

THE UNIVERSITY OF MANITOBA

TEACHER INTERACTION WITH LPE (LIMITED PROFICIENCY IN ENGLISH)  
AND NON-LPE STUDENTS IN ELEMENTARY CONTENT CLASSROOMS

by



KATHLEEN ROTH

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## ABSTRACT

The purpose of this observational study was to investigate the English language practices of regular content classrooms with Limited Proficiency in English (LPE) and non-LPE students at the elementary grade levels in Manitoba schools. It compared the frequency of verbal interactions, the frequency of various types of verbal interactions (instructional, managerial, disciplinary, and miscellaneous), the frequency of brief and extended verbal interactions the teacher had with LPE and non-LPE students, and the amount of talk the teacher had with the amount of LPE and non-LPE student talk.

Ten teachers, teaching grades 2,3, or 4, were audiotaped for 45 to 55 minutes while conducting a lesson in the content subjects. The audiotapes were transcribed, coded, and analyzed. T-tests were calculated to determine the significance of the mean differences of the various interactions.

On the basis of the findings and the limitations imposed by the study, results indicated that:

1. There was no significant difference in the frequency with which teachers interacted with LPE and non-LPE students, at .05 level.

2. There were no significant differences in the types of interactions that teachers used with LPE and non-LPE students at, .05 level.

3. There was no significant difference in the length of interactions that teachers used with LPE and non-LPE students, at .05 level.

4. The group of ten teachers had more directed interactions than non-directed interactions with their students.

5. All the teachers used more T-units than their students.

6. There was no significant difference in the mean number of T-units used by LPE and non-LPE students, at .05 level.

Conclusions made from these results were that teachers did not differ significantly in the frequency, type, or length of interactions they had with LPE and non-LPE students, that teachers talk more in class than their students, and that there is no significant difference in the amount of talk of LPE and non-LPE students.

These results do not concur with those found in a similar study by Schinke-Llano, in the U.S.A. Manitoba teachers interact more with their LPE and non-LPE students than the American teachers. Although Manitoba teachers had more interactions with their students than the teachers in the American study, the large amount of teacher talk compared to student talk suggests that students in Manitoba are not talking enough to facilitate language learning.

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## Chapter One

## INTRODUCTION

Background of Study

A conservative estimate places the number of limited proficiency in English (LPE) students in Manitoba K-12 schools at over 7,000 (Manitoba Education, 1986). These are students whose home language is not English and who have difficulty in the school system because of their low proficiency in English. Many of these students are enrolled in regular English content classrooms and may or may not receive ESL support.

Since almost all LPE students sooner or later arrive in the regular classroom, what are some of the characteristics of LPE student education in Manitoba in the regular classroom, specifically in the regular content classroom?

One way of examining this would be to study the discourse interaction in the regular classroom that has both LPE and non-LPE students. In searching the literature, no research has been done on this question in Manitoba. Only one study has been done elsewhere on this specific question, a study conducted by Schinke-Llano (1983) in the Chicago area in the United



States. The findings of this study are interesting in that they looked at regular content classrooms with LPE and non-LPE students, but they did not deal with the Canadian situation much less the Manitoba context. The present research is designed to add more information about the education of LPE students in the regular classroom, and specifically about the education of LPE students in Manitoba.

#### Statement of the Problem

The purpose of this study was to investigate the English language practices of regular content classrooms with LPE and non-LPE students at the elementary grade levels in Manitoba schools. It compared:

- 1) the frequency of verbal interactions the teacher directed at LPE and non-LPE students;
- 2) the frequency of various functional types of verbal interactions, i.e. instructional, managerial lesson, managerial class, disciplinary, and miscellaneous, (Schinke-Llano, 1983) the teacher directed at LPE and non-LPE students,
- 3) the frequency of brief and extended verbal interactions the teacher directed at LPE and non-LPE students,

- 4) the overall directed and nondirected interaction of the teacher with students,
- 5) the amount of teacher talk compared to the amount of student talk, and
- 6) the amount of LPE student talk compared to the amount of non-LPE student talk.

#### Significance of the Study

Little research has been done in Manitoba in the area of LPE education in the regular classroom. As most LPE students spend varying amounts of time in these classrooms, more information concerning the dynamics of these classrooms needs to be known. This study is an attempt to obtain some information about the teacher verbal interactions with LPE and non-LPE students in the regular classroom.

Once this kind of descriptive information has been gathered from multicultural classrooms, it can be examined in the light of the current theories on second language learning. Where does comprehensible input (Krashen, 1982) and interactive language use (Rivers, 1986) fit into the multicultural classroom? Is it there at all, too much, too little?

This study is a first step in the research of regular classrooms with LPE students in Manitoba. Further research will need to be done in all aspects of

LPE student education, for example, the interpretation of classroom interactions in terms of their quality and effectiveness for optimal language development; the quantity of input that will promote language learning; and the achievement of LPE students in regular classrooms, ESL classrooms, and bilingual classrooms.

#### PROCEDURE

The subjects were ten regular classroom teachers and their students from a Winnipeg school division. The teachers taught grades 2, 3, or 4, and each class contained both LPE and non-LPE students.

Each teacher and his/her class was audiotaped in the classroom during the course of a lesson in content subjects (mathematics, science, health, social studies, physical education). Each teacher was audiotaped for a total of between 45 and 55 minutes. The researcher remained in the classroom while the lesson was conducted and took notes concerning the interactions to help in the detailed analysis to be done later. The teachers had been previously informed that observations concerning multicultural classroom language were being conducted. The audiotapes of classroom interaction were transcribed, coded, and analyzed including a t-test of the significance of mean differences. The study focused on three aspects of teacher and student

interaction--direction, type, and length of interaction. Other analyses included directed versus nondirected interaction, the quantity of teacher talk, and the quantity of student talk.

#### DEFINITION OF TERMS

INTERACTION: An interaction consists of turns taken by speakers on a particular topic (Schinke-Llano, 1983). An interaction may consist of an initiation, a response, and optional feedback.

LENGTH OF INTERACTION: Length of interaction refers to the number of turns for each speaker per interaction. An interaction of one turn for each speaker is considered brief; and interaction of two or more turns for each speaker is considered extended (Schinke-Llano, 1983).

TYPE (FUNCTION) OF INTERACTION: Type or function of interaction refers to how the interaction is used by the teacher or the student. There were five functional categories examined: instructional, managerial lesson, managerial class, disciplinary, and miscellaneous (Schinke-Llano, 1983). Each of these functional categories is defined in Chapter 3.

T-UNIT: The T-unit in this study is the same as the one devised by Hunt (1965). The minimal terminable unit (T-unit) consists of "one main clause expanded at any of many different points by structures that are modifiers or complements or substitutes for words in the main clause. "(Hunt, 1965).

LPE or LEP STUDENTS: An LPE student in this study is an immigrant child whose first language is not English and has been in Canadian schools for 2 years or less. It also includes some Canadian children whose home language is not English who qualify for special ESL support according to Manitoba Education guidelines (Manitoba Education, 1986).

The LPE student designation used in Manitoba is similar to the LEP (Limited English Proficiency) designation used by Schinke-Llano (1983) in her American study.

The procedure and the definition of terms are discussed in more detail in Chapter 3.

#### LIMITATIONS OF THE STUDY

The limitations of the study include a small sample size, a non-random sample, a limited observational time, and the experimenter's influence by her presence in the classrooms. These limitations do

not negate the study's importance. It is important because this type of study has not been done anywhere else in Manitoba or Canada, it asks many interesting questions concerning LPE student education in Manitoba, and it gives examples of interactions that are happening in Manitoba schools.

The study looked at only ten teachers and their classrooms in three different schools within one school division. The teachers and classrooms were not chosen randomly but from a selected list of school principals who agreed to the experimenter's presence in their schools. Since the study took place towards the end of the school year, many principals were reluctant to participate in any study that they felt would interfere with class productivity.

The teachers and classrooms were only observed once and for a limited time, a lesson period of 45 to 55 minutes. The experimenter sat in on the classes as they were in progress; this could possibly have affected both the teachers' and students' natural interactions but the experimenter did not feel she had disrupted the class or that the students or teachers interacted differently because she was in the class.

Although limitations of the study do not allow the results to be generalized to all teachers in regular classrooms with LPE students in Manitoba or

elsewhere, results obtained from this study raise some interesting questions concerning teachers verbal interactions in regular content classrooms with LPE and non-LPE students.

## Chapter Two

### REVIEW OF THE LITERATURE

#### INTRODUCTION

This chapter reviews some of the recent literature on the education of minority students in Canada and the United States, as well as programs for preserving heritage languages. It looks at the education policies and programs for Limited Proficiency in English students in Manitoba and within different school divisions.

The chapter reviews several second language acquisition theories and some related research studies. It reviews the current research in the area of classroom interaction as it relates to the education of minority students in the regular classroom. It also examines in some detail the interaction study conducted by Schinke-Llano in regular content classrooms with both LPE and non-LPE students.

The literature search was obtained by conducting an ERIC search using Current Index to Journals in Education and Resources in Education to June 1988, a search into the Canadian Education Index to June 1988, and by contacting several education leaders and researchers.



## EDUCATION OF MINORITY STUDENTS IN CANADA AND THE USA

Although prior to 1916 bilingual education was alive in Manitoba (Wilson & Gregor, 1984), a long held policy for the education of immigrant children in Manitoba and Canada has been termed submersion by Cohen & Swain (1976). Submersion refers to the "sink or swim" approach where no adjustments are made in the school program to take into account the minority child's cultural and linguistic differences. This approach reflects the education of minority students throughout most of this century. In 1971 with the adoption of the federal government policy of "multiculturalism within a bilingual framework", all ethnic groups were encouraged to enrich Canadian society by continuing to develop their unique cultures. The provincial educational authorities in some provinces have responded to this policy with the implementation of heritage language programs (Cummins, 1981).

The heritage language programs differ according to the amount of time in which the heritage language is used. Bilingual programs, in which the heritage language is used for 50 percent of the school day, are offered in Alberta, Manitoba, and Saskatchewan. Programs which teach heritage languages for 30 minutes

a school day are offered in Quebec and Manitoba. Ontario offers heritage language teaching after the regular school day (Cummins, 1981).

The Canadian heritage language education programs are, in general, for the education of English speaking students who wish to learn the language and culture of their heritage language. These programs are not aimed at the retention of the language and culture of minority students while they learn to speak English; they do not reflect the philosophy that the education in the child's first or home language will help the child gain access to the majority language, either English or French.

There are three basic types of ESL programs in Canada to help the new immigrant child learn English: reception classes, total integration, and withdrawal classes. A reception class consists of students who require intensive English language training from a teacher trained in the area of language development. The students remain in the reception class full-time, but as their fluency in English develops, they may be placed in certain subject classes where the demands for English competency are low. The total integration programs place the child immediately into a regular class at or below his/her grade level. The teacher may or may not have experience dealing with

non-English-speaking students. The withdrawal classes provide support to the immigrant child in learning English and in becoming part of the school system. There are three types of withdrawal classes: the half-day class; withdrawal class-itinerant teacher; and withdrawal class-school-based teacher. In the half-day class, the child spends half the day in ESL classes and half the day in his/her homeroom. In withdrawal classes with itinerant teachers, students are withdrawn from the regular classes for set periods a week. The teacher travels from school to school. In withdrawal classes with school-based teachers, the students are withdrawn from the regular classes for set periods, but they might have to travel to a different school to where the teacher is located (Ashworth, 1975).

The philosophy that education in the child's home language will help the child gain access to the majority language underlies the bilingual approach to the teaching of Limited Proficiency in English students used in some schools in the states of Massachusetts, Texas, New Mexico, Illinois, New York, and California in the United States (Fillmore & Valadez, 1986). Some educators believe that the teaching of the first or home language will help non-English speakers gain facility in English (Cardenas and Cardenas, 1972;

Saville and Troike, 1971; TESOL, 1976; U.S. Commission on Civil Rights, 1975, Cummins, 1981). In this bilingual approach, the LPE student is taught partly in English and partly in the language spoken in the home (Fillmore & Valadez, 1986). There are several bilingual models. In the "Majority Language Bilingual Immersion" program, the teachers are bilingual, the instruction is modified, and first language literacy is promoted. The first language is used for a small percentage of the day, approximately one hour a day. In the "Minority Language Bilingual Immersion" 50 percent of the day is spent in the using the first language of the students, while the rest of the day is spent in a classroom where English is the medium of instruction (Cummins, 1981). A third type of bilingual program called the "transitional bilingual" program offers students dual language instruction but only until they have acquired enough English to cope with instruction in that language exclusively (Fillmore & Valadez, 1986).

While Manitoba has several bilingual heritage second language programs taught in the public school, these programs are intended to preserve the heritage language, not as a foundation for the English development of LPE students. Almost all LPE students receive monolingual English language education.

The mainstreaming of LPE students into regular classrooms was proposed by the Manitoba Department of Education as early as 1975 (Manitoba Education, 1975) for the development of language instruction and social relationships. This exposure should be in a variety of language situations. To successfully develop social relationships, it is felt that students should be placed with their peers, who share similar interests, and are at similar levels of maturity and development (Manitoba Education, 1984; Manitoba Education 1981). Mainstreaming is supported by Krashen's (1982) language acquisition theory. In this theory, language acquisition is a subconscious process by which people acquire a language, (first or second), not by learning the rules of the language but by using the language for communicative purposes. A language cannot be acquired unless the learner is exposed to a large quantity of comprehensible input that is roughly-tuned to his/her level of language ability. The learner must focus on the meaning of the message not on its form. LPE students mainstreamed into a mathematics class, for example, will focus on the mathematical computations to derive the meaning of the lesson, not on the grammar rules of the English. By focusing on meaning, the students will eventually internalize the grammatical rules.

In Manitoba, students with no English are enrolled in an ESL program with students of the same age at the neighbourhood school if it offers such a program. As soon as possible, attempts are made to accommodate the LPE student within the regular school program at the appropriate age/grade level. Language assistance and academic upgrading are offered in addition to, or in place of, regular programs so that students move from one grade to the next alongside their peers. The objective of this approach is to make it possible for students to cope with their regular classes, which are taught in English, by helping them learn the language in which they are being instructed (Manitoba Education, 1984; Manitoba Education, 1981).

Immigrant Student Support was first introduced in 1981 to enhance the language development programs in K-12 for immigrants and refugees. Since then, the funding has been expanded to include Canadian students who have not attended school in Canada, Canadian born students in K-2 who come from homes where English is seldom spoken, and Hutterian students (Manitoba Education, 1986).

There is variation amongst school divisions as to how these Education policies are implemented. Some school divisions employ professional and support staff to offer programs within the school setting, either by

withdrawing the students for certain periods of time (Agassiz School Division No. 13, 1987; Assiniboine South School Division No. 3, 1987; Brandon School Division No. 40, 1987; Pine Creek School Division No. 30, 1987; School District of Mystery Lake No. 2355, 1987; Winnipeg School Division No. 1, 1987), or by creating an ESL class for those with a limited proficiency in English (Seven Oaks School Division No. 10, 1987; Winnipeg School Division No. 1, 1987). These programs are supplied with instructional and resource materials. Other school divisions contract out the delivery of ESL programs; the students leave the school to attend these classes (School District of Mystery Lake No. 2355, 1987). School divisions that do not offer appropriate ESL programs of instruction in the City of Winnipeg send their students to Winnipeg School Division No. 1 for ESL education (Assiniboine South School Division No. 3, 1987; St. James-Assiniboia School Division No. 2, 1987).

#### RECENT THEORIES AND RESEARCH IN SECOND LANGUAGE DEVELOPMENT

Current Second Language Acquisition theories have looked at the way learners acquire language. Krashen's input hypothesis argues that learners acquire language

by understanding language that contains structures that are a little beyond their current competence level. In order for language to develop, there must be enough comprehensible input provided to the learner. There are some ways in which the input can be made more comprehensible to the learner, linguistically and non-linguistically. The input used with new learners can be simplified linguistically by speaking slower and with clear articulation, by using high frequency vocabulary with fewer idioms and slang than in native speech, and by using syntactic simplification and shorter sentences (Hatch, 1979). The input should be at about the learner's current level of linguistic competence, and should be concerned with what is happening in the environment surrounding the learner (Krashen, 1982).

At the non-linguistic level, it is also important to lower the student's affective filter. Some affective variables that relate to success in second language acquisition are motivation, self-confidence, and anxiety. The affective filter must be kept low in order for the learner to be receptive to the comprehensible input which should be of interest and use to her or him (Krashen, 1982).

Rivers does not accept the idea that students acceptance of comprehensible input, without attempts at



production for some time, allows for language learning. She argues that for language to develop, the learner must interact with and manipulate the language. The learning is enhanced when language is used to convey and receive authentic messages that contain information of interest to the speaker and the listener in a situation of importance to them both. The interactions are not just between the teacher and the student, but with fellow students and with native speakers of the language. She argues that a teacher dominated classroom does not encourage effective, multi-dimensional interactions (Rivers, 1986).

Cummins has looked into the Second Language Research concerning the education of minority children. He has found that the promotion of a minority child's L1 proficiency does not detract from the development of proficiency in L2. The use of L1 as a language of instruction builds on the linguistic and intellectual skills that the child brings to school. The concepts and knowledge that are developed in L1 can be transferred to L2 if the child is given appropriate exposure to L2 (Cummins, 1981).

Cummins has also investigated the assumption that minority students acquire proficiency in English within about two years of arrival into the host country. He found that a considerably longer time, 5 to 7 years, is

required to learn sufficient English to perform at the same level in academic tasks as native English speakers than is required to converse fluently in face-to-face situations (Cummins, 1984).

#### INTERACTION STUDIES IN MULTICULTURAL SETTINGS

Studies have investigated the interaction between school personnel and members of various ethnic minority groups. One such study found that because the "display" or "known information" questions used by white middle class teachers in school were not used in the homes of black children, these children responded inappropriately or not at all to these questions in school. Teachers not aware of the difference of styles of learning often developed negative expectations of the children's future performance (Heath, 1979). Similiar observations have been made of Hawaiian children (Boggs 1972; Au and Jordan 1981), and various North American Indian groups (Dumont 1972; Erickson and Mohatt, 1979; John, 1972; Philips, 1972).

Reseachers have found teachers to have prejudiced perceptions of ethnic minorites based on their speech style, accent, or dialect (Laosa, 1979). A study by the U.S. Commission on Civil Rights (1973) of Mexican-American and Anglo children in the southwest United States, found that teachers praised Anglo

children more frequently, used their ideas or contributions more often, and directed more questions at them. They also found that Anglo children spoke more frequently in the classroom than did Mexican-Americans. Similiar findings were recorded by Laosa (1979) in his work with Chicano children in Los Angeles, and by Katz (1973) in mixed white and black classrooms. Katz found not only that white children initiated more talk than their black classmates, but that the teachers encouraged this trend rather than equalized participation. This trend of unequal participation was reported by Rubovits and Maehr (1973) with teacher trainees as well. This unequal treatment of certain minority students has been labelled the cushioning effect (Bailey and Galvan, 1979) where teachers do not force academically weak students to respond to questions.

Studies done on teacher expectations of children have found that white teachers treated black male children as more deviant than white male children (Eaves, 1975). Rubovits and Maehr (1973) found that teachers gave more attention and praise to white students than black students. Hillman and Davenport (1978) found that both black and white teachers interacted more with black students and male students than with white students or female students. However,

the attention to black students were in categories such as receiving more criticisms, receiving less acceptance of a student's question or response, and receiving more behavior-controlling questions from the teachers.

Simpson and Erickson (1983) also studied the interaction of black and white teachers with male and female students. They found that white teachers exhibited greater differences in their treatment of male and female students than black teachers did. The white teachers gave more praise, verbal criticism, verbal neutral, nonverbal praise, and nonverbal neutral behavior to males than to females. They also found that males, overall, received more positive and negative teacher behaviors on both verbal and nonverbal levels (Simpson and Erickson, 1983).

A study by Cornbleth and Korth (1980) investigated white teachers' perceptions of their black, male and female, students and their white, male and female, students. The teachers rated white students higher than black students in terms of classroom behavior and potential achievement. White students were rated as more efficient, organized, reserved, industrious, and pleasant, while black students were considered as more outgoing and outspoken.

A study by Budd Rowe (1969, 1974) looked at the wait-time following teachers' questions and the quality

and quantity of students' responses. Students who were perceived by the teacher to be academically poor were given less wait-time than those perceived as academically high. She found that when the wait-time was increased the quantity and quality of responses to questions as well as unsolicited responses increased for both academically poor and good students. This study did not look at ethnic minorities, but many students are perceived as academically poor according to their ethnicity.

A study by Schinke-Llano (1983) looked at the quality and quantity of interactions addressed to Limited English-Proficient students (LEP) in comparison with those addressed to non-LEP students in regular content classrooms. Non-LEP students were found to receive more interactions than LEP students. Non-LEP students' interactions covered all types of interaction (instructional, managerial lesson, managerial class, disciplinary, and miscellaneous) with the majority being of the instructional type. LEP students received interactions mainly in the first three types, with almost two-thirds of the interactions of the managerial type.

On the other hand, in a study by Natreillo and Dornbush (1983), the above differences in treatment of minority children and white children were not found.

They found that teacher behavior was more affected by student behavior than by student characteristics. They found that student characteristics least related to school performance, race and sex, had no significant effect on teacher standards or teacher warmth.

Except for the Natreillo and Dornbush study, studies indicate a trend that minorities and LPE students do not receive as much interaction with the teacher as do English/Anglo students. This trend seems contrary to Krashen's second language principle that large quantities of comprehensible input in a low affective filter environment are most conducive for language acquisition (Krashen, 1982) and to Rivers' idea of the interactive classroom where students and teachers should be interacting as much as possible (Rivers, 1986).

Should mainstreaming LPE students be discontinued because of the lack of student/teacher interaction, or can the student/teacher interaction be modified and increased in ways that will be more in line with modern theory on second language development?

Although these questions need to be answered, at this point there is no way to formulate an informed reply to these questions because sufficient study of regular classrooms with LPE students has not as yet

been completed. Only one study has been conducted in this area, and that is the one by Schinke-Llano (1983).

#### REGULAR CLASSROOMS WITH LEP STUDENTS

In her 1983 study Schinke-Llano looked at the linguistic environment experienced by LEP students in all-English content classes. All the LEP students in the classrooms were Spanish-speaking, participating in a bilingual program established in a large town in the Chicago area. As in all bilingual programs in the United States these students were taught part of the time in their home language, Spanish, and part of the time in English.

The study was conducted over a six-week period at the end of the academic year. The subjects were twelve monolingual English-speaking teachers situated in four different schools. Four taught fifth grade, four taught sixth grade, and four taught fifth/sixth grade combination classes. The teachers were informed that observations concerning classroom language were being conducted, and that the observations could not take place unless the LEP students were in the classroom. The teachers were audio-taped for one hour during a content lesson, such as science, mathematics, or social studies. The audio-tapes were then transcribed in preparation for coding and analysis.

The teachers' interactions with LEP and non-LEP students were looked at in terms of the control of the interaction (directed or nondirected), the type of interaction (instructional, managerial, disciplinary, miscellaneous), and the length of the interactions (brief or extended).

Examination of the direction of the interaction showed that each non-LEP student was interacted with an average of 4.6 times per hour, while each LEP student was interacted with only 2.5 times per hour. In terms of percentages, non-LEP students who represented 92.2% of the total number of students received 95.6% of the interactions, while LEP students who represented 7.8% of the population, received only 4.4% of the interactions.

Study of the types of interactions showed that non-LEP students received 64.9% of the instructional interactions, while LEP students received only 39.1% of the interactions that were instructional. On the other hand, non-LEP students received only 27.7% of the managerial interactions, while 60.9% of the interactions to LEP students were managerial. That is nearly two-thirds of the interactions with the non-LEP students were instructional, while nearly two-thirds of the interactions with LEP students were managerial.



Analysis of the length of interactions (brief or extended) did not show a significant difference in the treatment of LEP and non-LEP students. It did, however, show a trend that as the type of interaction becomes more complex, instructional interactions seen as more complex than managerial class interactions- the difference in treatment of non-LEP and LEP students became larger. For example, non-LEP students had 34.3% of the extended instructional interactions, while LEP students had only 21.7% of the extended instructional interactions. With managerial lesson interactions, non-LEP students had 11.7% of the extended interactions, while LEP students had 5.5% of the extended interactions.

From the results of her study, Schinke-Llano concludes that there is a significant difference in the way LEP and non-LEP students are treated by teachers. But looking at the teachers individually rather than as a group, the results show that some teachers did not show any differential treatment of their students. Her possible explanations for this are the impact of the researcher, the discussions about the study by the teachers beforehand, and/or the personality of one of the LEP students (one of the LEP students initiated interaction with the teacher more often than the other LEP students). It is likely that the sample size of 12

teachers is too small to adequately reveal the true picture of how teachers treat LEP students. She does not tell us exactly how the 12 teachers were chosen for the study, so it is possible that the sample was biased.

Schinke-Llano broadly interprets her results to be indicative of all LEP students in a regular classroom situation. However, it is possible that given a different context, the sorts of results she obtained might be different. Further study with different populations is necessary to see whether her conclusions can be substantiated.

The present study also looks at the teacher interaction in regular content classrooms with LEP and non-LEP students. However, the studies are quite different in other respects. Manitoba does not have a bilingual program comparable to that of the United States. Manitoba LPE students are made a part of the regular classroom as quickly as possible, and on occasion pulled out of this regular classroom for ESL instruction. This pullout can be for as little as half an hour to as much as the full morning or afternoon. The LPE students are considered to be as much a part of the regular classroom as the non-LPE students.

What does the data show concerning teachers in regular classrooms with LPE and non-LPE students in

Manitoba (in one school division)? Do the results concur with those obtained by Schinke-Llano in her study? What might the results of this study mean to LPE education in Manitoba? These questions are addressed in subsequent chapters.

## Chapter Three

### PROCEDURE AND METHODOLOGY

This study looked at teacher interaction with LPE and non-LPE students. The focus on teacher interaction was felt to be important because of the implications from second language learning theories. One of these theories, put forth by Krashen (1982) called the "Input Hypothesis", says that comprehensible input, roughly at the level of understanding of the student, will facilitate language acquisition. The input is better understood when it focuses on a topic of interest and importance to the learner, such as the content of the regular classroom with his or her peers. Moreover, Rivers (1986) stresses that facility in a language comes from sharing messages of importance to both speaker and listener. She sees this interaction as central to effective language learning.

Because the second language input and interaction are seen as very important elements of language learning, the question of whether LPE students in regular classrooms receive sufficient and appropriate interactions with their teachers is an important one? This study looks at the overall frequency of teacher interaction whether directed or nondirected, and at the

frequency of interaction directed at LPE and non-LEP students in terms of the type (instructional, managerial, disciplinary, and miscellaneous), and length (brief or extended) of interactions. Also of interest is the amount of teacher talk compared to the amount the student talk.

The type of study done here was an observational study of teacher-student interactions in a natural classroom setting. It was felt that studying actual classrooms would provide some insight into the quality of education in Manitoba classrooms.

The purpose of the study was to find information concerning teacher interaction with LPE and non-LPE students in the elementary content classroom in the Manitoba context. As mentioned in Chapter Two, most LPE students arrive in a regular classroom sooner or later. They might be given additional ESL support through pullout programs varying from one class a day to a full morning or afternoon.

This study took place at the end of the school year, and involved students and teachers from a single school division in Winnipeg. The research department of the school division approached individual schools that had ESL programs at the Grade 3 and 4 levels to find volunteers for the research study. The teachers were then contacted from the schools that responded

positively. In accordance with the Faculty of Education Ethics Review guidelines for research involving human subjects, teacher and student parental written permissions were obtained (See letters of consent, Appendices A and B). The researcher told the teachers that she was interested in taping a typical class at the convenience of the teacher. A schedule was then set up to accommodate the teachers.

#### SUBJECTS

The subjects were ten regular classroom teachers and their students in three schools within a Winnipeg school division. (Table 1 shows the population of nonLPE and LPE students in each class). Of these ten teachers, seven were monolingual English speakers and three were bilingual. Five of the teachers had not taken any ESL workshops, three had taken ESL workshops, one had taught ESL courses in Art, and one teacher did not respond.

Half (fourteen) of the LPE students sat at the back of the classrooms. Eight sat at the front, either at desks or tables, while three sat in the middle. One of the classes was an art class in which the students sat randomly at tables dispersed throughout the classroom. Three of the classes were mathematics classes, two were social studies classes, one was a

TABLE 1  
STUDY POPULATION

TEACHER	non-LPE STUDENTS	LPE STUDENTS	TOTAL
1	20	3	23
2	16	4	20
3	21	3	24
4	21	3	24
5	18	2	20
6	16	2	18
7	17	2	19
8	23	1	24
9	13	4	17
10	21	4	25
Sum	186	28	214
Mean	18.6	2.8	21.4

science class, one was a math/science class, one was a science/art class, and one was a mathematics/health class.

There were three third grade teachers, five fourth grade teachers, two second/third grade teachers, and one third/fourth grade teacher. All had classroom populations consisting of native speakers of English and limited proficiency in English (LPE) students.

The students identified as LPE students were from a variety of backgrounds. Of the twenty-seven students identified, nine were from Vietnam, three from El Salvador, three from the Philippines, two from Paraguay (German speakers), one each from Chile, China, Korea, Yugoslavia, Greece, Nicaragua, South America, Czechoslovakia, and Poland, as well as one native Canadian Indian. The school division had listed 52 different first languages used by the students who were in ESL programs this year. The most frequent of these were Tagalog or Filipino, Vietnamese, Spanish, Chinese, Portugese, Polish, Lao, Punjabi, Cambodian, German, and Tigrinya. Thus the twenty-seven LPE students in this study were representative of this larger population.

The ESL programs varied from school to school. In some cases the ESL students were withdrawn from the class for half a day for ESL instruction. In other cases the ESL students were withdrawn for a class period at a time. But in all the schools, the students were considered part of the class and participated in all the activities that the other students did.

There was some confusion concerning the designation of LPE students. Many of the teachers felt that there were other students in their rooms who fit this designation but were excluded because of the guidelines. One teacher felt that the guidelines were



too limiting because two of his top students were designated as LPE students while many others who had difficulty in language development were not. The amount of material that the teachers felt the LPE students understood varied from 25% to 100%. The teachers indicated that some of their non-LPE students as well as their LPE students had language problems. One of the teachers felt that at least four of the non-LPE students understood only 50% of the material discussed in class. It was decided that for the sake of this study, the students identified by the school administrators to attend ESL classes would be the only ones considered as LPE students.

#### PROCEDURE

Each teacher and his/her class was audiotaped in the classroom while conducting a lesson in a content subject (mathematics, science, health, social studies, physical education, and art) for a total of forty-five to fifty-five minutes. The researcher remained in the classroom while the lesson was conducted and made personal clarifying notes concerning the speakers to aid in the transcription and analysis process later.

The audiotapings for each teacher fluctuated between 45 and 55 minutes. It was decided that for the

purpose of comparisons, the raw data from each classroom sessions be converted to represent 50 minutes of interaction. Raw scores that were tabulated over 55 minutes were divided by 55 and then multiplied by 50 to obtain a standard score for 50 minutes of interaction. Raw scores that were tabulated over 45 minutes were divided by 45 and then multiplied by 50 to obtain a standard score for 50 minutes of interaction. The analysis in the Results section are based on the converted standard scores. (See Appendix C for raw data.)

The sample populations of LPE students and non-LPE students were not equal. Because of this, it was decided that to make any meaningful comparisons the mean number of interactions of each teacher with each LPE and non-LPE student would be used. For example in Teacher one's classroom, the 20 non-LPE students had a total of 134.75 interactions for 50 minutes. The mean number of interactions for each non-LPE student per 50 minutes was 6.74 (134.75 interactions divided by 20 students). There were 3 LPE students with a total of 17.42 interactions for 50 minutes. The mean number of interactions for each LPE student per 50 minutes was 5.81 (17.42 interactions divided by 3 students).

Coding

In order to accurately codify and tabulate thje interactions, a written transcription of the audiotapes was prepared by the researcher and an associate. Interactions that did not relate to the class such as students coming up and talking into the taperecorder, were not transcribed. The transcriptions were then used to code and tabulate the frequency of the interactions according to 1) direction (LPE or non-LPE), 2) function (instructional, managerial lesson, managerial class, disciplinary, miscellaneous), 3) length (brief or extended), 4) and control (directed or non-directed). An additional analysis was made of the frequency of T-units used by the teacher and students, and by LPE and non-LPE students. The researcher used the notes made while she was in the class to clarify whether the interactions were directed to LPE or non-LPE students. The interactions were tabulated in the chart shown in Table 2.

In this study, an interaction consists of turns taken by speakers on the same topic similar to Sinclair and Coulthard's (1975) level of discourse called an exchange. The following is an example of an exchange:

T: Oh, you're running already. How much time do you need?

R: About 30 minutes.

TABLE 2  
TEACHER /STUDENT INTERACTIONS

Directed		Non-directed	
brief	extended	brief	extended

Instructional				
LPE				
NonLPE				
Managerial lesson				
LPE				
NonLPE				
Managerial class				
LPE				
NonLPE				
Disciplinary				
LPE				
NonLPE				
Miscellaneous				
LPE				
NonLPE				

The transcriptions of the interactions were first coded as being either directed or non-directed interactions. A directed interaction is characterized by the teacher's interacting with a single student. A non-directed interaction is characterized by the teachers interacting with several students or the entire class. These interactions were then coded according to the length of the interaction. A brief

interaction consisted of an initiation, response, and optional feedback. An example follows:

T: The only problem was while she was hiding there, she couldn't stay there for very long because what chased her out of the mountains?

Eric?

S: A bear.

T: OK.

An extended interaction consisted of two or more turns for each speaker (Schinke-Llano, 1983). An example follows:

Student: 2 put 2 and 00, put dollar sign.

Teacher: Louder Kelly, I can't hear you.

Student: You said how much, cents?

Teacher: I said \$2 and 84c.

Student: Put the 80 er put the 0, I mean the dot after the zero. Not the other zero.

Teacher: Put the dot after the?

Student: No, I mean put---before.

Teacher: OK. I think we've lost each other here. Its not 2 hundred and 84.

Once the interactions had been coded as to the direction of the interactions and the length of the interactions, the interactions were coded according to the function of the interaction. Five functions were

considered, instructional, managerial lesson, managerial class, disciplinary, and miscellaneous. An instructional interaction elicits or conveys information that is directly related to the content of the lesson. A managerial lesson interaction conveys information about the procedures of the lesson. A managerial class interaction conveys information about the procedures of the classroom situation.

Disciplinary interactions are reprimands delivered to the students concerning their behavior. Miscellaneous interactions are interactions that do not fit into any of the above categories. They would include interactions such as asides or digressions (Schinke-Llano, 1983).

Finally the interactions were coded according to whether the interactions were directed to LPE students or non-LPE students. At this point the researcher referred to the notes made during the classroom taping.

After the interactions had been coded, they were tabulated on the chart shown in Table 2. (See Appendix D for codified transcription and tabulated chart) Once the tabulations had been completed, the number of interactions for each box was counted, as well as the total number of interactions directed to LPE students and non-LPE students, and the total number of

nondirected interactions. The raw data for all the interactions are in Appendix D.

The coding procedure was tested to ensure consistency within the rater. The researcher prepared herself using written transcripts of audio-taped classroom interactions audio-taped previously. The researcher then coded a 10 minute audio-tape of classroom interactions and tabulated the results in the chart for Teacher/Student Interactions. The same 10 minute audio-tape of classroom interactions was then coded by the researcher the next day, and the results of this coding were tabulated. The intra-rater agreement was tested on the two codings. The Spearman "rho" procedure was used to gauge the reliability of the coding of classroom interactions. A reliability of 0.988 was found. This showed a high degree of agreement between the codings of the transcripts. It was concluded that the researcher could code all the transcripts in a consistent manner.

#### ANALYSIS OF THE DATA

The data was analyzed under the three main questions of study. The first question asked whether there was a difference in the frequency of verbal interactions that the teacher had with LPE and non-LPE

students. This question looked at the total directed interactions received by LPE and by non-LPE students from their teachers. The second question asked whether there was a difference in the frequency of the various types of interactions that the teacher had with LPE and non-LPE students. This question divided the total direct interactions into five types of interactions---instructional, managerial class, managerial lesson, disciplinary, and miscellaneous---for LPE and non-LPE students. The third question asked whether there was a difference in the frequency of brief (one turn each) and extended (two or more turns each) verbal interactions that the teacher had with LPE and non-LPE students.

Since this study is an exploratory study concerning teacher interactions with LPE and non-LPE students, the data was looked at for trends and patterns in the area of teacher/student interactions. However, in the end three null hypotheses were tested. T-tests were used to determine whether mean differences were significant. In all cases,  $p < .05$  was used as the critical value.



### HYPOTHESES

Hypothesis 1: There is no difference in the frequency that teachers interact with non-LPE and LPE students.

Hypothesis 2: There is no difference in the frequency of various types of interactions that teachers use with non-LPE and LPE students.

Hypothesis 3: There is no difference in the frequency of brief and extended interactions that teachers use with non-LPE and LPE students.

#### Additional Comparision

Because of the definition of interaction used in this study, it was judged necessary to do a further comparision of the amount of teacher talk and student talk. While interactions indicate the exchanges that take place between teachers and students. They do not indicate the amount of talk taking place within the exchanges themselves. It was decided to count the T-units used by the teachers and the students.

## Chapter Four

### RESULTS

The question that was posed in this study was: What are some of the characteristics of LPE student education in Manitoba in the regular classroom, specifically in the regular content classroom?

To answer in part this question, it was decided to investigate the classroom language that exists in the regular English content classrooms with LPE and non-LPE students at the elementary grade levels in Manitoba schools. Three questions were proposed: 1) Is there a difference in the frequency of verbal interactions teachers have with LPE and non-LPE students? 2) Is there a difference in the frequency of various types of verbal interactions (instructional, managerial, disciplinary, miscellaneous) teachers have with LPE and non-LPE students? 3) Is there a difference in the frequency of brief and extended verbal interactions teachers have with LPE and non-LPE students.

In order to answer the first question the following null hypothesis was formulated and tested based on the data.

#### Hypothesis One

There is no difference in the frequency with which teachers interact with LPE and non-LPE students.

Each interaction was coded according to whether it was directed or non-directed, and the directed interactions were coded as LPE or non-LPE. Only the directed interactions could be identified as the interactions with LPE or non-LPE students. The mean number of directed interactions per student was calculated for each teacher for a fifty minute lesson. These results are presented in Table 3.

There were some individual teachers who seemed to favor one group of students over the other. Seven of the ten teachers, Teachers 1, 2, 3, 5, 6, 7, and 10, had more directed interactions with non-LPE students than with LPE students. Three of the ten teachers, Teachers 4, 8, and 9 had more interactions with LPE students than with non-LPE students.

Each LPE student was interacted with an average of 4.41 interactions per 50 minutes. Each non-LPE student was interacted with an average of 4.85 interactions per 50 minutes. The average non-LPE student was interacted with more than the average LPE student.

A paired t-test was carried out to see whether these differences were significant. A paired "t" value of 1.671 was obtained which was not significant at  $p=.05$ . The null hypothesis was not rejected. There were no significant differences in the frequency with

which teachers interacted with LPE and non-LPE students.

TABLE 3.  
NUMBER OF DIRECTED INTERACTIONS PER STUDENT PER 50  
MINUTES.

TEACHER	NON-LPE STUDENTS	LPE STUDENTS
1	6.74	5.81
2	2.94	2.50
3	2.10	0.92
4	6.48	7.33
5	5.23	3.75
6	4.03	3.89
7	5.59	3.75
8	7.30	8.00
9	4.04	6.46
10	4.09	1.67
SUM	48.54	44.08
MEAN	4.85	4.41

$t = 1.671$

DF = 9

NS at  $p = .05$

In order to answer the second question a second null hypothesis was formulated.

## Hypothesis Two

There is no difference in the frequency of various functional types of interactions that teachers use with LPE and non-LPE students.

The directed interactions coded LPE or non-LPE were further coded instructional, managerial lesson, managerial class, disciplinary, or miscellaneous. The number of interactions in each function per student per fifty minutes was then calculated for each teacher. Table 4 shows the comparisons of interactions with non-LPE and LPE students on each functional type of directed interaction.

There were individual differences found for each teacher on different functional types of interactions. Nine of the teachers had instructional interactions with both LPE and non-LPE students. Teacher 3 only had instructional interactions with non-LPE students. Five of the teachers, teachers 1, 2, 6, 7, and 10, did not have any managerial lesson interactions with LPE students. Only two teachers, teachers 2 and 6, did not have any managerial lesson interactions with non-LPE students. Four teachers, 1, 3, 6, and 10, did not have any managerial class interactions with LPE students. All the teachers had managerial class interactions with non-LPE students but one teacher's interactions, teacher 3, were higher than the other teachers' interactions at 2.09 interactions per non-LPE student

TABLE 4

Number of Interactions by Functional Types  
per Student per 50 Minutes

Instructional Teacher	Managerial Lesson		Managerial Class		Disciplinary		Miscellaneous			
	non-LPE	LPE	non-LPE	LPE	non-LPE	LPE	non-LPE	LPE		
1	3.59	4.85	0.86	0.00	0.95	0.00	1.09	0.91	0.18	0.00
2	2.56	2.00	0.00	0.00	0.38	0.50	0.00	0.00	0.00	0.00
3	0.17	0.00	1.65	0.61	0.09	0.00	0.17	0.00	0.00	0.03
4	3.57	3.33	1.10	0.67	0.90	2.00	0.48	1.33	0.43	0.00
5	2.22	0.91	1.06	1.36	1.31	0.45	1.06	0.91	0.05	0.45
6	3.54	3.33	0.00	0.00	0.28	0.00	0.21	0.00	0.00	0.56
7	5.13	2.73	0.05	0.00	0.32	0.45	0.59	0.00	0.00	0.09
8	5.26	5.00	0.43	1.00	0.91	1.00	0.48	1.00	0.22	0.00
9	0.84	1.82	1.47	3.18	1.05	0.91	0.98	0.91	0.07	0.23
10	2.60	1.36	0.43	0.00	0.22	0.00	1.17	0.45	0.04	0.00
sum	29.48	25.33	7.05	6.82	6.41	5.31	6.23	5.57	0.99	1.63
mean	2.95	2.53	0.71	0.68	0.64	0.53	0.62	0.55	0.10	0.16
DF	9.00		9.00		9.00		9.00		9.00	
t	1.22		0.09		0.61		0.49		0.67	
p=.05	NS		NS		NS		NS		NS	

per 50 minutes, compared to the next highest interaction at 1.31. Four teachers, 2, 3, 6, and 7, did not have any disciplinary interactions with LPE students. Only one teacher, teacher 2, did not have any disciplinary interactions with non-LPE students. Five teachers, 1, 2, 4, 8, and 10, did not use miscellaneous interactions with LPE students, while 4 teachers, 2, 3, 6, and 7, did not use miscellaneous interactions with non-LPE students.

Looking at the interactions from an overview of functional types, eight of the ten teachers used all five types of interactions in the classroom. Teacher 6 used all types except managerial lesson. Teacher 2 only used the instructional and managerial class interactions.

In order to determine whether the differences in the mean frequencies of teacher interactions on the various functional types in favor of the non-LPE students were significant, paired t-tests were calculated. No significant differences were found at  $p = .05$  in the number of interactions teachers had with LPE students and non-LPE students on any of the five functional types of interaction. The null hypothesis was not rejected. There were no differences in the functional types of teachers interactions with their LPE and non-LPE students.

In order to answer the third question a third null hypothesis was formulated and the data analyzed.

### Hypothesis Three

There is no difference in the frequency of brief and extended interactions that teachers use with LPE students and non-LPE students.

Each directed interaction coded LPE or non-LPE was also coded according to whether it was brief (one turn per person) or extended (two or more turns per person). The number of interactions per student per 50 minutes was then calculated for each teacher. Table 5 summarizes the brief and extended interactions with LPE and non-LPE students.

Overall non-LPE students received more brief interactions than LPE students by a small margin of 3.99 to 3.24 interactions per student per 50 minutes, while LPE students received more extended interactions than non-LPE students, with 1.26 to 0.97 interactions per student per 50 minutes. Teacher 3 did not have any extended interactions with LPE students while teachers 4 and 10 only had limited extended interactions with LPE students at 0.33 and 0.23 interactions respectively. Teacher 10 also had the least extended interactions with non-LPE students of all the teachers, at 0.17 interactions per student per 50 minutes. T-tests were done on the mean frequencies of brief and



TABLE 5

Number of Brief and Extended Interactions  
per Student per 50 Minutes

Teacher	Brief non-LPE	LPE	Extended non-LPE	LPE
1	6.00	4.55	0.68	1.21
2	2.13	1.25	0.81	1.25
3	1.34	0.68	0.74	0.00
4	5.29	7.00	1.19	0.33
5	4.04	2.27	1.17	1.82
6	2.57	2.22	1.46	1.67
7	4.81	2.27	1.28	1.82
8	5.91	6.00	1.39	2.00
9	3.57	4.55	0.84	2.27
10	4.29	1.59	0.17	0.23
sum	39.95	32.38	9.73	12.60
mean	3.99	3.24	0.97	1.26
DF	9.00		9.00	
t	0.97		1.34	
p=.05	NS		NS	

extended interactions with LPE and non-LPE students in order to determine whether the differences were significant. There was no significant difference at  $p=.05$  in the mean number of brief interactions with LPE and non-LPE students. Likewise, there was no significant difference at  $p=.05$  in the number of extended interactions with LPE and non-LPE students. The null hypothesis was not rejected. There is no significant difference in the number of teachers' brief and extended interactions with LPE and non-LPE students.

#### Additional Comparisions

The total number of directed and nondirected interactions of the ten teachers with their students was looked at. Table 6 summarizes the results.

Overall the teachers had more directed than nondirected interactions with their students (a mean of 102.1 directed compared to a mean of 65.6 non-directed interactions per class session). Only teacher 10 had more nondirected interactions, but this was only by a difference of one.

The number of "T-units" used by the teachers, the LPE students and the non-LPE students was looked at to obtain an idea of the amount of actual talk that went on in the classroom. The raw data of teacher talk and

student talk in the classroom is available in the Appendix G.

TABLE 6  
NUMBER OF DIRECTED AND NONDIRECTED INTERACTIONS

Teacher	Directed	Nondirected
1	166	85
2	57	51
3	49	26
4	158	88
5	122	83
6	65	23
7	123	79
8	176	46
9	94	63
10	111	112
Total	1021	656
Mean	102.1	65.6

All the teachers talked more than their students. The raw data of the teacher talk and student talk, shows that the group of ten teachers used 7,077 T-units, while their students used only 2,200 T-units. Teachers talked over three times as much as their students.

Table 7 shows the number of "T-units" per person per 50 minutes. Teachers 3 and 6 talked much less than the rest of the teachers with 252.73 and 254.55 T-units

respectively for 50 minutes. The next lowest was teacher 1 at 562.73 T-units per 50 minutes, more than double the number of T-units used by teachers 3 and 6. Teachers 4 and 10 talked more than the other teachers using 1181 and 1111.82 T-units respectively per 50 minutes. They talked over 4 times as much as Teachers 3 and 6.

The average number of "T-units" per student was lower for non-LPE students than LPE students (10.12 compared to 12.15). In classrooms 5, 7, and 8, the LPE students used approximately twice as many "T-units" as the average number.

A t-test was done on the mean number of "T-units" for LPE and non-LPE students. A t-value of -1.118 was obtained, which is not significant at  $p=.05$ . There was no significant difference in the number of "T-units" used by LPE and non-LPE students. Table 8 shows the T-units per person per 50 minutes

TABLE 7.

	TOTAL T- UNITS	
	teacher	students
1.	562.73	22.79
2.	711	24.69
3.	252.73	8.88
4.	1181	17.3
5.	762.73	42.42
6.	254.55	5.80
7.	783.33	42.65
8.	616	33.96
9.	568.18	19.25
10.	1111.82	8.41
Sum	6804.07	226.48
Mean	680.41	22.65

TABLE 8

## T-UNITS PER PERSON PER 50 MINUTES

	non-LPE	LPE
1.	11.59	11.2
2.	17.19	7.5
3.	3.12	5.76
4.	7.3	10
5.	14.24	28.18
6.	2.16	3.64
7.	17.65	25
8.	11.96	22
9.	10.84	8.41
10.	5.15	3.41
Sum	101.2	125.1
Mean	10.1	12.5
DF	9	
t	-1.118	
p	.05	NS

## Chapter Five

### Summary, Discussion, and Further Research

The general question of this study was what are some of the characteristics of LPE (Limited Proficiency in English) student education in Manitoba in the regular classroom, specifically in the regular content classroom? The specific question investigated was the language interactions that exist in the regular content classrooms with LPE and non-LPE (native speakers of English) students at the elementary grade levels in Manitoba schools.

The subjects were ten classroom teachers and their students in three schools in a Winnipeg school division. There were three third grade teachers, five fourth grade teachers, two second/third grade combined teachers, and one third/fourth grade combined teacher. All had classroom populations consisting of LPE and non-LPE students.

Three hypotheses focused on teacher interaction with LPE and non-LPE students.

The first hypothesis examined the frequency with which teachers interacted with LPE and non-LPE students. Each directed interaction was coded as either LPE or non-LPE. The mean number of interactions per student was calculated for each teacher for a fifty minute class period. A paired t-test was carried out

on the mean frequency of directed interactions with LPE and non-LPE students.

The second hypothesis examined the functional types of directed interactions that teachers used with LPE and non-LPE students. The directed interactions were coded as to whether they were instructional, managerial lesson, managerial class, disciplinary, or miscellaneous in the two categories of students, LPE or non-LPE. The number of interactions per student per fifty minutes was then calculated for each teacher. A paired t-test compared the mean frequency of these various interaction types with LPE and with non-LPE students.

The third hypothesis examined the length of directed interactions that teachers used with LPE and non-LPE students. Each directed interaction was coded according to whether it was brief (one turn per speaker) or extended (two or more turns per speaker). The number of interactions per student per 50 minutes was calculated for each teacher. T-tests were done on the mean frequency of brief interactions with LPE and with non-LPE students and of extended interactions with LPE and with non-LPE students.

It was also felt that the directed interactions did not give a complete picture of the amount of talk by the different participants in the classroom.



Therefore, additional comparisons looked at the directed and nondirected interactions, the T-units used by the teachers and the students, the T-units used by LPE and non-LPE students. It was felt that all the language in the classroom would be important to look at, not just the directed interactions.

#### Summary of Findings

##### Hypothesis One:

The average non-LPE student was interacted with more than the average LPE student. The average non-LPE student received 4.85 interactions per 50 minutes, while the average LPE student received 4.41 interactions per 50 minutes. However, these differences were not significant at  $p = .05$  level.

##### Hypothesis Two:

The teachers differed in the number of interactions they had with LPE and non-LPE students on the five different functional types of interactions. Interactions with non-LPE students are consistently higher than interactions with LPE students in all functions other than miscellaneous. However, none of these differences are significant at the  $p = .05$  level.

### Hypothesis Three:

Non-LPE students received more brief interactions than did LPE students. LPE students received more extended interactions than did non-LPE students. However, these differences were not significant at  $p = .05$  level.

### Additional Comparisions

1. The group of ten teachers had more directed interactions (102.1) than nondirected interactions (65.6) with their students.

2. All the teachers used more T-units than their students. On the average, they talked more than three times as much as their students.

3. Non-LPE students fewer more T-units than did LPE students. The average number of T-units for non-LPE students was 10.12, and the average number of T-units for LPE students was 12.51. However, there was no significant difference in the mean number of T-units used by LPE and non-LPE students at  $p = .05$  level.

## DISCUSSION

The results from this study showed that while there are individual differences amongst teachers, on average there were no significant differences in the

way teachers interacted with LPE and non-LPE students. The differences between individual teachers may be a result of the differences in teachers styles of teaching. Some of the teachers, 3 and 6, had the students sitting at tables in groups of 4, while other teachers, 1, 2, 4, 10, had the students sitting in rows. This difference in seating arrangement could have affected the interactions that happened in the classroom. Some of the teachers had different "noise" tolerance levels. Some, teachers 4, and 10, insisted that the room be very quiet, while others, teachers 3, 6, 7, were more accepting of the students talking together or at the same time, teachers 3, 6, 7.

The results from the present study of teacher interaction with non-LPE students and LPE students in regular content classrooms showed that there was no significant difference in the amount of interaction in terms of direction, functional type, or length. These results do not concur with those of Schinke-Llano's study (1983). In her study she found that non-LPE students received more direct interactions than did LPE students. She also found that there was a difference in the functional type of interaction that the two groups of students received. Non-LPE students received more instructional interactions than LPE students, while LPE students received more managerial

instructions than non-LPE students. Although she did not find a statistical difference in the length of directed interactions with non-LPE students and LPE students, she saw a trend developing to support the possibility of a difference in the length of interactions.

One possible explanation for the difference in the findings of the two studies could be the difference in the educational program in the United States (in the Chicago area) and in Manitoba (in Winnipeg). The American bilingual program saw the LPE students in the Spanish classroom for a portion of the morning and afternoon. In the Winnipeg school division, the LPE students were considered to be a part of the regular classroom and were pulled out for ESL instruction for part of the day. It is possible that the regular classroom teachers in Winnipeg perceived the LPE students as an integral part of the classroom, while their American counterparts may not have viewed their LPE students in the same manner. They may have viewed them as belonging to their Spanish class rather than to the English class.

The LPE students in the Winnipeg situation came from a variety of different language backgrounds so that English was the common language of communication. The American LPE students had a common language,

Spanish, so they could communicate to each other without the use of English.

Another possible explanation of the difference in findings may be the difference in grade levels in each study. The Winnipeg study looked at Grades 2 to 4; the American study looked at Grades 5 and 6. It is possible that students in the higher grades respond differently in class with their teachers; it is possible that the nature of the classroom situation changes in the higher grades in such a way that interaction becomes more limited. The older LPE students may feel more inhibited about speaking out in class than younger LPE students do.

A comparison of the results from the Schinke-Llano study and the Roth study are in Table 9. In Schinke-Llano's study the mean number of interactions per sixty minutes for LPE students was 2.5 interactions, and for non-LPE students was 4.6 interactions. The Manitoba study showed that both LPE and non-LPE students had more interactions than Schinke-Llano's students. The LPE students received 4.94 interactions per student per sixty minutes, almost twice as many as the LPE students received in Schinke-Llano's study. The non-LPE students received 5.95 interactions per student per 60 minutes, which again is higher than Schinke-Llano's students. The LPE

students in the Manitoba study had more interactions than even the non-LPE students in Schinke-Llano's study.

TABLE 9

Comparison of Mean Directed Interactions per Student per Sixty Minutes Across Two Studies.

	nLPE	LPE	Total
Schinke-Llano	4.6	2.5	4.4
Roth	5.95	4.94	5.76

A third possibility may be the teacher expectations of the students. The LPE students in the American study had been assessed concerning their language fluency the year previous to when the study took place. It is possible that the teachers had inaccurate ideas about the fluency levels of their LPE students and as a result were not interacting with them as often because it was felt that the LPE students would not understand the material. The Winnipeg teachers felt that many of their students should have been classified as LPE students but were not. They felt that more language development was needed for many of the students in their classrooms LPE and non-LPE alike. It is

possible that these teachers interacted more uniformly with their students as a group, rather than thinking of them in categories of LPE and non-LPE students.

Second language acquisition theory recommends that students receive large quantities of comprehensible input on topics that are relevant to them (Krashen, 1982). The LPE students in Manitoba appear to be receiving relevant input because they take classes in the content subjects. The language used in these classes is related to the topic currently under study. But how much of this material is comprehensible is unknown at this point. The teachers did not seem to systematically use linguistic simplification, pedagogical aids such as pictures and reallia, or affective sensitivity to students' knowledge, needs, and experience.

Although the Manitoba teachers encouraged more interaction than the Chicago teachers, their classes were far from being interactive, evidenced by the three times as much teacher talk compared to student talk (Appendix G). Some of the teachers used extremely high numbers of T-units. Teacher 4 used 1181 T-units in fifty minutes while the LPE students used 30, and the non-LPE students used 154 T-units. Teacher 10 used 1223 T-units in fifty-five minutes while the LPE students used 15 and the non-LPE students used 119

T-units. One possible reason for these two teachers using exceptionally high T-units in comparison with other teachers may have been their style of teaching. Both of these teachers maintained strict control of the classroom. The students were allowed to talk only when the teacher indicated that they could. Most of the talk that the students did was in reply to questions formulated by the teacher. These teachers also had one correct answer in mind that they wanted the students to give to their questions. While these teachers were talking the students were quietly sitting in their desks. There was a large amount of input but it is not known how much of what the teachers said was comprehensible to the students, both LPE and non-LPE. Moreover, the large amount of talking done by the teacher did not encourage the students to initiate interactions as seen by the small number of T-units used by the students.

Is interaction important for the improvement of a students' language? This has been studied at the adult ESL level by Seliger (1977). Students were divided into two categories on the basis of their interaction initiating behavior. Students who initiated interactions, and thereby received input were called high input generators (HIG's). Those students who did little to initiate more interactions were called low



input generators (LIG's). The interactions could be with either the teacher or other students, but in the target language. Seliger found that HIG's developed language competence faster and better than did LIG's who did not receive as much focused interaction.

Seliger's study supports the Second language theories suggesting that students need large quantities of comprehensible input, and that language develops faster and better when it is used in an interactive approach (Seliger, 1977). This suggests that the LPE students in Manitoba need more practice interacting with others, rather than the current practice of the teacher doing most of the talking and initiating the interactions.

The large amount of talk that the teachers do in comparison to the amount of talk the students do suggests that the teachers do not practice Rowe's idea of wait-time. He found that by waiting a short period of time for the students to answer a question before repeating the question or moving on to another student, the students improved in the number of their responses and the quality of their responses (Rowe, 1974). It is possible that if the teachers in this study had waited, they might have had more responses and longer responses. It is also possible that other students who usually do not answer questions may have begun to

respond. This only works in classes where teachers are willing to accept responses from the class as a whole, rather than controlling who can answer. In this study there were 1021 directed interactions, compared to 656 nondirected interactions.

Of the ten teachers involved in the Manitoba study, only four of them had gone to an ESL workshop or taken an ESL course. It is possible that the majority of the teachers were unaware of how they could help their LPE students because they were unfamiliar with current second language theory and practice. A study by Margaret Early (1986) suggests that there is a difference in the educational practices of ESL and regular teachers. ESL teachers were found to employ different frequencies of questions, statements, and imperatives, and to employ more comprehension checks, more self-repetitions, more other-repetitions, and more expansions than regular teachers in the area of conversational interaction with non-native speakers (NNS) and native speakers (NS). There was also a difference in the linguistic input to NNS than the linguistic input to NS. Teachers employed shorter, syntactically less complex utterances to NNS students than to NS students.

It would appear that teachers who have LPE students in their regular classrooms need to modify

their teacher talk in a manner similar to that of an ESL teacher in order to help their LPE students comprehend the material being studied. This adjustment of teacher-talk may be as important for many other students who are not designated as LPE students. All the teachers in this study expressed a concern that many of their non-LPE students did not understand the material, or that they were slow in their language development. Many teachers felt that more of their students needed to receive the extra help that the LPE students were receiving. It is possible that these classrooms would benefit from regular classroom teachers who had expertise in teaching English as a Second language and in language development theory and practice.

#### Further Research

Much more research into the area of second language learning at the K-12 grade levels in the Manitoba context needs to be done. Studies in the past have focused on either adult ESL students or the segregated ESL classroom (Chaudron, 1978, 1979; Gaies, 1977; Hatch et al., 1975; Henzl, 1974, 1975, 1979; Long and Sato, 1981; Steyart, 1977; Trager, 1978). While the information gained from these studies is interesting and relevant, studies into the regular

classroom with LPE students need to be done as these classrooms appear to be the norm in most school divisions in Manitoba.

The present interaction study has led to the formulation of several questions concerning LPE student education. The students in this study, both LPE and non-LPE, received large amounts of input from the teacher. Exactly how much of this input was comprehensible to the students? A means of measuring comprehensibility by the students needs to be devised to rate the input given by the teacher to the students.

Another question that should be studied is: Does interaction lead to achievement, both for LPE and non-LPE students? If it does, how much interaction is necessary? Seliger's study with adult ESL students showed that those who initiated interactions developed language fluency better and faster than those who did not initiate interactions. Rivers also advocates the interactive approach to language learning in order to facilitate language fluency. This idea needs to be tested on LPE students at all age levels, and possible minimum amounts of interaction need to be determined. Also the types of interaction situations need to be studied, e.g. teacher-student, student-student, small group, large group, simulation (role-playing).

Another area that needs to be studied is teacher training. Do teachers who are aware of ESL theory and practice help their students learn language faster and better? There are many LPE students in regular classrooms with teachers who have little or no experience in dealing with students whose knowledge of English is limited. Would ESL courses or workshops make these teachers better for LPE student education, or is it the personality and educational instincts of the teacher that makes the better teacher?

Further research studies into all areas of LPE student education, the school situation, the classroom environment, the community, and the home need to be undertaken in order to obtain a complete picture of LPE student education.

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Appendix A  
Letter to Parents

Dear \_\_\_\_\_ (teacher)

I am undertaking a study of classroom language. I am concentrating on multicultural classrooms with students of various language backgrounds at the grades three and four levels in the content classroom (eg. Math, Science, Health, Art, Social Studies). This study will be part of an M.Ed. thesis with the University of Manitoba.

The study will require one hour of class time with twelve different teachers. The classes will be observed by the researcher and audio-taped for further analysis. The analysis will concentrate on the verbal exchanges between the teachers and students. While the classes are being observed, the researcher will make notes concerning the classroom language. Students will not be tested in any way; they will simply participate in class as they normally do. The only information required about the pupils will be whether they are LPE or non-LPE students. The LPE students will be identified by the teacher and/or principal in accordance with the Manitoba Education definition of LPE students.

All information gathered will be confidential. No names, or schools will be identified so that anonymity is ensured. A synopsis of the results in general will be provided to the participating teachers after the study is completed.

Please indicate your consent by your signature below.

Thank you.  
Yours truly,

Kathleen Roth  
Telephone: 475-0890  
Professor P. Mathews (supervisor)

PERMISSION FORM

Classroom Language in Grades Three and Four

\_\_\_\_\_  
(Signature)

Date \_\_\_\_\_

Appendix B  
Letter to Teachers

Dear \_\_\_\_\_ (parents)

I am undertaking a study of classroom language. I am looking at multicultural classrooms at the grades three and four levels which have students of various language backgrounds.

This study will be part of an M.Ed. thesis with the University of Manitoba.

The researcher will observe and tape one class period. The class will be a normal classroom situation. The students will not be tested in any way.

All information gathered will be confidential. No names or schools will be identified so that anonymity is ensured.

Please indicate your consent by your signature below.

Thank you.  
Yours truly,

Kathleen Roth  
Telephone: 475-0890  
Professor P. Mathews (supervisor)

---

PERMISSION FORM

Classroom Language in Grades Three and Four

Name of Child: \_\_\_\_\_

check one:

\_\_\_\_\_ I do consent to let my child participate.  
\_\_\_\_\_ I do not consent to let my child  
participate.

Date \_\_\_\_\_

APPENDIX C.  
RAW DATA OF TEACHER INTERACTIONS

## Teacher 1 Teacher/Student Interactions (55 minutes)

Directed	Nondirected		brief	extended
	brief	extended		
<b>Instructional</b>				
LPE	12	4		
NonLPE	67	12	37	15
<b>Managerial lesson</b>				
LPE	0	0		
NonLPE	16	3	6	1
<b>Managerial class</b>				
LPE	0	0		
NonLPE	21	0	11	3
<b>Disciplinary</b>				
LPE	3	0		
NonLPE	22	0	1	0
<b>Miscellaneous</b>				
LPE	0	0		
NonLPE	4	0	7	4
Total directed nLPE		147		
Total directed LPE		19		

## Teacher 2: Teacher/Student Interactions (50 minutes)

Directed	Non-Directed			
	brief	extended	brief	extended
<hr/>				
Instructional				
LPE	3	5		
NonLPE	28	13	19	22
<hr/>				
Managerial lesson				
LPE	0	0		
NonLPE	0	0	0	0
<hr/>				
Managerial class				
LPE	2	0		
NonLPE	6	0	5	1
<hr/>				
Disciplinary				
LPE	0	0		
NonLPE	0	0	0	0
<hr/>				
Miscellaneous				
LPE	0	0		
NonLPE	0	0	4	0
<hr/>				
Total directed nLPE		47		
Total directed LPE		10		



## Teacher 3: Teacher/Student Interactions (55 minutes)

Directed	Non-Directed			
	brief	extended	brief	extended
<hr/>				
Instructional				
LPE	0	0		
NonLPE	2	2	5	3
<hr/>				
Managerial lesson				
LPE	2	0		
NonLPE	23	15	8	3
<hr/>				
Managerial class				
LPE	0	0		
NonLPE	2	0	5	1
<hr/>				
Disciplinary				
LPE	0	0		
NonLPE	4	0	0	0
<hr/>				
Miscellaneous				
LPE	1	0		
NonLPE	0	0	0	1
<hr/>				
Total directed nLPE	48			
Total directed LPE	1			

## Teacher 4: Teacher/Student Interactions (50 minutes)

Directed	Non-Directed			
	brief	extended	brief	extended
<hr/>				
Instructional				
LPE	10	0		
<hr/>				
NonLPE	65	10	60	11
<hr/>				
Managerial lesson				
LPE	2	0		
<hr/>				
NonLPE	11	12	4	0
<hr/>				
Managerial class				
LPE	5	1		
<hr/>				
NonLPE	16	3	11	0
<hr/>				
Disciplinary				
LPE	4	0		
<hr/>				
NonLPE	10	0	2	0
<hr/>				
Miscellaneous				
LPE	0	0		
<hr/>				
NonLPE	9	0	0	0
<hr/>				
Total directed nLPE		136		
Total directed LPE		22		

## Teacher 5: Teacher/Student Interactions (55 minutes)

Directed	Non-Directed			
	brief	extended	brief	extended
<hr/>				
Instructional				
LPE	1	1		
NonLPE	26	18	28	27
<hr/>				
Managerial lesson				
LPE	0	3		
NonLPE	10	11	6	3
<hr/>				
Managerial class				
LPE	1	0		
NonLPE	22	4	10	0
<hr/>				
Disciplinary				
LPE	2	0		
NonLPE	21	0	0	0
<hr/>				
Miscellaneous				
LPE	1	0		
NonLPE	1	0	4	5
<hr/>				
Total directed nLPE	113			
Total directed LPE	9			

## Teacher 6: Teacher/Student Interactions (45 minutes)

Directed	Non-Directed			
	brief	extended	brief	extended
Instructional				
LPE	3	3		
NonLPE	31	20	16	2
Managerial lesson				
LPE	0	0		
NonLPE	0	0	1	0
Managerial class				
LPE	0	0		
NonLPE	3	1	4	0
Disciplinary				
LPE	0	0		
NonLPE	3	0	0	0
Miscellaneous				
LPE	1	0		
NonLPE	0	0	0	0
Total directed nLPE		58		
Total directed LPE		7		

## Teacher 7: Teacher/Student Interactions (55 minutes)

Directed	Non-Directed			
	brief	extended	brief	extended
<hr/>				
Instructional				
LPE	2	4		
NonLPE	73	23	33	18
<hr/>				
Managerial lesson				
LPE	0	0		
NonLPE	1	0	8	0
<hr/>				
Managerial class				
LPE	1	0		
NonLPE	5	1	13	3
<hr/>				
Disciplinary				
LPE	0	0		
NonLPE	11	0	3	0
<hr/>				
Miscellaneous				
LPE	2	0		
NonLPE	0	0	1	0
<hr/>				
Total directed nLPE		114		
Total directed LPE		9		

## Teacher 8: Teacher/Student Interactions (50 minutes)

Directed	Non-Directed			
	brief	extended	brief	extended
<hr/>				
Instructional				
LPE	3	2		
NonLPE	93	28	26	13
<hr/>				
Managerial lesson				
LPE	1	0		
NonLPE	10	0	0	0
<hr/>				
Managerial class				
LPE	1	0		
NonLPE	19	2	4	0
<hr/>				
Disciplinary				
LPE	1	0		
NonLPE	10	1	3	0
<hr/>				
Miscellaneous				
LPE	0	0		
NonLPE	4	1	0	0
<hr/>				
Total directed nLPE		168		
Total directed LPE		8		

## Teacher 9: Teacher/Student Interactions (55 minutes)

Directed	Non-Directed			
	brief	extended	brief	extended
Instructional				
LPE	6	2		
NonLPE	9	3	16	9
Managerial lesson				
LPE	6	8		
NonLPE	16	5	14	9
Managerial class				
LPE	4	0		
NonLPE	13	2	9	0
Disciplinary				
LPE	4	0		
NonLPE	12	2	4	0
Miscellaneous				
LPE	1	0		
NonLPE	1	0	1	1
Total directed nLPE 63				
Total directed LPE 31				

## Teacher 10: Teacher/Student Interactions (55 minutes)

Directed	Non-Directed			
	brief	extended	brief	extended
<hr/>				
Instructional				
LPE	5	1		
NonLPE	56	4	79	10
<hr/>				
Managerial lesson				
LPE	0	0		
NonLPE	10	0	2	0
<hr/>				
Managerial class				
LPE	0	0		
NonLPE	5	0	4	0
<hr/>				
Disciplinary				
LPE	2	0		
NonLPE	27	0	16	0
<hr/>				
Miscellaneous				
LPE	0	0		
NonLPE	1	0	1	0
<hr/>				
Total directed nLPE		103		
Total directed LPE		8		



Appendix D  
Transcription and Coding

teacher: /OK. <sup>I-non</sup> We are going to be looking at decimals.

We have been looking at. Who can tell me what the  
1st number of this side of the decimal place is?

student: one.

student: one.

teacher: once? one? ones.

student: ones.

teacher: Next number?

student: tens.

teacher: tens. <sup>Disc-non</sup> Shh. Gee, <sup>misc LPE</sup> sound like somebody's in hay.

What is, Nick?

student: / <sup>I-d</sup> Hundreds..

teacher: Hundreds.

student: I know. /

teacher: / <sup>I-d</sup> Chris.

student: thousands

teacher: Thousands. /

student: / <sup>disc-</sup> I know the next one!

teacher: Shh, OK Nancy! /

student: <sup>I-d</sup> 10 thousands.

teacher: 10 thousands, OK <sup>I-d</sup> Prina?

student: 100 thousands.

teacher: 100 thousands. /

Table 1 Teacher/Student Interactions

	Directed		Nondirected	
	brief	extended	brief	extended
Instructional LPE				/
Non LPE	/ / / /			
Managerial Lesson LPE				
NonLPE				
Managerial Class LPE				
NonLPE				
Disciplinary LPE			/	
NonLPE	/			
Miscellaneous LPE	/			
NonLPE				

Appendix E  
Letter to ESL Consultant/Administrator

TO: ESL Consultant/Administrator

I am currently working on my master's thesis in the area of English as a Second Language. As part of the Review of the Literature, I am going to be looking at the ESL policies and programs that are in place or have been in place in Manitoba.

If your school division has an ESL policy, would you please send me any materials that you have concerning these ESL policies and programs both past and present?

I have enclosed a stamped self-addressed envelope for your convenience.

Thank you for your co-operation.

Sincerely,

Kathleen Roth

204 Riverside Drive

Thompson, Manitoba

October 1, 1987

## APPENDIX F.

Direction of Interaction  
(Number of direct/indirect interactions per student per  
50 minutes)

Teacher	non-directed		directed	
	non-LPE	LPE	non-LPE	LPE
1	3.36		6.74	5.81
2	2.55		2.94	2.50
3	0.98		2.10	0.92
4	3.67		6.48	7.33
5	3.77		5.23	3.75
6	1.48		4.03	3.89
7	3.78		5.59	3.75
8	1.92		7.30	8.00
9	3.37		4.04	6.46
10	4.07		4.09	1.67
Sum	28.95		48.54	44.08
Mean	2.89		4.85	4.41

Appendix G.  
RAW DATA: TEACHER TALK/STUDENT TALK

TEACHER	T-talk	nLPE	LPE	Total Student
1(55m)	619	255	37	292
2	711	275	30	305
3(55m)	278	72	19	91
4	1181	154	30	184
5(55m)	839	282	62	344
6	280	38	8	46
7(45)	705	270	45	315
8	616	275	22	297
9(55m)	625	155	37	192
10(55m)	1223	119	15	134