

CHAPTER II

REVIEW OF RELATED LITERATURE

This review of the literature includes studies relating to second language acquisition, communicative competence, child bilingualism, and individual differences in language acquisition. These studies provide the context for the present study.

Second Language Acquisition in Childhood

There has been an increase of research studies on second language acquisition during the last couple of decades. Since the 1970s, research studies have attempted to recapture the natural direction of language learning in spoken as well as written forms. The "natural learning" model has been developed primarily as a result of research into how children acquire their first language with apparent ease in natural settings and how they acquire a second language under similar circumstances (Chun, 1980). Traditional, grammar-based instruction appears not to have provided second language learners with sufficient opportunity to engage in authentic conversation. In consequence, the natural language learning model has been intro-

duced with due emphasis on the functional uses of language, thus enabling the learner to interact meaningfully and appropriately in diverse social situations. Currently, the goal of second language learning has become not only the "what" (linguistic forms), but also the "how, when, where, and why" of communication (Littlewood, 1983).

McLaughlin (1984), in his comprehensive review of second language acquisition in childhood, finds that most of the early studies dealt with the general phenomena of second language acquisition, while the more recent studies are generally more concerned with specific aspects and processes. Two such studies cited in McLaughlin's review were those conducted by Dulay and Burt (1974) and Wong-Fillmore (1976). Dulay and Burt compared the speech of Chinese-speaking children from New York City's Chinatown and that of Spanish-speaking children from Long Island and concluded that the two linguistically different groups learned English constructions in the same developmental sequence. Furthermore, it was pointed out that this sequence, peculiar to second language learners, was different from that reported in the studies of monolingual English-speaking children. An interesting finding is that the children studied resorted to second language strategies in learning the target language, English.

Wong-Fillmore (1976) examined the strategies used by five Spanish-speaking children, aged five to seven, when they communicated with peers in a bilingual school situation which used both English and Spanish as media of instruction. There was, however, no direct teaching of English as a language. In analyzing the oral expressions of the five Spanish-speaking children, Wong-Fillmore found that there was an extensive use of pre-packaged speech forms or formulas when these children attempted to communicate in English in play situations. Wong-Fillmore was not the only researcher to note the heavy reliance on formulaic speech by children in the initial stage of second language acquisition. Huang is one of the first recent researchers to provide evidence of the extensive use of unanalyzed formulaic speech in second language acquisition (Huang & Hatch, 1978). The conclusion is that formulaic speech plays a crucial role in the second language process.

Communicative Competence

In recent years the emphasis given to developing communicative competence as communication skills among second language learners has generated a number of innovative approaches to second language teaching and learning (Anderson, 1981). The well-documented successful immersion programs in Canada have been

specially designed to facilitate the acquisition of French among English-dominant children in the public school system. The main characteristic of the immersion approach is that the learning of French is incidental to educational content (McLaughlin, 1984). Communicative competence is the central goal of Canadian immersion programs. Results from numerous research studies have shown that children in immersion programs in Canada acquire competence in the second language that is far superior to those of regular French classes (Stevens, 1983).

It is pointed out that two pertinent factors may have contributed to the success of the Canadian immersion programs: (1) the emphasis on communicative competence in language acquisition; and (2) the fact that French is not taught directly, but is used instead as the language of instruction. Contemporary psycholinguists have joined forces with sociolinguists in maintaining that experience with language in its communicative function is essential for learning to speak in another language.

The communicative competence approach places emphasis on the functions and meanings of language used in social situations. Linguists such as Halliday (1973) and Hymes (1974) highlight the fact that when we speak we "do things" with words. Halliday defines the three basic functions of language as: (1) expres-

sion of content, (2) establishment and maintenance of values, and (3) making links with itself and with features of the situations in which language is used. In essence, the focus of language is on the social meaning within a broad definition of communication as the basis for the use and interpretation of language (Johnson, 1983; Savignon, 1983).

Central to all communicative approaches is the development of aural-oral language skills, particularly in the early stages of language acquisition (Allwright, 1979; Wells & Wells, 1984). Asher (1977) firmly believes that listening is critical to the development of speaking and that listening skills are developed in advance of speaking skills. His studies with second language learners who listened to commands in the target language and responded appropriately and physically to the given commands, were highly successful in the initial stages of second language acquisition. Only after building a sufficient listening vocabulary were learners encouraged to use the language they had acquired for the purpose of communication. The speed would depend on the individual learner, since no one was required to speak before he or she was ready.

The influence of Asher's (1977) total physical response approach (TPR) is apparent in the various

communicative approaches that have emerged in the second language learning field. In the forefront are Krashen and Terril (1983), whose communication philosophy is based on communicative competence methods advocated by sociolinguists in the past decade. The general view is that conscious learning and structure practice make only a small contribution to communicative ability of the language learner.

Spoken fluency in a second language is not taught directly. Rather the ability to speak fluently and easily in a second language emerges by itself, after a sufficient amount of competence has been acquired through input. (p. 20)

Krashen and Terril support the natural approaches to second language acquisition. They maintain that in the initial stages of language acquisition, listening and receiving "comprehensible input" has priority over speaking. A distinction is made between learning, which is defined as conscious learning, and acquisition, which is the subconscious and natural acquisition of language. In foreign language learning, Krashen argues that the essential process is acquisition rather than conscious learning. At a later stage, consciously learned material may be available to students when they want to "monitor" their speech in order to improve its accuracy.

Together with Terril, Krashen (1983) develops what he calls the "Natural Approach" to second language acquisition with the hypothesis that language acquisition is based primarily on what we hear and understand, not what we say. Nevertheless, the ultimate goal of a Natural Language classroom is to develop basic communication skills, both oral and written, with emphasis on meaning.

Child Bilingualism

There are numerous definitions of bilingualism, but general agreement of what the concept means has yet to be reached (Bactens, 1982). Basically, however, a bilingual child is expected to be able to communicate in two languages in the course of daily interactions. For the purpose of distinguishing the types of child bilingualism, McLaughlin (1984) uses the terms "successive acquisition" and "simultaneous acquisition" of two languages. The former refers to the introduction of a second language after three years of age (an arbitrary cutoff point), while the latter refers to the acquisition of both languages before the age of three.

Studies on child bilingualism have revealed that the linguistic and social environment of the child has a strong influence on his or her language acquisition (Hatch, 1978; Chun, 1980). Second language research-

ers generally agree that exposure to peers who are native speakers or who are fluent speakers of the target language, has a significant impact on the kind of language that is acquired as well as on the speed with which it is acquired (Hatch, 1978; McLaughlin, 1980).

Other studies which focus on the social contexts of second language include those of Canale and Swain (1980), Ventriglia (1982), and Savignon (1983). Canale and Swain emphasize that "exposure to realistic situations is crucial if child learning is to lead to confidence" (p. 38). Ventriglia proposes that the goal of instructional programs in second language acquisition is to serve language functions in a social context. He suggests that language learning may be viewed as drama, with children assuming roles in social situations in which they adopt strategies to practice language and to communicate with one another. Savignon observed how her son, Daniel, aged nine, acquired French effortlessly in a natural setting and concluded that the "setting in which language is learned is intrinsically related to language retention" (p. 63).

Shuy (1981) supports the holistic approach to language acquisition as the natural direction of language learning. The importance of the social contexts of holistic language learning is emphasized:

In addition to the holistic aspects of forms and functions in language training, one must also set learning in realistic social contexts. Language learning should be seen in relationship to the people with whom the learner will eventually communicate. Thus one learns not only the language of the target community but also the appropriate variety of language. (p. 109)

Recently several studies conducted in Singapore attempt to look into the relationship between first and second languages, namely Chinese and English, and the relationship between proficiency in English and school achievement.

Bilingualism in the Singapore context has its own unique definition. It means knowledge of English, the primary medium of instruction in the schools, and is thus referred to as L1 (first language), and competence in any one of the other three official languages--Chinese, Malay, or Tamil--referred to as L2 (second language) in the education system. The two languages, L1 and L2, are tested separately in the schools.

Soh (1986), in his study on the bilingual ability of a sample of grade three to five children with above national average scores in English and Chinese, suggests that "true bilingualism may not only require familiarity in two languages separately considered but

also inter-changeability between the languages" (p. 1). It is within this definition of bilingualism that Soh has devised code-switch tests through which it would be possible to determine the interactions between Chinese and English. Among the findings, the study shows that correlation between the two languages is higher than for other dual-language correlations reported in the literature.

In another Singaporean study on the bilingual ability (Chinese and English) of a sample of 296 grade three children, Leong and Neo (1986) found that there seems to be no strong correlation in E1/C1 (English and Chinese) bilingual ability. The different nature of the two languages may be the main reason that contributes to this low correlation. (p. 12)

A recent study by Tay (1985) investigated the relationships among language acquisition, home environment, and science learning of a small sample of grade three to five children in Singapore. The evidence suggests that the amount of English and Chinese dialect spoken in the home, including the mother's level of education, had a significant influence on the English language achievement of students at grade three level. It has been suggested that efforts to help students improve their language proficiency should begin in the early grades because of the malleability

of their intelligence and emotional development in the childhood years.

The first major study of preschool children in Singapore, begun in 1983 and presently in its second phase of operation, examines the cognitive and social development of a national sample of children, aged three to five, in diverse preschool settings such as day care, child development centers, nursery class, and kindergartens. Funded by the Bernard van Leer Foundation in The Hague, this longitudinal, cross-sectional study aims to collect base line information of preschoolers in Singapore. Of relevant interest to the present study is the investigation into English language acquisition of children from non-English speaking backgrounds and in particular, those attending low-cost community kindergartens located in public housing districts. In terms of general language development in both English and local languages, Ko and Thomas (1986) have found the trend to be developmental. But relatively poor performance in verbal fluency (oral language expression), in both English and local languages, has given rise to concern. In analyzing the data on the performance of the English language tasks by children from the community kindergartens, there is evidence that in listening comprehension and verbal fluency the results are well below those obtained from children attending private kinder-

gartens. This finding lends support to the observation made by Lee (1984) on the lack of listening comprehension and speaking skills of children from the community kindergartens.

Individual Differences in Language Acquisition

Research studies indicate that there is a broad range of individual differences in second language acquisition (Snow & Hoefnagel-Hohle, 1979; Genesee & Hamayan, 1980; McLaughlin, 1984). McLaughlin states that many factors have to be taken into consideration on individual variation:

There is the question of the age of the child, the conditions of presentation, the opportunities for language use, the social context, the languages to be learned, the personality and learning style of the child. All of these variables contribute to individual variation in child second-language learning. (p. 171)

On the question of sex differences in language acquisition, there appears to be a general lack of research in the area (Romaine, 1984). Early research studies were more concerned with male and female forms of speech than with communicative competence. According to Romaine, the most detailed evidence of sex differences in western societies exists at the phonological level.

In the more recent studies, however, it is not clear whether sex is a factor in individual differences in language development or whether the results reflect the effect of sex related socialization process and learner variables. Oksaar (1983) maintains that

it is not possible to speak of the existence of global sex related advantages in the language development of girls. Instead, it must be carefully differentiated in what area differences have been established, for what age, and what significance the results have. (p. 113)

In conclusion, differences in language acquisition may be attributed to three sources of individual variation as learning style variables, personality variables, and socio-psychological factors (McLaughlin, 1984).

Summary

In the field of second language acquisition, there appears to be general agreement that formal language instruction which emphasizes the learning of the form or mechanics of language is not as effective as the more informal, interactional techniques that focus on the functions and uses of language. Central to all communicative and natural approaches is the use of language in genuine social interactions. The ultimate

goal of language learning is communicative competence rather than knowledge of linguistic forms of language. Halliday (1973) stresses that what is common to every language use is that "it is meaningful, contextualized, and in the broadest sense, social" (p. 20).

The implication for second language is clear. Language as a communication tool can be efficiently acquired when opportunities are provided for learners to develop their communicative ability through activities that are meaningful and which resemble, in significant ways, the kinds of communication they will experience outside the classroom.

Research studies indicate that there is a wide range of individual differences in both first and second language acquisition. It is not clear, however, whether sex is a factor in individual differences in language development or whether results reflect sources of individual variation as learner variables and socio-psychological factors.

For young children learning a second language, Asher's total physical response philosophy points to the special relationship between language and a child's body. Drawing on his research studies, it is indicated that the assimilation of knowledge and the acquisition of skills can be accelerated through the use of the kinesthetic sensory system. Thus, an approach based on multisensory communicative experiences

would appear to be highly appropriate for preschool language programs in the kindergarten setting.

CHAPTER III

RESEARCH PROCEDURES

This chapter includes the design of the study, a description of the population and sampling procedure, a description of the treatment and instrument, and procedures used in data collection.

Research Design

A posttest-only control-group design (Table 1) was adopted for this study. This design is similar to the pretest-posttest control-group design, except that pretests of the dependent variables are not administered to the experimental and control groups. According to Borg and Gall (1983), the posttest-only control-group design is recommended when (1) it is not possible to locate a suitable pretest and (2) when there is a probability that the pretest has an effect on the experimental treatment.

As the target population comprises preschool children from Chinese-speaking backgrounds, it was assumed that they had no knowledge of English. A survey of the children's home backgrounds through the Child Questionnaire (Appendix A) revealed that the children

participating in the study were non-English speaking. Therefore, the post-test-only control-group design was considered appropriate for research purposes. The design matrix is given below:

Table 1. Posttest-Only Control-Group Design.

Subjects	Language Acquisition	
	Treatment (6 mos.)	Post-test
Group I (Experimental) N = 64	Multisensory Communi- cative Approach	N = 64 (32 males) (32 females)
Group II (Control) N = 64	Traditional Approach	N = 64 (32 males) (32 females)

Population and Sample

The target population consisted of preschool children enrolled in first-year community kindergartens located in low-cost public housing districts in Singapore. The population was homogeneous with respect to the following characteristics: (1) Chinese ethnic origin, (2) Chinese-speaking home background, (3) low-income families, (4) living quarters in subsidized high-rise apartments, (5) age, and (6) type of kindergarten program in which they were enrolled.

A nested sampling procedure, with the intact classroom as the experimental unit, was used (Peterson, 1985). Twelve kindergarten classes from six

centers were involved in the study. The six centers were matched in terms of (1) program type, (2) location and facilities, (3) low tuition fees, (4) socioeconomic and home language background of children enrolled, and (5) the employment of paraprofessionals as classroom teachers.

Six kindergarten classes from three centers (two classes from each center) were in the experimental group, while an equal number of classes from three other centers formed the control group. All the children were in the four-year age range, with a mean age of 56 months.

The Sample

Sixteen children (sampling units) were selected at random from each classroom (experimental group). Where the same teacher taught two classes, these two classes were considered as one experimental unit within the group. A total of 64 children, 32 males and 32 females, represented each of the experimental and control groups. The sampling procedure is illustrated in Table 2.

Table 2. Sampling Procedure (Nested Data, Hierarchical Classification).

Group	Center	Class	Teacher	No. of Children
I (Experimental) (N = 64)	1	1	1	16 (8m. & 8f.)
		2	2	16 (8m. & 8f.)
	2	3	3	8 (4m. & 4f.)
		4	3	8 (4m. & 4f.)
	3	5	4	8 (4m. & 4f.)
		6	4	8 (4m. & 4f.)
II (Control) (N = 64)	4	7	5	8 (4m. & 4f.)
		8	5	8 (4m. & 4f.)
	5	9	6	8 (4m. & 4f.)
		10	6	8 (4m. & 4f.)
	6	11	7	16 (8m. & 8f.)
		12	8	16 (8m. & 8f.)

The randomization of sampling units within each experimental unit and within each group formed the basis of the nested sampling design. The population drawn for this study was therefore the subpopulation in the nested design.

The Treatment

The experimental group received treatment in an innovative approach to language acquisition--the Multisensory Communicative Approach (MCA) to English language acquisition. Based on the Natural Approach of Krashen and Terril (1983) and Asher's (1977) total physical response, the MCA emphasized the function and meaning rather than the form of language. English was

not taught directly, but was acquired through participation in multisensory activities in the classroom setting. The control group, on the other hand, received treatment in the traditional method of language teaching, that is, through the use of basal readers, drills, and worksheets.

Children in experimental classes participated daily for 40-minute sessions, 5 times per week, for 6 months in multisensory activities, which included the following:

1. Echo and whispering games to promote listening and responding skills;
2. Manipulation of objects in "Feely" boxes in guessing games;
3. Sorting and matching activities;
4. Memory and "wishing" games for vocabulary development;
5. Listening to, comprehending, and following instructions and commands;
6. Action songs, verses, rhymes, and finger plays;
7. Music and movement;
8. Story telling and comprehension through use of flannelgraph figures and hand puppets;
10. Picture talk and sharing sessions;
11. Miming and dramatic play; and
12. Role play.

Teachers were encouraged to design their own multisensory activities in order to respond to the varying and changing needs and activities of the children in their classes. The primary goal of such activities was to provide meaningful and enjoyable experiences for children to acquire English "naturally" in a classroom environment.

The duration of the treatment was six months, beginning in February and continuing to mid-September, 1986 (excluding five weeks school vacation). At the end of the treatment, four language tasks were administered to children in the experimental and control groups on a one-to-one basis.

In the initial stage, activities were carried out with the primary purpose of developing listening and comprehension skills. What was considered to be of prime importance was the understanding of a message given in the target language. Winitz (1981) and Asher (1983), among others, view this as "comprehension training"--an essential prerequisite to language acquisition. Asher's model was adopted since this model "is a mirror of first language acquisition in which the 'caretaker' in the role of teacher utters directions to students who respond with physical actions" (p. 331).

From one-work commands such as "walk", "jump", and "clap", children began to respond to two and three

or more words given in English. For instance, children responded to "walk quickly" and "walk to the table." At this point, no demands were made on the children to produce oral speech. No one was asked to speak before he or she was ready.

Those who volunteered to speak were given opportunities to give commands to peers. New vocabulary items selected from a given list (Appendix G) were introduced daily while familiar ones were reinforced through children's participation in such activities.

Along with total physical response activities, multisensory activities were carried out in daily sessions, with the goal of providing a natural environment for English language acquisition. There was no direct teaching of English. However, teachers were expected to use English in their interactions with children during language sessions.

Training of Paraprofessional Teachers

Teachers in charge of experimental classrooms completed a total of 46 hours of center-based training in the Multisensory Communicative Approach to English language acquisition. Weekly sessions were held to familiarize teachers with the theoretical foundation of language acquisition in children and in the current practices in the field, with particular emphasis on

the objectives of the MCA adopted for this study. Appendix F includes the details of the training program.

After undergoing the first two training sessions, teachers were asked to implement beginning MCA activities which focused on the development of listening and responding skills through physical movements. What followed was a learning-and-teaching model of training. At each session, time was set aside for feedback, self-evaluation and problem-solving among the teachers. Further, each teacher was supervised on three occasions at regular monthly intervals, the first supervision beginning after two months of training when they had gained some confidence in their role. Each supervision session was followed by feedback and discussion on how to improve and enrich the natural language environment in the classroom. Teachers were deemed as "partners" in the experimental venture. The importance of their contributions was emphasized throughout the program. Samples of training materials are included in Appendix G.

The Instrument

The instrument used in the study was the Bernard van Leer Test of Basic Language Skills, developed and tested by the Institute of Education project team in Singapore in 1984. This instrument was among a battery of tests used in the first major study of the

cognitive and social development of preschool children in Singapore. A total of four language tasks were administered to each child from both the experimental and control groups at the end of the treatment period (Appendix C). The four language tasks were as follows.

Word Knowledge (WK)

There were 20 vocabulary items grouped into 3 categories:

1. Body parts: head, eye, nose, ear, leg, hand, hair, face.
2. Colors: red, blue, green, white, yellow, brown, black.
3. Shapes: round, square, triangle, rectangle, oval.

Following Instructions (LCA)

This task was administered to determine the child's ability to comprehend and carry out instructions and commands given in English. The six commands were:

1. Give me a pencil.
2. Put the crayon into the box.
3. Stand up and clap your hands.
4. Stamp your feet.
5. Look up at the ceiling.
6. Walk to the door.

Story Comprehension (LCB)

This task was administered to determine the child's listening comprehension of a short story that was read to him or her by an adult. The questions were based on the contents of the story:

1. What is the name of Mei Mei's pussy cat?
2. What color is it?
3. Where did Kitty go?
4. Why did Mei Mei cry?
5. Who brought Kitty back to Mei Mei?
6. What must Mei Mei always remember to do?

Verbal Fluency (VF)

This task was administered to determine the child's oral speech production. To stimulate spontaneous speech, pictures of familiar scenes (seaside scene, family celebrations, supermarket and playground scenes) in the child's environment were used. The level of proficiency was determined by the syntactic structure of the child's utterances, whether single words, phrases or sentences were predominantly used when speaking.

Reliability and Validity

The Bernard van Leer Test of Basic Language Skills had been tested and refined on several occa-

sions before its use in the main study of the Institute of Education in Singapore in 1984. The reliability and validity of the test instruments have not been statistically determined, but have been judged to be adequately reliable and valid by the research team, which included English language specialists and early childhood educators from the Institute of Education and overseas consultants. English language tests from western countries were considered not suitable for Singaporean children due to culture bias and test difficulties.

A separate pilot study was conducted in September, 1985, on a sample of 64 preschool children from a low-cost community kindergarten, similar in background to the target population in the present study. After the necessary refinements, the instrument comprising the four language tasks was used in the present study.

Collection of Data

Questionnaires were used to gather information on the home and center backgrounds of the children in the study. The Child Questionnaire (Appendix A) was completed by the parents or guardian of the child, while the Center Questionnaire (Appendix B) was filled in by the center director or her deputy. Of the 200 questionnaires distributed to parents of children in the first year kindergarten classes (K1), 18 were returned

unusable or incomplete and 182 were returned in usable condition, resulting in a response rate of 91 percent. The response rate was 100 percent for the questionnaires sent and returned.

Data on English language acquisition were gathered by administering selected subtests of the Bernard van Leer Basic Language Skills (BVL) through an interview procedure. For young children, it was essential that rapport was first established before the actual testing commenced to ensure cooperation on the part of the children as well as to minimize factors that might negatively influence performance outcomes (Thomas et al., 1986). Thus, a semi-structured interview where children were interviewed on a one-to-one basis was employed in this study. According to Burroughs (1971), the interview, when properly used, is a useful tool in research.

The Setting

Interviews were conducted in a quiet room in the kindergarten center. Low chairs and a table, all scaled to child size, were used to make the child feel at ease and comfortable.

Administration of Test

The four language tasks were administered individually on a one-to-one basis in a quiet room in the center. The initial greetings and exchanges were made

in the child's home language, which is Chinese, either Mandarin or dialect, or a combination of both. This initial interaction in the child's preferred home language was considered necessary to reach the child and establish rapport before the test interview. The test was untimed, although the actual time spent would depend on the state of readiness of the child and the discretion of the interviewer. On the average, however, each interview lasted approximately 20 minutes. Standard procedures for administration and scoring had been devised and implemented for reliability (Appendix D).

Summary

A posttest-only control-group design was adopted for the study. It was considered appropriate for the target population of preschool children attending low-cost community kindergartens, who were from Chinese-speaking home backgrounds and who could not communicate in English. A nested sampling procedure was employed, with the intact classroom as the experimental unit from which children (sampling units) were randomly selected for the investigation.

Each of the experimental and control groups consisted of 64 children, with an equal number of males and females. The experiment was a 2×2 factorial design, using method of treatment (group) and sex as

factors. The experimental group received treatment in the multisensory communicative approach to language acquisition, while the control group used the traditional approach.

The treatment period was six months, after which children from both groups were administered four language tasks through an interview on a one-to-one basis. The four language tasks were: (1) Word Knowledge, (2) Following Instructions, (3) Comprehension, and (4) Verbal Fluency. Information on the child and home background was gathered through questionnaires.

CHAPTER IV

ANALYSIS OF DATA

Data on the performance of both the experimental group and control groups on the four language tasks--Word Knowledge, Following Instructions, Story Comprehension, and Verbal Fluency--were collected through an interview procedure at the close of the six-month language program. The sample for this study consisted of 128 first-year community kindergarten children in Singapore. There were 64 children, 32 males and 32 females, in the experimental group as well as in the control group. They were randomly selected through a nested sampling design (see Table 2).

The major purpose of this study was to determine the effects of the Multisensory Communicative Approach to English language acquisition among kindergarten children attending low-cost community kindergartens in public housing districts. Performance on language tasks was examined with respect to group and gender differences, relationships among the four dependent variables (performance on the four language tasks), and the possible relationship of the home-language background and language performance.

The following null hypotheses were tested:

Ho¹: There is no significant difference between the experimental and control groups with respect to the overall language performance on selected tasks.

Ho²: There is no significant difference between males and females in the study with respect to performance on selected language tasks.

Ho³: There is no significant effect for the interaction between sex and group with respect to performance on selected language tasks.

Ho⁴: There is no significant relationship among the four dependent variables: Word Knowledge (WK), Following Instructions (LCA), Story Comprehension (LCB), and Verbal Fluency (VF).

Mathematical Model

The following mathematical model was adopted for data analysis:

$$Y_{ijklm} = \mu + \alpha_i + \beta_j + \xi_{ij} + \chi_{ik} + \tau_{ikl} + \delta_{iklm}$$

where

μ	= overall mean response;
α_i	= effect of treatment (i=1,2);
β_j	= effect of sex (j=1,2);
ξ_{ij}	= interaction of group with sex (i,j=1,2);
χ_{ik}	= centers within (i=1,2; k=1,2,3);

γ_{ikl} = classes within center ($i=1,2$; $k=1,2,3$; $l=1\dots 8$);
 δ_{iklm} = within classes ($i=1,2$; $k=1,2,3$; $l=1\dots 8$; $m=1\dots 16$).

Statistical Analysis

The design was a 2×2 factorial design, using method of instruction and sex as factors. The Statistical Package for the Social Sciences (1975) was used to analyze the data for this study. A nested sampling procedure was adopted for the population (Peterson, 1985). Randomization was adopted within each group, center, and class. It was therefore necessary to consider the variability which existed among the independent variables. The mathematical model illustrated above includes these sources of variation.

The mean and standard deviation for each of the dependent variables, i.e. the score on each language task as well as the mean and standard deviation for the overall performance (total for the four language tasks), were computed for the purpose of comparison between the control and experimental groups. The F statistic and the significance of F or the p-value were also computed.

Data on each language task and on the total language performance were analyzed through a two-factor nested analysis of variance (ANOVA). The F-statistic was computed first to determine the equality of the means among the independent variables, such as group,

sex, center, and class. If equal, the t test was applied. If not equal, a separate variance estimate was computed.

Results and Discussion

The study was designed to determine first if interaction occurred between group and sex. This interaction did not occur ($p > .05$). Therefore, the main effects of group and sex were investigated with respect to the four research hypotheses.

First Hypothesis

Ho¹: There is no significant difference between the experimental and control groups with respect to the overall language performance on selected tasks.

This major hypothesis was tested using the two-factor nested ANOVA. The results are presented in Table 3.

Table 3. Two-Factor Nested Analysis of Variance for Overall Performance on Language Tasks.

Source of Variation	SS	df	MS	F	P
Group	4441.53	1	4441.53	12.75	.02*
Sex	512.00	1	512.00	1.45	.30
Group by Sex	57.78	1	57.78	.16	.71
Centers within Group	1413.16	4	363.29	6.22	.03*
Classes within Center	340.81	6	56.80	.52	.79
Within Class	11397.50	104	109.59		

The significant F-value ($p = .02^*$) for the main effect of group indicates a significant difference between the experimental and control groups on overall performance on language tasks. The difference in centers within group is noted. For some reason the centers did not respond in a uniform way. This may be due to learner and teacher variables, differences in abilities, expectations, motivations, and other factors.

The mean values presented in Table 4 and Figure 1 show the clear superiority of the performance of the experimental group in all four language tasks. Further analyses of variance applied to the four components of the overall language performance (Tables 5 to 8) clarified that the null hypothesis could be rejected only for three of the four components: Word Knowledge, Following Instructions, and Story Comprehension.

Table 4. Mean Scores and Standard Deviation of Language Tasks.

Test Item	Experimental Group (N = 64)		Control Group (N = 64)	
	\bar{X}	S.D.	\bar{X}	S.D.
Work Knowledge	11.98	5.73	7.95	4.84
Following Instructions	8.41	2.67	4.31	2.40
Story Comprehension	3.13	3.72	1.06	1.82
Verbal Fluency	2.91	2.62	1.31	2.26
Overall Performance	26.42	12.52	14.64	8.84

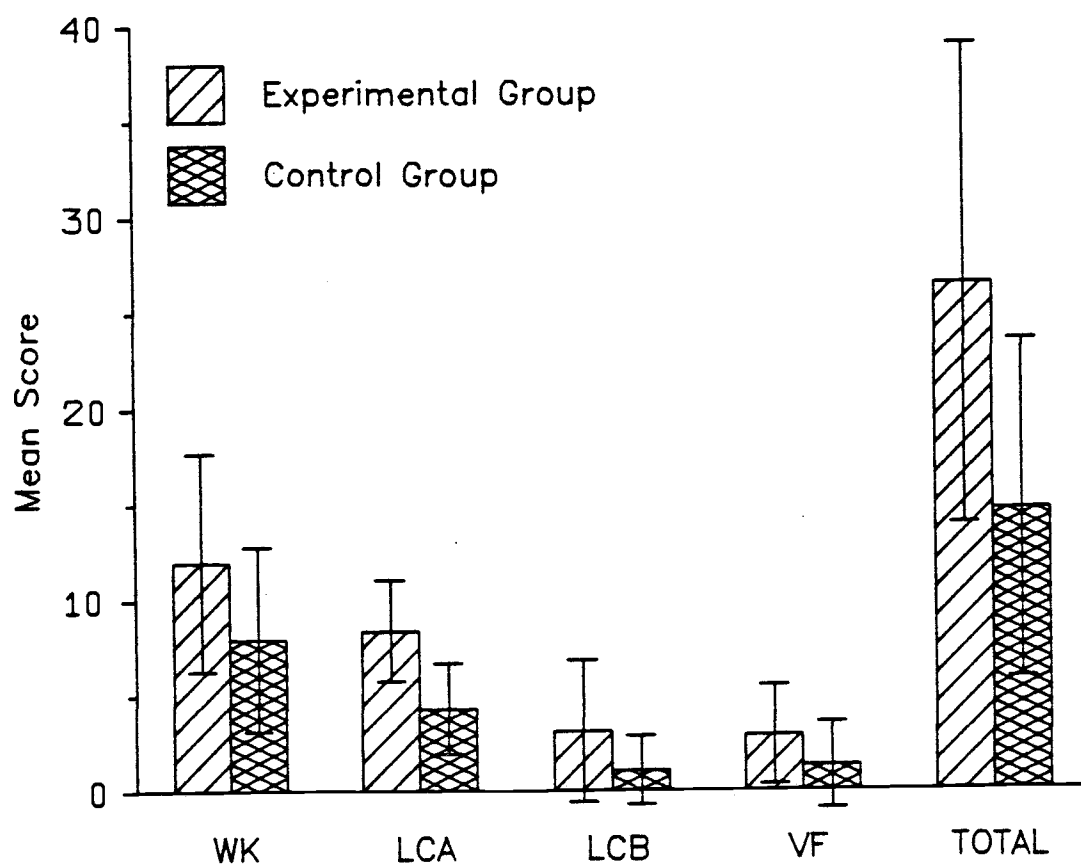


Figure 1. Overall Performance on Language Tasks.

Performance on Word Knowledge (WK). The ANOVA for this part of the test of the major hypothesis, relating to Word Knowledge, is presented in Table 5.

Table 5. Two-Factor Nested Analysis of Variance for Word Knowledge.

Source of Variation	SS	df	MS	F	P
Group	520.03	1	520.03	10.95	.03*
Sex	128.00	1	128.00	2.70	.18
Group by Sex	22.78	1	22.78	.48	.53
Centers within Group	189.94	4	47.48	3.07	.11
Classes within Center	92.84	6	15.47	.56	.76
Within Class	2890.63	104	27.79		

The maximum possible score for Word Knowledge is 20 points. Children in the experimental group scored higher on this task, with a mean of 11.98 and a standard deviation of 5.73, compared to those in the control group with a mean of 7.95 and a standard deviation of 4.84. The significant difference noted for the main effect of both groups may be further clarified by referring to their mean values presented in Table 4.

Performance on Following Instructions (LCA). The maximum possible score for each task (LCA and LCB) of listening comprehension is 12 points. The mean score for LCA for the experimental group was 8.41, with a

standard deviation of 2.67, while the mean score for the control group was 4.31 with a standard deviation of 2.40. Children in the experimental group attained significantly higher scores than those in the control group. In the ANOVA in Table 6 the p-value level is .01*. Thus, the two groups are statistically different with respect to performance on the task of Following Instructions. This finding suggests that children in the experimental group had better listening comprehension skills and were more ready and able to respond to a given command through physical movements.

Table 6. Two-Factor Nested Analysis of Variance for Following Instructions.

Source of Variation	SS	df	MS	F	P
Group	536.28	1	536.28	19.3	.01*
Sex	.28	1	.28	.01	.93
Group by Sex	.28	1	.28	.01	.93
Centers within Group	112.13	4	28.03	2.19	.19
Classes within Center	76.69	6	12.78	2.38	.03*
Within Class	559.00	104	5.38		

When children acquire language through the total physical response method of Asher (1977), comprehension increases, as is shown in the results of this study. The association between a child's body and the verbal command, i.e. the comprehensible input (Krashen

& Terril, 1983), facilitates acquisition of the target language.

Performance on Story Comprehension (LCB). The finding on this second task of listening comprehension, which involved listening to a short, familiar story (Appendix E) and answering simple questions based on the contents of the story, was not unexpected. Although the experimental group performed better than the control group, with a mean of 3.13 and a standard deviation of 3.72, compared to a mean of 1.06 and a standard deviation of 1.82 for the control group, children in both groups achieved lower mean scores than on LCA. This may be explained by the fact that LCB was the more difficult task, demanding both listening comprehension and verbal response. In contrast, LCA only required children to comprehend the given commands and respond physically. The ANOVA for Story Comprehension is shown in Table 7. The p-value is significant at the .04* level.

Table 7. Two-Factor Nested Analysis of Variance for Story Comprehension.

Source of Variation	SS	df	MS	F	P
Group	136.13	1	136.13	9.13	.04*
Sex	36.13	1	36.13	2.42	.20
Group by Sex	3.13	1	3.13	.21	.67
Centers within Group	59.63	4	14.91	2.46	.16
Classes within Center	36.38	6	6.06	.70	.65
Within Class	905.50	104	8.71		

Comprehension of a story told by the experimenter appeared to be a more demanding task than comprehension of a relatively short verbal command. The child must have a longer attention span, a better retention and recall of facts, and some familiarity with book language in order to be able to perform the task. Furthermore, it was necessary for the child not only to understand the contents of the story, but also to understand the questions that were asked of him or her. Finally, the task required the child to respond orally, which proved to be beyond the capabilities of the majority of the children.

Performance on Verbal Fluency (VF). Performance on Verbal Fluency or spontaneous speech production was generally poor. This finding on second language acquisition is similar to those reported in the literature which consistently indicate that listening and

comprehension skills are more advanced than speaking skills. The maximum possible score is 12 points. Results for the experimental and control groups are: mean, 2.91 with a standard deviation of 2.62 and mean, 1.31, with a standard deviation of 2.26, respectively. The evidence is in favor of the experimental group in terms of scores. However, as indicated in Table 8, the p-value at the .09 level is not statistically significant with respect to the performance of both groups on the task of Verbal Fluency.

Table 8. Two-Factor Nested Analysis of Variance for Verbal Fluency.

Source of Variation	SS	df	MS	F	P
Group	81.28	1	81.28	4.88	.09
Sex	22.78	1	22.78	1.37	.31
Group by Sex	.28	1	.28	.02	.90
Centers within Group	66.66	4	16.66	4.74	.05
Classes within Center	21.09	6	3.51	.64	.70
Within Class	570.37	104	5.48		

Of the children from both group who responded verbally in the task, 39 percent were in the one-word utterance category, 5.5 percent were in the two- and three-word category, and 7 percent in the short sentence category. Children who did not respond totaled 48.5 percent. Given the testing situation, there was no clear evidence that these children were not able to

produce oral speech. There was the possibility that they were too shy to speak to a stranger or that they might have their own reasons for not speaking. At best, only their performance in the task could be taken into consideration and assessed. This is one of the limitations of the study. Naturalistic observations of children in peer interactions inside and outside the classroom over a period of time would yield more accurate information on children's acquisition of English.

Summary. The ANOVA, when applied to the overall performance of language tasks, as well as to the specific task areas, indicates that the null hypothesis can be rejected for three out of four components of the language tasks. The null hypothesis may be rejected with respect to Word Knowledge, Listening Comprehension, Story Comprehension, and the overall performance of language tasks.

Second Hypothesis

Ho²: There is no significant difference between males and females in the study with respect to performance on selected tasks.

Comparison of performance of males and females.

The mean and standard deviation for the overall language performance as well as the mean and standard de-

viation for each language task were computed and are presented in Tables 9 and 10. The ANOVA for testing the second hypothesis is presented in Table 3.

Table 9. Comparison of Experimental and Control Groups on Overall Language Performance.

Group	Total			Male			Female		
	N	\bar{X}	S.D.	N	\bar{X}	S.D.	N	\bar{X}	S.D.
Experimental	64	26.42	12.52	32	23.75	12.49	32	29.09	12.15
Control	64	14.64	8.84	32	13.31	6.45	32	15.97	10.66
Total Sample	128	20.53	12.16	64	18.53	11.18	64	22.53	13.13

Table 10. Comparison of Males and Females on Performance on Language Tasks.

Group	WK		LCA		LCB		VF	
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.
<u>Experimental</u>								
Males (N=32)	10.56	5.93	8.31	2.90	2.44	3.51	2.44	2.58
Females N=32)	13.41	5.22	8.50	2.44	3.81	3.85	3.38	2.61
<u>Control</u>								
Males (N=32)	7.38	4.27	4.31	2.40	.69	1.30	.94	1.93
Females (N=32)	8.53	5.36	4.31	2.44	1.44	2.70	1.69	2.52
<u>Total Sample</u>								
Males (N=64)	8.97	5.37	6.31	3.32	1.56	2.77	1.69	2.38
Females (N=64)	10.97	5.80	6.41	3.22	2.63	3.32	2.53	2.65

The F-value of 1.45 ($p = .30$, Table 3) is not significant and indicates that there is no differential performance by males and females with respect to the performance on selected language tasks. Sex differences were also analyzed in each of the separate tests and none of the analyses showed a significant difference.

For the language tasks--Word Knowledge, Story Comprehension, and Verbal Fluency--females in the study out-performed the males in terms of means scores within group and between groups, as shown in Table 10, Figure 2, and Figure 3. The exception was on the task of Following Instructions, in which the mean scores of the males and females varied by .19 within the experimental group and the control group (Figure 4).

For the overall performance on the four language tasks in the experimental group, the females achieved a higher mean score of 29.09, compared to 23.75 achieved by the males in the experimental group. In the control group the mean score for females was 15.97 and for males, 13.31. However, in the test of significance for the overall performance (Table 3), the p-value of .30 indicates that the males and females in the study were not statistically different with respect to overall language performance. On the basis of these results H_0^2 cannot be rejected.

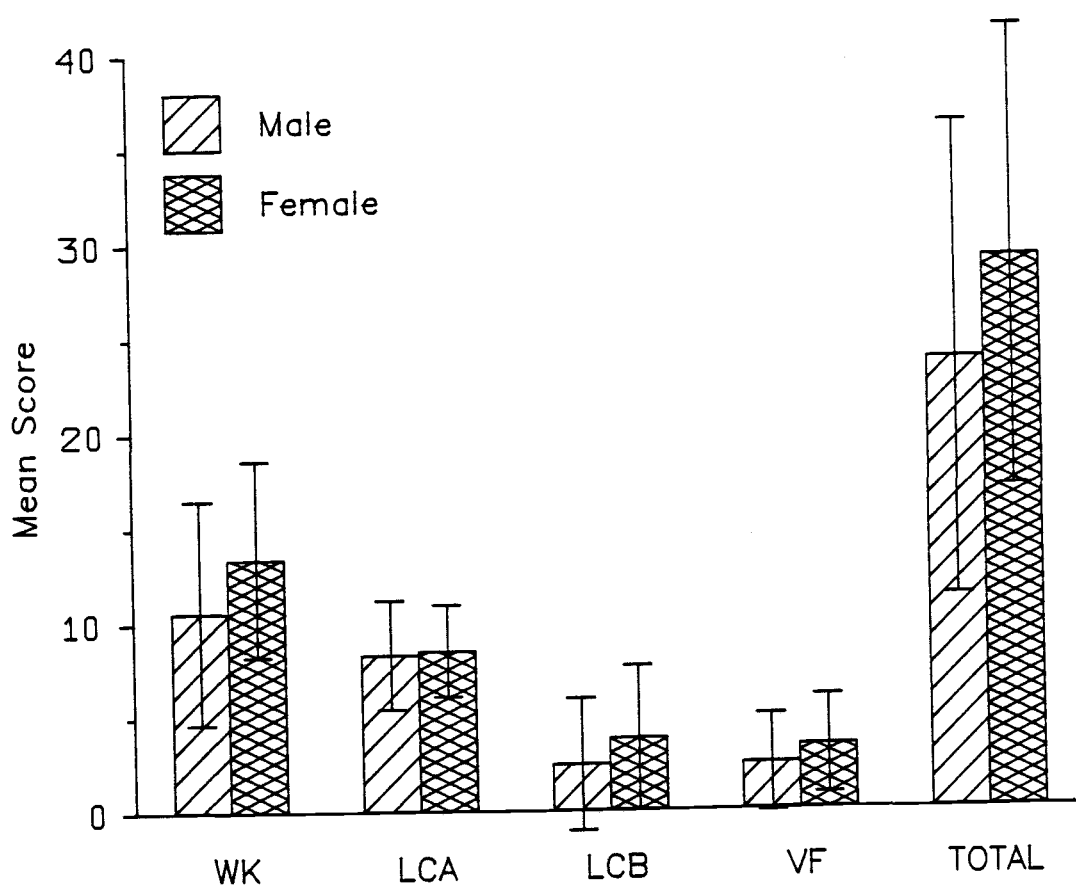


Figure 2. Performance of Males and Females
Experimental Group (N = 64)

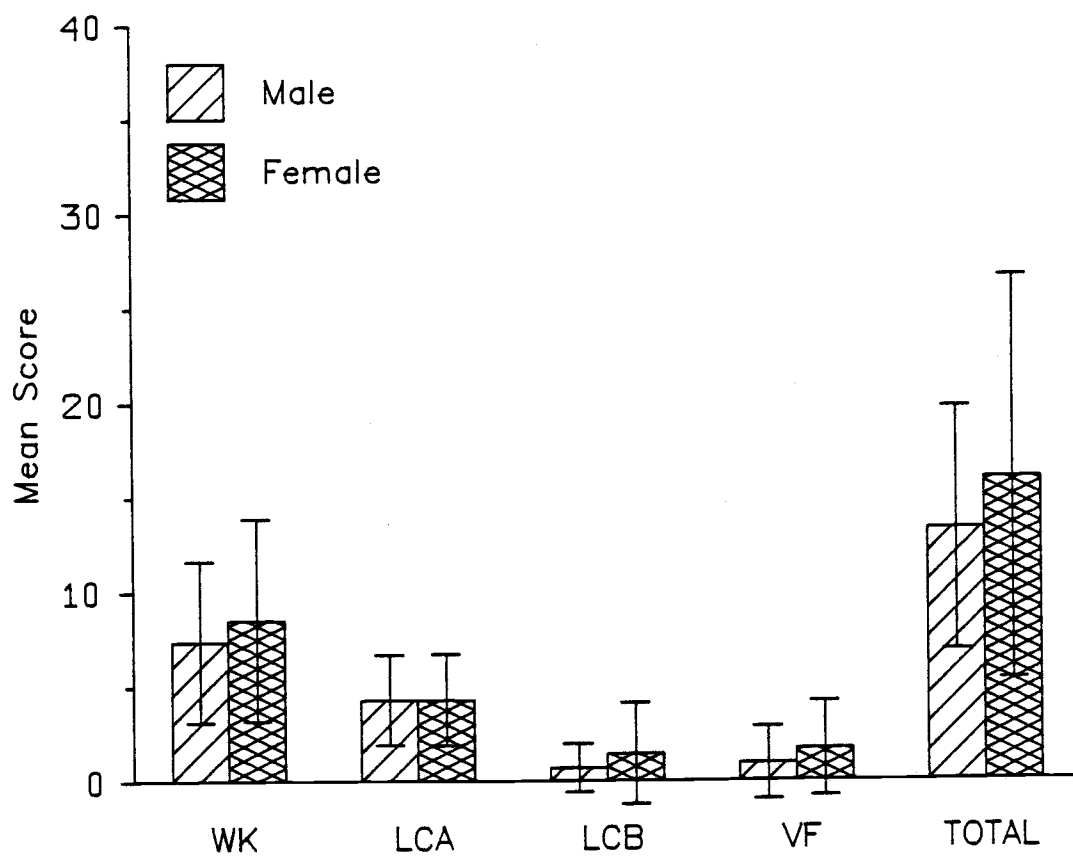


Figure 3. Performance of Males and Females
Control Group (N = 64)

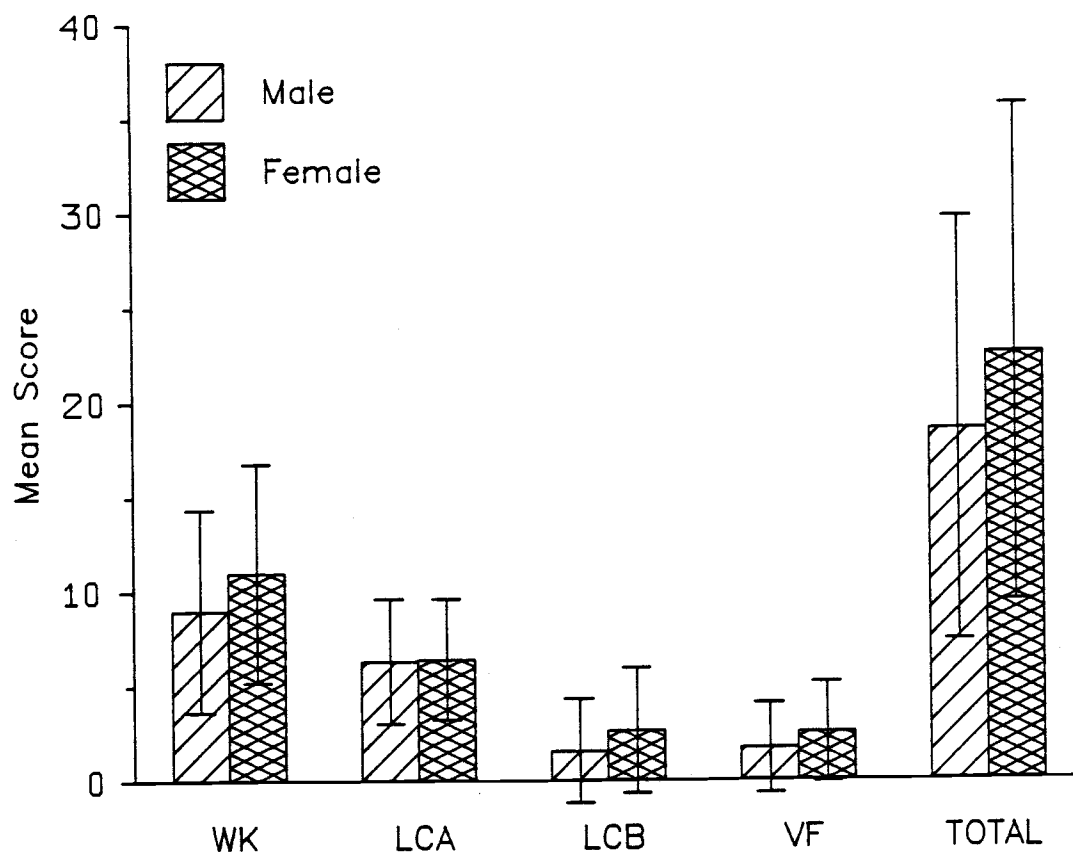


Figure 4. Performance of Males and Females
Total Sample (N = 128)

Third Hypothesis

Ho³: There is no significant effect for the interaction between sex and group with respect to performance on selected language tasks.

Interaction between sex and group and its effect on performance. In each of the four language tasks and in the overall language performance, there was no significant effect for the interaction between sex and

group. The two-factor nested ANOVA Tables 5 to 8 indicate that the p-value was higher than .05 for each of the measures. Table 11 shows a summary of the ANOVA results.

Table 11. Summary of ANOVA Results.

Source of Variation	Word Knowledge	Following Instruct.	Story Comprehension	Verbal Fluency	Total
Group	P = .03	P = .01	P = .04	P = .09	P = .02*
Sex	P = .18	P = .93	P = .20	P = .31	P = .30
Sex By Group	P = .53	P = .93	P = .67	P = .90	P = .71

On the basis of the results, H_0^3 cannot be rejected.

Fourth Hypothesis

H_0^4 : There is no significant relationship among the four dependent variables: Word Knowledge (WK), Following Instructions (LCA), Story Comprehension (LCB), and Verbal Fluency (VF).

Relationship among the performances on the four language tests. To determine the relationship among these four variables, the Pearson r was computed. Table 12 indicates the correlation coefficients of the tasks.

Table 12. Correlation Matrix for Language Tasks.

Language Tasks	WK	LCA	LCB	VF
Word Knowledge (WK)	-			
Following Instructions (LCA)	.66	-		
Story Comprehension (LCB)	.58	.55	-	
Verbal Fluency (VF)	.66	.55	.60	-

Significant correlations were found among the four dependent variables: WK, LCA, LCB, and VF. The range is between .55 and .66.

Summary

All the four dependent variables--Word Knowledge, Following Instructions, Story Comprehension, and Verbal Fluency--were significantly correlated, though not highly. This finding supports the contention that language skills are interrelated and interdependent. H_0^4 is therefore rejected.

Relationship Between Home Language and Performance

Interest in the effect of the home language background on language performance involved the examination of the possible relationship between the two variables. Table 13 shows the means and standard deviations of children from both Mandarin-speaking and dialect-speaking homes.

Table 13. Home Language Background and Language Performance.

Home Language	\bar{X}	S.D.	Std. Error	t-test	p-value
Mandarin (N = 108)	21.42	12.86	1.24	3.07	.01*
Dialect (N = 20)	15.85	7.34	1.65	3.07	.01*

There were 108 children from Mandarin-speaking homes, compared to 20 from dialect-speaking homes. The former obtained a mean score of 21.42 on the overall performance of selected language tasks, with a standard deviation of 12.86. The latter obtained a lower mean score of 15.85, with a standard deviation of 7.34.

There is a statistical difference between the Mandarin-speaking and the dialect-speaking groups of children in the study ($p = .01^*$). It may be hypothesized that Mandarin, being one of the four official languages used in the schools, is a language of learning and there might be a positive transfer to the acquisition of the target language.

The noticeable spread of scores in the Mandarin-speaking group, which is not evident in the dialect group, may be attributed to factors beyond the scope of this study. There are several possibilities that could account for this result, such as variables in learning style and personality and parent-child interactions, to name just a few.

Summary of Findings

The major hypothesis of the present study (H_o^1), that there is no significant difference between the control and experimental groups with respect to overall language performance on selected tasks, is rejected ($p < .05$). Children exposed to the Multisensory Communicative Approach to English language acquisition performed at a higher level on all four language tasks and attained higher mean scores in their overall language performance, as measured by the Bernard van Leer Basic Language Skills tests. The hypothesis (H_o^4) that there is no significant relationship among the four dependent variables of Word Knowledge, Following Instructions, Story Comprehension, and Verbal Fluency, is rejected. The evidence is that the four language tasks were significantly correlated ($p < .05$).

The remaining two hypotheses (H_o^2 and H_o^3), on sex differences and on the effect of interaction between sex and group, are not rejected. Males and females in the study were statistically not different with respect to their overall language performance and there was no significant effect for the interaction between sex and group on language performance ($p < .05$).

The research question on the possible relationship between home language and performance on language tasks was also examined. The Mandarin-speaking children outperformed the dialect-speaking children with respect to the mean scores on overall language performance. The p-value is significant at the .01* level.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

There are four sections in this chapter. First, the purpose of the study and research procedures are reviewed. Second, a summary of the findings is presented with respect to each of the four research hypotheses. Third, conclusions are drawn and presented on the basis of the findings. And fourth, recommendations are made based on the findings of this study.

Summary

This study was conducted to determine the effects of the Multisensory Communicative Approach to English language acquisition among preschool children attending low-cost community kindergartens in Singapore. The literature reviewed indicated that since the 1970s sociolinguists have attempted to recapture the natural direction of language learning in both spoken and written forms. The "natural learning" model has been developed primarily as a result of research that examined how children acquired their first language with apparent ease in natural settings and how they might acquire a second language under similar circumstances.

In contrast to the traditional, grammar-based method of instruction, the natural language acquisition model emphasizes the functional uses of language, thus enabling the learner to interact meaningfully and appropriately in diverse social situations.

The Multisensory Communicative Approach designed for this study was based on the "Natural Approach" advocated by Krashen and Terril (1983) and on the total physical response approach of Asher (1977). It was proposed that in young children the assimilation of knowledge and the acquisition of language could be accelerated through the involvement of the kinesthetic sensory system.

The purpose of the study was to investigate (1) group differences in language performance as a consequence of two approaches to language instruction; (2) sex differences in the language tasks performance; (3) the effect for the interaction between sex and group with respect to performance on language tasks; and (4) the relationship among the four dependent variables: Word Knowledge, Following Instructions, Story Comprehension, and Verbal Fluency. Additionally, the relationship between home language background and language performance was examined.

Procedures

A posttest-only control-group design (Borg & Gall, 1983) was adopted for this study. The preschool children were from non-English-speaking homes and it was assumed that they had no knowledge of English. This being the case, it was considered not necessary to administer a pretest. The total sample consisted of 128 four-year old kindergarten children, drawn through a nested sampling procedure (Peterson, 1985), with the intact classroom as the experimental unit and the children as the sampling units. Each of the 2 groups, control and experimental, had 64 children, with 32 males and 32 females.

The control group received no treatment, but continued with the traditional approach of language teaching involving textbooks, worksheets, and drills. In contrast, the experimental group was exposed to the Multisensory Communicative Approach to language acquisition, which emphasized listening and comprehension skills leading to communicative competence in English. After six months of treatment (excluding school vacations), both groups were administered selected tasks from the Bernard van Leer Test of Basic Language Skills developed by the Institute of Education in Singapore in 1984. The Bernard van Leer test is non-standardized, but adequately validated by a team of educators and language experts in Singapore.

Data were collected through an interview procedure on a one-to-one basis. The Statistical Package for the Social Sciences (1975) was used to analyze data for this study. For each of the four language tasks, the mean and standard deviation were computed for comparison purposes between groups and sexes. The statistical tool employed to analyze the data for each dependent variable was the two-factor nested ANOVA. The F-statistic and the t-test were generated to determine the equality of the means among the independent variables, including group, sex, center, and class. The significance of F or the p-value was also computed to determine the statistical significance of the findings of the study. To determine the relationship among the four dependent variables (language tasks), Pearson Correlation Coefficients were computed.

Findings

Ho¹: There is no significant difference between the experimental and control groups with respect to the overall language performance on selected tasks.

Ho¹ is rejected. The findings of this study indicate that there was a statistical difference between the two groups with respect to their overall language performances ($p < .05$). The experimental group at-

tained an overall mean score of 26.42, compared to an overall mean of 14.64 for the control group.

Ho²: There is no significant difference between males and females in the study with respect to performance on selected tasks.

Ho² cannot be rejected. Results show that although the mean score of 22.53 for females was higher than the mean score of 18.53 for males, the performance of the two sexes was not statistically different ($p > .05$).

Ho³: There is no significant effect for the interaction between sex and group with respect to performance on selected tasks.

Ho³ cannot be rejected. In the two-factor nested ANOVA for each of the four language tasks and in the overall performance (total scores), there was no significant effect for the interaction between sex and group ($p > .05$).

Ho⁴: There is no significant relationship among the four dependent variables: Word Knowledge (WK), Following Instructions (LCA), Story Comprehension (LCB), and Verbal Fluency (VF).

Ho⁴ is rejected. Using Pearson Correlation Coefficients it was found that the four language tasks were positively correlated in range between .55 and .66.

The relationship between the home language background and overall language performance proved to be significant at the .05 level. The Mandarin-speaking children (n = 108) had a mean score of 21.42, while the dialect-speaking children (n = 20) had a mean score of 15.85. There is a noticeable spread of scores in the Mandarin-speaking group, which may be attributed to differences in learning style and in personality variables which are beyond the scope of this study.

Through information gathered in an evaluation questionnaire (Appendix I), it was indicated that teachers who had completed the six-month MCA training program found that they had gained much from the experience in terms of knowledge and skills in facilitating second language acquisition in children. It was also indicated that they had a clearer understanding of the crucial role they play in providing a natural language environment in which children used language spontaneously for communicative purpose and for learning.

Conclusions

The following conclusions were drawn from the results of the study:

1. Children in the experimental group appeared to profit from the Multisensory Communicative Approach to English language acquisition. In all four language tasks, these children out-performed the control group.
2. Acquiring English "naturally" through participation in multisensory activities in the classroom where the emphasis was on meaning and communication appeared to be more effective for learners than formal language instruction. This finding supports those reported in the literature on language research.
3. Listening skills (receptive language) appeared to be more advanced than speaking skills (expressive language). Again, this finding is consistent with major research studies on second language acquisition.
4. There were no sex differences with respect to performance on selected language tasks. Gender differences in language acquisition and learning have not been established in research studies.
5. The home-language background seemed to be a significant factor in the performance of selected language tasks, with the Mandarin-

speaking children achieving higher scores than dialect-speaking children.

As the sample of preschool children for this study was not selected in a completely random manner, the findings are not applicable to the population at large. Nonetheless, results obtained from the target population in the study would be useful in designing language programs that would benefit children from similar home and kindergarten backgrounds in Singapore.

Recommendations

The present study on English language acquisition among community kindergarten children in Singapore through the Multisensory Communicative Approach has provided needed information in the area of children's second language development. There is much room for improvement in kindergarten second language programs in Singapore. The following are recommendations based on the findings of this study:

1. Where English language use is confined to the classroom setting, children should be provided with maximum opportunities for natural language exposure, since a natural language environment is necessary for optimal language acquisition. According to Burt and

Dulay (1983), a "natural language environment exists whenever the focus of the speakers is on the content of the communication rather than on the language itself" (p. 39). This goal can be achieved through multisensory communicative activities, by means of which language input can be organized to synchronize with the child's body movement and through peer interaction.

2. Increased emphasis should be given to the development of listening and comprehension skills, particularly in the initial stages of language acquisition. In the review of literature in the field, Benson and Hjelt (1980) conclude that "the development of a solid understanding of the meaning of heard utterances is prerequisite to practice in the productive manipulation of utterances in communication" (p. 59). Many of the multisensory activities lend themselves to the development of listening comprehension skills.
3. In traditional instruction, children are required to produce language immediately. The findings of this study support a methodology which suggests that the development of listening comprehension skills should first be

promoted before that of speaking. Speech production should be voluntary when the child is ready to speak after a silent period. It should be remembered that children learn a language most effectively through using it in meaningful situations in which they are treated as conversational partners. In the school day children should be engaged in language experiences which are both relevant to the child and enjoyable as well.

4. As English is not the language of the child's social world, the classroom teacher has the main responsibility for the child's socialization in the target language. She is viewed as the speech model and as such, the type and quality of the teacher's language and children's exposure to it are crucial variables which can no longer be neglected. It is therefore recommended that in-service training be provided for kindergarten teachers to equip them with the knowledge and skills in second language acquisition and also to improve their competence in the target language.
5. More research is needed in the field of second language acquisition in children in the Singapore context where children from

Chinese-speaking backgrounds experience difficulties in acquiring English and those from English-speaking homes fail to be proficient in Chinese. The MCA program may be adopted for second language instruction in both English and Chinese (Mandarin) and could be extended to the second year kindergarten (K2). The long-term effects of the MCA method could be examined when children exposed to the program begin formal schooling. Research which examines the factors that affect the learning of second languages in bilingual school situations in a pluralistic society like that of Singapore, would indeed be a valuable contribution to the literature in language acquisition and learning.

During the course of this study, the researcher worked with a large number of children and teachers. Based on that experience the following recommendations are made:

1. Both the teacher and the children in her charge should continually enrich the language environment in the classroom and outside through daily interactions in communication. It is said that "language development is an ongoing process, which begins

(arguably) even before the child starts to speak and is never complete" (Romaine, 1984, p. xi). The attitude towards language acquisition and learning should be positive among teachers and children who view themselves as able and motivated participants in the language venture.

2. Kindergarten administrators should be supportive of the teachers' attempts to improve instructional methods to facilitate second language acquisition. Funds should be made available for the purchase and preparation of teaching aids and materials to enhance learning in children. The teachers' contributions to the success of the language program should be fully recognized and rewarded.

In conclusion, this study is important because it reinforced the knowledge that children must interact and use language in a meaningful context in order to acquire it. This study also supported the Multisensory Communicative Approach as one of the methods to second language acquisition that can be successful. Finally, this study demonstrated that change in language teaching methods employed by paraprofessional teachers can be achieved in a relatively short period,

in spite of ethnic and cultural mitigating factors,
provided that the conditions described are met.

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APPENDICES

APPENDIX A

CHILD QUESTIONNAIRE

Dear Parents/Guardian:

The kindergarten would like to know your child better in order to be better equipped to help him/her in daily activities and general development. Please fill in the questionnaire and return it to the class teacher within a week. Thank you for your cooperation.

Child's Name:	Address:
Date of Birth:	Postal Code:
Name of Center:	Type of Housing: (Circle one)
Class :	HDB 1-/2-/3-/4-/5-Rm.
Sex :	Private Housing
No. of Siblings: Brother(s) Sister(s)	Home Language: Mandarin/dialect/English/others
Birth Order: 1st/2nd/3rd/4th/5th/6th	Language used outside the home: Mandarin/dialect/English/others
Any obvious physical handicaps?	If Yes, please comment.
Any serious discipline problems?	If Yes, please comment.
Any major learning difficulties?	If Yes, please comment.

PARENTS /GUARDIAN

	Father	Mother	Guardian (in case of no parents)
Occupation			
Highest Edu- cational Level			

APPENDIX B

CENTER QUESTIONNAIRE

Name of Center: _____

Address: _____

Total Enrollment: _____

No. of Sessions: _____

No. of K1 Classes: _____

No. of K2 Classes: _____

Program Type: _____

Program Emphasis: _____

Center Facilities: _____

Primary Language of Instruction: _____

No. of Teachers: _____

Professional Qualifications:

Basic Course: No. _____

Intermediate: No. _____

Advanced: No. _____

Others: (Please state) _____

Dominant Language of Teachers: Mandarin: No. _____
Dialect: No: _____
English: No. _____

Teaching Experience: 1-2 Years: No. _____
3-5 Years: No. _____
6-10 Years: No. _____
11 + Years: No. _____

Name of Center Director / Deputy: _____

Signature: _____

Date: _____

APPENDIX C

TEST INSTRUMENTS AND ADMINISTRATION

1. Type of test: Bernard van Leer Basic Language Skills (BVL).
2. Author: Bernard van Leer Research Team, Institute of Education, Singapore, 1984.
3. Level(s): Preschool nursery to kindergarten levels (3 to 6 age range).
4. Reliability & Validity: Not statistically determined. Judged to be adequately reliable and valid by education experts in Singapore.
5. Administration time: Approximately 30 minutes.
6. Scoring: Scoring procedures are included in the Record Form to facilitate computerization and analysis of data.
7. Test materials:
 - 1) Instructions for administration of tests.
 - 2) Test objects consisting of a set of 7 colored cards, 5 shapes, a pencil, a pen, 2 crayons, a small box, and a storybook, Mei Mei's Pussy Cat.
 - 3) Record forms for scoring.

Basic Language Skills Subtests

Four language tasks were selected for this study:

A. Word Knowledge (WK)

There were 20 items grouped into 3 categories:

- 1) Body parts: head, eye, nose, ear, leg, hand, and face.
- 2) Colors: red, blue, green, white, yellow, brown, and black.

- 3) Shapes: round, square, triangle, rectangle, and oval.

B. Following Instruction (LCA)

Commands were given in English in order to determine the child's listening comprehension.

1. Give me a pencil.
2. Put the crayon into the box.
3. Stand up and clap your hands.
4. Stamp your feet.
5. Look up at the ceiling.
6. Walk to the door.

C. Story Comprehension (LCB)

The purpose of this task was to determine the child's listening comprehension of a short story read to him or her. The following questions based on the contents of the story were asked:

1. What is the name of Mei Mei's pussy cat?
2. What color is it?
3. Where did Kitty go?
4. Why did Mei Mei cry?
5. Who brought Kitty back to Mei Mei?
6. What must Mei Mei always remember to do?

D. Verbal Fluency (VF)

The purpose of this task was to determine the child's proficiency in oral language. Stimulus pictures were used to encourage the child to speak spontaneously on any topic of his or her choice.

Administration of Language Tasks

A. Word Knowledge (WK)

Procedure: E (experimenter) sits on a low chair facing S (subject) and addresses the child by his or her name.

1. Body parts: E points to each body part and says: "What is this? Say it in English."
2. Colors: E places all seven colored cards on the table before S and says: "What color is this?" (E points to each colored card in turn)

3. Shapes: E places all five cardboard shapes on the table and says: "What shape is this?" (E points to each shape in turn)

Scoring: One point is given for each correct response.

Total Possible Score: 20 points.

B. Following Instructions (LCA)

Procedure: E places a pen, a pencil, two crayons, and a box on the table and gives the following commands, one at a time, for S to respond:

1. Give me a pencil.
2. Put the crayon into the box.
3. Stand up and clap your hands.
4. Stamp your feet.
5. Look up at the ceiling.
6. Walk to the door.

Scoring: One point is given for the correct identification of the target object and one point is given for the correct action.

Total Possible Score: 12 points.

C. Story Comprehension (LCB)

Procedure: E sits beside S and shows S the story-book to arouse interest. E says: "I'm going to read a story from this book. Listen carefully!" E reads the story, Mei Mei's Pussy Cat, stopping after each printed page to ask the following questions:

1. Page 1: What is the name of Mei Mei's pussy cat? What color is it?
2. Page 2: Where did Kitty go?
3. Page 3: Why did Mei Mei cry?
4. Page 4: Do you have a telephone at home? (a stimulus question)
5. Page 5: Who brought Kitty back to Mei Mei?
6. Page 6: What must Mei Mei always remember to do?

Scoring: Two points for a complete correct response. One point for a partially correct response.

Total Possible Score: 12 points.

D. Verbal Fluency (VF)

Procedure: E puts S at ease before beginning the test. E addresses S by name and finds out about his or her interests in order to engage S in conversation spontaneously. Stimulus pictures are used to motivate S to talk. E says: "Look at these pictures. Which one do you like? Tell me more about it." E records S's utterances in verbatim. A tape recorder may be used if it does not distract S and interfere with the flow of speech.

Scoring: In this test the level of English language proficiency is determined by the syntactic structure of S's utterances as given below:

Level of Proficiency:

- 0 = No response/don't know
- 1 = Uses mainly 1- or 2-word utterances
- 2 = Uses mainly short phrases
- 3 = Uses mainly short, simple sentences
- 4 = Includes complex sentences

Additionally, points are given for utterances in the following categories of utterances:

- 3 points for Level 1, comprising 1 or 2 word utterances;
- 6 points for Level 2, comprising short phrases;
- 9 points for Level 3, comprising short, simple sentences; and
- 12 points for Level 4, comprising grammatically correct complete sentences.

Total Possible Score: 12 points.

Grand Total for Four Language Tasks: 56 points.

APPENDIX D

RECORD FORMS

RECORD FORM: I WORD KNOWLEDGE

NAME: _____ CLASS: K1 (1st Session, 2nd Session)
 AGE : _____ FATHER'S/GUARDIAN'S OCCUPATION: _____
 SEX : _____ HOME LANGUAGE: Mandarin/Dialect/English

INTERVIEW GUIDE	VARIABLE NAME	RESPONSE CODE
		*Circle appropriate response
(A) <u>PARTS OF BODY</u> (WKB)	Head WKB1	0 1 2 3
Point to each part of the body and say:	Eye WKB2	0 1 2 3
What is this?	Nose WKB3	0 1 2 3
Say it in English.	Ear WKB4	0 1 2 3
	Leg WKB5	0 1 2 3
	Hand WKB6	0 1 2 3
	Hair WKB7	0 1 2 3
	Face WKB8	0 1 2 3
<u>Remarks:</u>	Total Possible Score =	
	Actual Score =	_____
(B) <u>COLORS</u> (WKC)		
Place all 7 colored cards before S and say:	Red WKC1	0 1 2 3
What color is this?	Blue WKC2	0 1 2 3
(point to each card in turn)	Green WKC3	0 1 2 3
	White WKC4	0 1 2 3
	Yellow WKC5	0 1 2 3
	Brown WKC6	0 1 2 3
	Black WKC7	0 1 2 3
<u>Remarks:</u>	Total Possible Score =	
	Actual Score =	_____
(C) <u>SHAPES</u> (WKS)		
Place all 5 cardboard shapes before S and say:	Round WKS1	0 1 2 3
What shape is this?	Square WKS2	0 1 2 3
(point to each shape in turn)	Triangle WKS3	0 1 2 3
	Rectangle WKS4	0 1 2 3
	Oval WKS5	0 1 2 3
<u>Remarks:</u>	Total Possible Score =	
	Actual Score =	_____

Maximum Score for Word Knowledge = _____
Actual Total Score = _____

RECORD FORM: II FOLLOWING INSTRUCTIONS

INTERVIEW GUIDE	VARIABLE NAME	RESPONSE CODE
Place a pencil, pen, and two crayons on the table. Give these commands one at a time:		*Circle appropriate response
1. Give me a pencil.	LCA 1	0 1 2 3 4
2. Put the crayon into the box.	LCA 2	0 1 2 3 4
3. Stand up and clap your hands.	LCA 3	0 1 2 3 4
4. Stamp your feet.	LCA 4	0 1 2 3 4
5. Look up at the ceiling.	LCA 5	0 1 2 3 4
6. Walk to the door.	LCA 6	0 1 2 3 4

Maximum Score : = 12 points
Actual Total Score : = _____

RECORD FORM: III STORY COMPREHENSION

INTERVIEW GUIDE	VARIABLE NAME	RESPONSE CODE
Sit beside S and read the story book, "Mei Mei's Pussy Cat" stopping after each page and ask:		*Circle appropriate response
<u>Page 1:</u> What is the name of Mei Mei's pussy cat?	LCB 1	0 1 2 3 4
What color is it?	LCB 2	0 1 2 3 4
<u>Page 2:</u> Where did Kitty go?	LCB 3	0 1 2 3 4
<u>Page 3:</u> Why did Mei Mei cry?	LCB 4	0 1 2 3 4
<u>Page 5:</u> Who brought Kitty back to Mei Mei?	LCB 5	0 1 2 3 4
<u>Page 6:</u> What must Mei Mei always remember to do?	LCB 6	0 1 2 3 4

*Response Code

- 0 = NR (0 point)
- 1 = DK (0 point)
- 2 = Incorrect (0 point)
- 3 = Partially correct (1 point)
- 4 = Correct (2 points)

Maximum Score : = 12 points

Actual Total Score : = _____

RECORD FORM: IV VERBAL FLUENCY

INTERVIEW GUIDE	VARIABLE NAME	REMARKS
<u>VERBAL FLUENCY (VF)</u> <u>(In English)</u> Show S the 4 cards and say: <u>Stimulus Q's</u> . Look at these pictures. . Which one do you like? . Tell me more about it. <u>Note:</u> Put the card away/ aside to encourage S to speak freely on the topic(s) of interest to S. If S is not able to say much on the chosen topic, encourage S to speak on any topic. Suggest common topics: food, pets, games, etc.	VF	
Write verbatim response:		

Level of Proficiency

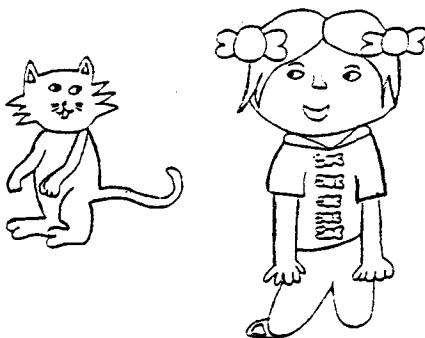
- Level 1: One- or two-word utterances = 3 points
 Level 2: Mainly short phrases = 6 points
 Level 3: Mainly short sentences = 9 points
 Level 4: Includes complex sentences = 12 points

APPENDIX E

STORY

Mei Mei's Pussy Cat

Story Comprehension



Page 1:

"What is the name of Mei Mei's pussy cat?"

"What color is it?"

Mei Mei has a black pussy cat.

It is a pretty cat.

It's name is Kitty.



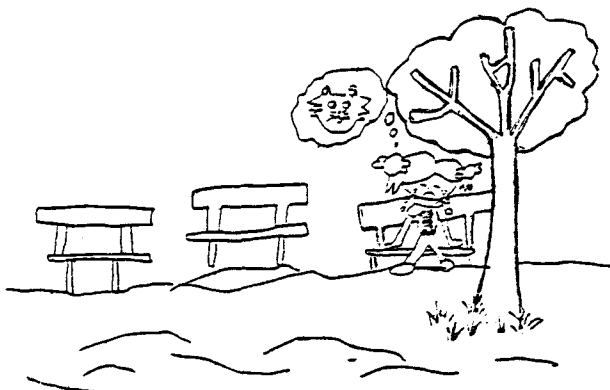
Page 2:

"Where did Kitty go?"

One day, Mei Mei forgot to close the door.

Kitty ran out to play.

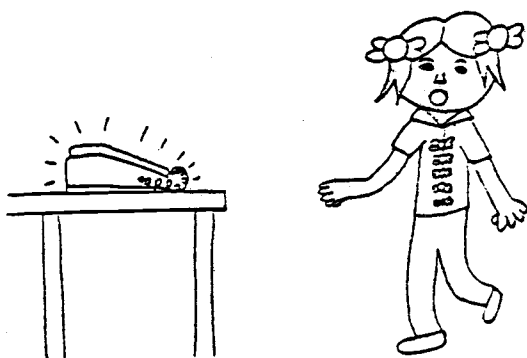
She did not come back.



Page 3:

"Why did Mei Mei cry?"

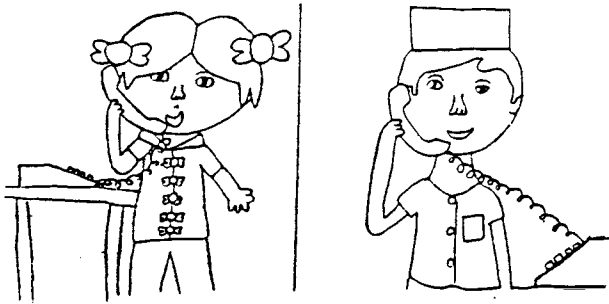
Mei Mei began to cry.
 "Boo, boo, I want my Kitty."
 "Where is Kitty?"



Page 4:

"Do you have a telephone
 at home?"
 (a stimulus question)

Then, the telephone
 began to ring,
 "Ring - ring, ring - ring."
 Mei Mei picked up
 the telephone.



Page 5:

"Hello, are you Mei Mei?"
asked her friend, Ali.

"Yes, I am," said Mei Mei.

"I've found your Kitty."

"I shall bring her back
to you," said Ali.

"Who brought Kitty back
to Mei Mei?"



Page 6:

"What must Mei Mei
always remember to do?"

Mei Mei was very happy
to have Kitty back.

Now, Mei Mei will always
remember to close the door
when she goes out to play.

APPENDIX F

TRAINING PROGRAM FOR PARAPROFESSIONAL TEACHERS

Teachers in the experimental group completed a total of 46 hours of center-based training in the multisensory communicative approach to English language acquisition. The objectives were:

1. To introduce teachers to an innovative method to second language acquisition, i.e. the MCA method;
2. To equip teachers with the fundamental knowledge, skills, and resources to implement the MCA program in their classrooms;
3. To guide teachers to explore and use strategies in order to meet the needs and interests of their children; and
4. To enable teachers to develop self-confidence as role models and facilitators in children's learning.

The training program consisted of 10 sessions of 4 hours each, on 10 consecutive Saturdays (except for school vacations). In each training session, approximately 1 hour was spent on discussion of selected topics, 1 hour on MCA activities, 1 hour on feedback, evaluation, and assessment, and 1 hour on preparation of materials for the program. Three demonstrations

(at monthly intervals) were held at each of the experimental kindergarten centers, followed by question-and-answer sessions to clarify concepts and procedures. Each teacher was supervised three times in her own classroom throughout the training. The first supervision was after the sixth training session, followed by two monthly supervisions. A conference was held after each supervision for valuable feedback and suggestions for improvement.

Outline of Training Program

- Session 1: An introduction to the MCA to English language acquisition;
The importance of functions and meanings in language use;
Second language acquisition in childhood;
Speech of young children.
- Session 2: The teacher's role in language acquisition;
Exploring children's senses through language and action;
Multisensory activities and materials.
- Session 3: Listening and whispering games;
Choral verses and songs.
- Session 4: Use of rhymes, verses, and finger plays in language activities;
Use of commands and instructions (i.e. the total physical response) in English.
- Session 5: Storytelling and story reading with the aid of puppets, flannel board, and flannelgraph figures;
Acting out stories and miming.
- Session 6: Sensory experiences through stories of interest to children;
Demonstration of techniques;
Presentation by teachers of self-selected MCA activities;
Feedback and evaluation.

Session 7: Picture "talk" and sharing sessions;
Peer teaching and peer evaluation;
Feedback and discussions.

Session 8 to Individualized as well as group training
Session 10: in terms of specific needs on communica-
tion and teaching skills, planning and
classroom organization, self-evaluation
and assessment, and development of re-
sources.

APPENDIX G

MULTISENSORY COMMUNICATIVE APPROACH (MCA) TO
ENGLISH LANGUAGE ACQUISITION

Introduction

This method is based on the "natural communicative" as well as the total physical response (TPR) approaches to English language acquisition.

In the natural approach language is used for the purpose of communication in "natural" social situations, i.e. children use language meaningfully to interact with one another in realistic situations. The focus is on the "message" which the child wants to express to others in his or her environment. "What" he or she has to say is more important than "how" he or she says it, particularly in the initial stage of language acquisition. The child's senses of sight, hearing, touch, smell, and taste are used to facilitate language acquisition. The TPR approach involves the child in responding (physically) to commands and directions given in English. Thus, the child uses his or her "whole" body to acquire the target language, which he or she uses to communicate with his or her peers and adults in the classroom environment.

1. Language Input

It is most important that children "hear" and "understand" English before they are asked to speak it. The child must have sufficient input, to hear English being spoken and used in relevant situations, so that he or she has a "feel" of the language. At this stage the child should be an "active" listener by focusing his or her attention on what is being said and trying to understand what he or she has heard.

Understanding is shown by the child who responds appropriately to what is being said through actions and at a later stage, through verbal responses.

2. The Silent Period

When children are in the beginning stages of language acquisition, the "silent" period follows the initial input stage. During this silent period the child may not be talking, but he or she is nevertheless acquiring the target language through exposure in communicative situations.

The total physical response is to be encouraged, since this demonstrates the child's comprehension of commands given in English. The teacher needs to be patient and should not force children to speak before they are ready. Shy and self-conscious children would be more inclined to participate in choral rhymes and action songs in English than in oral communication.

3. Language Output

After the silent period (duration differs with each child) comes the "output" or oral speech production. The teacher should provide daily opportunities for children to use English for "real" communicative purposes with peers and with adults in their environment. The teacher should be a good listener and should focus on the function rather than the form of language. Frequent correction of errors would discourage children from using English. Instead, the teacher or adult should model the "correct" form for children to hear and understand in a non-threatening manner.

When language is acquired in the "natural" way, language usage is enhanced, which in turn facilitates further language acquisition.

Material for MCA Program

1. A "Feely" Box.
2. A "Smelly" Box.
3. A "hearing" tape; assorted objects and toy animals that make sounds.
4. A "Rainbow" Box.

5. A "Shapey" Box.
6. Collections of pictures of:
 - a) Common objects in classroom, school, home, supermarket, zoo, playground, seaside.
 - b) People/animals in action.
 - c) Interesting events--e.g. Chinese New Year, kite competition, etc.
7. A "corner shop" for selling:
 - a) Fruit and vegetables.
 - b) Stationery: books, pens, pencils, paper, etc.
 - c) Gifts.
 - d) Others.
8. Collection of rhymes, action songs, finger plays, etc.
9. Collection of music and movement sessions.
10. At least 2 puppets, animal or popular toy puppets.
11. A flannel board with flannelgraph figures.
12. A collection of short stories.

Other Suggestions:

Vocabulary Development

Categories

- I. Labels: Objects, people and events in the daily life of the child.
- II. Locations: Here, there, in front, behind, beside, on top, below, near, far, right, left, up, down, corner, center.
- III. Actions: Go, come, walk, run, skip, gallop, jump, hop, start, begin, stop, sit, stand, sleep, wake up, wash, wipe, brush, sweep, tidy, clean, eat, drink, cook, cut, pour, serve, swim, swing, sing, play, dance, clap, nod, point, shake, turn, smile, wink, cry, tell, listen, talk, say, shout, scream, whisper, repeat, tell, write, draw, paint, rub, copy, like, hate, want, need, have, open, close, knock, buy, sell, lend, borrow, see, look, pay attention, remember, study, greet, respect, love, care, help, work, relax, rest.
- IV. Agents: Pronouns--I, you, he, she, it, we, they.
Nouns--adults, peers, objects, events in the child's environment.
- V. Attributes: Good, bad, naughty, noisy, quiet, clean, dirty, happy, sad, heavy, light, dark, bright, hot, cold, big, small, tall, short, fat, thin, beautiful, pretty, ugly, plain, hard, soft, rough, smooth, wide, narrow, thick, thin, many, few, plenty, little, clever, dull, stupid, quick, slow, dry, wet, juicy, tasty, delicious, sweet, sour, salty, various shapes and colors.
- VI. Possession: My, mine; your, yours; his, his; her, hers; our, ours; their, theirs; its; use of 's to indicate possession, e.g. the girl's bag; the children's toys, etc.

Verses to Stimulate Oral Expression

The Way I Am

My name is Tan
I'm what I am!

I'm a boy of six
And like to play with sticks.

I'm tall and strong
And love to sing along.

I've brown eyes and black hair
And a skin that is fair.

I've a big, round tummy
I love to eat what's yummy!

I love to eat ice-cream
And play with friends in a team.

I like to walk along the beach
Where the splashing waves can't reach.

I love to play every day
And to run home all the way.

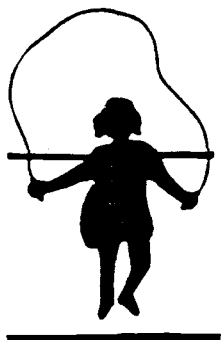
Yes, I know who I am!
I'm the tall, strong Tan.

Florence Lee
1986

Rhymes and Jingles

1. Mother went to the market
She brought a little basket
Her money was in her pocket
She bought me some biscuits
And noodles in a packet.
2. Miss Chen, Miss Chen,
Have you seen my red pen?
Mr. Wong, Mr. Wong,
Have you seen my pingpong?
Mrs. Lee, Mrs. Lee,
Have you seen my friend, Mimi?
(Get children to make up their
own replies to the questions.)
3. I'm Teamy, the busy bee
You see me on T.V.
I fly here
I fly there
I fly everywhere
As happy as can be!
4. Where are you going my little girl?
Little girl, where are you going?
I'm going to the zoo
Will you come with me?
(Let children substitute names and
places as they interact with one
another.)
5. Come quickly, come quickly
To the park, to the park
Before it gets dark
And the dogs begin to bark!

Seeing, Doing, and Talking



APPENDIX H

PARTICULARS OF PARAPROFESSIONAL TEACHERS

	<u>Experimental Group</u>	<u>Control Group</u>
Number of Teachers:	4	4
*Educational Background:	English "O" Level (2) Chinese "O" Level (2)	English "O" Level (2) Chinese "O" Level (2)
Professional Qualifications:	Basic Train- ing (4)	Basic Train- ing (4)
Mean Age:	25 yrs. 2 mos.	33 yrs. 2 mos.
Mean Experience:	4 yrs. 2 mos.	4 hrs. 3 mos.
Marital Status:	Single (4)	Single (2) Married (2)

NOTE: 1) All eight teachers participating in the study are bilingual in English and Chinese.

*2) The "O" Level refers to the Cambridge School Certificate, while the Chinese "O" Level refers to the Chinese School Certificate Examination in Singapore.

APPENDIX I

EVALUATION QUESTIONNAIRE

Please answer the following questions:

1. How does the Multisensory Communicative Approach (MCA) help children acquire English?
2. What do you think of the MCA program for second language acquisition among kindergarten children?
3. State the problems you have encountered and your solutions to them during the program.
4. What have you learned about the MCA program that is useful to you as a teacher of young children?
5. Give suggestions for improving the MCA program.
6. Would you recommend the MCA training program for kindergarten teachers? Give your reasons.

*Name of Teacher: _____

Kindergarten Center: _____

Date: _____

NOTE: *Optional.