2.1 Background to the Study

2.1.1 English in India

Quirk in his forward to Kachru's The Indianization of English (1983) mentions:

"India is estimated to have over eighteen million people using English as a necessary part of their daily lives. This means that India vies with Canada as the country with the greatest number of English speakers after the U.S.A. and the U.K. And although eighteen million is only a small fraction of India's vast population, it is of course a very important fraction, inevitably comprising the entire leadership of her economic, professional, political and social life."

2.1.1.1 The History of Development

Before 1947 (i.e. independence) English was the language of the British 'Raj' and was considered a symbol of British power. Kachru (1969) has presented a detailed survey of the spread of bilingualism in English in India. The efforts in teaching English were first made by the missionaries who came to India for proselytizing purposes. The introduction of English as the medium of instruction was facilitated by the efforts of some Indian leaders like Rammohan Roy who wanted to utilize English education in modernizing their countrymen. Rammohan Roy felt that the Sanskrit system of education would keep the country in darkness. Macaulay's Minute of 1835 advocated English education on the grounds of colonial superiority and moral authority. So, on March 7, 1835, Lord William Bentick endorsed Macaulay's
policy to have English as a compulsory education in the Indian education system. Macaulay's idea behind this policy was to have a class of Indians "who may be interpreters between us and the millions whom we govern - a class of persons, Indian in blood and colour, but English in taste, in opinion, in morals and intellect" (quoted in Kachru 1969: 633).

By 1837 English and Indian languages replaced Persian in the proceedings of the law courts. English was used in the higher and vernacular languages in the lower courts. "Thus in both education and the law courts, language became a marker of two separate levels of social operation, the upper level reserved for English, the lower for the vernaculars. The policy of the administration consciously promoted this association of English with a status of privilege. At the same time many social reformers and nationalist leaders associated English with a promise of modernization and liberation" (Das Gupta 1970: 43-44). In 1857, three universities - Bombay, Calcutta and Madras modelled after the University of London - were opened. Later other universities, Panjab (Lahore) and Allahabad, were established. In the earlier twentieth century English was formally established as the official and academic language in India. The result was that English became the 'prestige' language. It was not something new for India because in the socio-political sphere Sanskrit and Persian had been the language of the elite.

2.1.1.2 Bilingualism in India

The new status of English lead to English bilingualism in India. The use of English for communication "was always restricted to the educated people, and among them, too, for specific occasions and purposes" (Das Gupta 1970: 44). During the nineteenth century English was rarely used
for interaction at home or with friends. English was reserved for "official, academic, and other relatively cosmopolitan behavioral situations" (Das Gupta 1970: 44). However, in the twentieth century, because of the constant alternation between English and Indian languages, English has been extended to many other domains, though the degree of the use of English varies from domain to domain.

Using the concept of diglossia (Fishman 1972b), one could describe English as H and Indian languages as L languages. In India, the relationship between bilingualism and diglossia in terms of Fishman (1972b) is that of both diglossia and bilingualism. Mehrotra (1982: 74), describing Indian English, mentions "no other language in this country has been asked to do so many things in so many situations and places so remote from one another both geographically and culturally". The bilingual studies (and their diglossic relationship) made by Prasher (1979), Sridhar (1982) and Sadanand (1983) have already been described in section 1.1.5.2. in chapter 1. English is also used in all-India seminars and conferences on technical and educational matters. Verma (1978: 207) mentions:

"a variety of English is used by a wide community of people in India for interpersonal communication in a wide range of contexts. Most of the members of this community are English-using bilinguals or multilinguals. They are highly skilled dialect-switchers and make alternate but affective use of their mother tongue and English to cooperate with others and coordinate their activities."

Kachru (1981, 1983) presents four broad functions of English in India. He terms them the instrumental function, the regulative function, the interpersonal function and the imaginative/innovative function. We shall present a brief summary of these functions.
The **instrumental** function means "the status given to English in the educational system, in which it functions as an instrument of learning at various stages" (Kachru 1983; 215). Kachru (1981, 1983) mentions that English is in a dominant position in higher education in India.

The **regulative** function means that English is used in the legal system and civil services. English is still used in the legal system, particularly in the high courts and the supreme court in order to maintain 'all India standards'. In administration, English and Indian languages are used at various levels "but there is no national consensus on policy" (Kachru 1983, 217). Kachru's (1983) figures show that English has the upper hand in Indian administration. Of the 539 publications released by the central and state governments during the period 1974-78, 205 (38%) were in English and 115 (21.3%) in Hindi.

The **interpersonal** function means the use of English as a link language, "for effective communication between speakers of various languages, dialects, ethnic groups, and religions..." (Kachru 1983; 215). We find that both English and Hindi are used for interaction all over India "but the symbolic and attitudinal implications of English are greater than those of Hindi. A variety of English which ranks low on the cline of bilingualism is still preferred to the use of Hindi in many roles" (Kachru 1983; 217). There are a large number of books, scientific and professional journals published in English in India.

Kachru (1983) points out that the creative use or the imaginative/innovative function incorporates the three functions mentioned above. In India, English, Hindi and Sanskrit are the three languages in which pan-Indian literature is produced for an all-India reading public.
2.1.1.3 The Cline of Bilingualism

Halliday et al (1964; 77-78) consider bilingualism a cline "ranging in terms of the individual speaker, from the completely monolingual person at one end, who never uses anything but his own native language or 'L1' through the bilingual speaker, who makes use in varying degree of a second language or 'L2', to the end point where a speaker has complete mastery of two languages and makes use of both in all uses to which he puts either. Such a speaker is 'ambilingual'". Halliday et al (1964; 78) also mention that ambilingual speakers are rare.

Kachru (1965) presents an arbitrary cline of bilingualism to rank bilinguals in India in terms of their proficiency in English. He presents three 'measuring points' - the zero point, the central point, and the ambilingual point - on the cline bilingualism. The zero point is not the end-point at the bottom. He considers those Indians who have some competence in English like the users of 'Baboo English' or 'Butler English' below the zero point. Such people are not intelligible even to the users of educated Indian English. For Kachru (1965; 394) a bilingual who ranks just above the zero point is a minimal bilingual. Such bilinguals in India are people like postmen, travel guides and 'bearers' who have some knowledge of the written and/or spoken mediums of English, but they are not proficient in the language.

Those bilinguals who have adequate competence in one or more registers of Indian English (for instance the registers of the law courts and administration) may rank round the central point.

Standard or educated Indian English bilinguals are those who are not only intelligible to other Indians in different parts of the country but
are "ideally speaking to the educated native speakers of English, too" (Kachru 1965; 394). It does not imply that a standard or educated Indian English bilingual has the command of English that equals that of the native speaker. A standard or educated Indian English bilingual is one who ranks somewhere between the central and ambilingual points on the cline of bilingualism" (Kachru 1966; 255-56). Evidently, such an educated Indian English bilingual is not an ambilingual. Kachru like Halliday et al (1964) considers ambilingualism a rare phenomenon.

Kachru (1969; 637) points out that the educated variety of South Asian English (i.e. English used in India, Pakistan, Bangladesh and Ceylon) is mainly used by those bilinguals who rank around the central point. A large number of civil servants, educationists and professionals can be ranked around the central point. One can, therefore, conclude that an educated Indian English user is the one who ranks between the central and ambilingual point on the cline of bilingualism.

2.2 A Survey of the Census Figures on Chandigarh

The total population of Chandigarh, according to the 1981 census is 450,061 and 93.60% of the population live in urban setting. For the census figures on bilingualism, we shall rely on the 1971 census report on bilingualism. The two major mother tongue (hereafter, MT) groups in Chandigarh, according to the 1971 census, are Hindi (55.96%) and Punjabi (40.66%) speakers. There are only 0.083% English MT speakers. If we look at the MT groups, then English does not seem to be an important language.

However, the importance of English can be judged by analysing the 1971 bilingual returns from Chandigarh. There are 46.78% bilinguals in Chandigarh. 24.26% of the population are MT-English bilinguals. The next
groups are MT-Hindi bilinguals (11.37%) and MT-Punjabi bilinguals (9.29%). If we analyse these figures further (as shown in table 2.1.), we find that among the total population of bilinguals in Chandigarh, 51.86% are MT-English bilinguals. These figures indicate that English is an important language for the bilingual population in India.

According to the 1981 census, the percentage of the residents of Chandigarh who are matriculates and above is 33.32%. The percentages of the different educational groups are given in table 2.2. The combined

Table 2.1

<table>
<thead>
<tr>
<th>MT-other tongue bilinguals</th>
<th>% to the total bilingual population</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT-English</td>
<td>51.86</td>
</tr>
<tr>
<td>MT-Hindi</td>
<td>24.31</td>
</tr>
<tr>
<td>MT-Punjabi</td>
<td>19.87</td>
</tr>
</tbody>
</table>

Table 2.2

<table>
<thead>
<tr>
<th>Educational Group</th>
<th>% to the total population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matriculation/ Secondary</td>
<td>11.58</td>
</tr>
<tr>
<td>Higher Secondary/ Intermediate/ Pre-University</td>
<td>7.04</td>
</tr>
<tr>
<td>Non-technical Diploma</td>
<td>0.20</td>
</tr>
<tr>
<td>Technical Diploma</td>
<td>1.21</td>
</tr>
<tr>
<td>Graduate Diploma</td>
<td>6.04</td>
</tr>
<tr>
<td>Post-graduate Degree</td>
<td>3.48</td>
</tr>
<tr>
<td>Professional Degree</td>
<td>1.77</td>
</tr>
<tr>
<td>Others</td>
<td>.002</td>
</tr>
</tbody>
</table>
percentage of diploma, graduate, post-graduate and professional degree holders is 14.70% and these residents of Chandigarh could be considered between the central and ambilingual points on the cline of bilingualism. We can assume that these residents of Chandigarh use English in various contexts. In addition, there would be many among the other educational groups who are MT–English bilinguals and use English in different contexts.

The 1981 census report on Chandigarh also shows a large number of residents of Chandigarh working in professions which require use of English.

Table 2.3
Percentage of Occupation Groups to the Total Population in Chandigarh

<table>
<thead>
<tr>
<th>Occupation group</th>
<th>% to the total population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional, Technical and Related Workers</td>
<td>4.77</td>
</tr>
<tr>
<td>Administrative, Executive and Managerial Workers</td>
<td>2.53</td>
</tr>
<tr>
<td>Clerical and Related Workers</td>
<td>8.09</td>
</tr>
<tr>
<td>Sales Workers</td>
<td>3.47</td>
</tr>
</tbody>
</table>

As indicated in table 2.3, we have not included the percentage of other workers in this table because only the above mentioned workers use English in their professional context. Thus, we find that 18.86% of the residents in Chandigarh belong to the professions in which English is used in one context or the other.

In this section, we have surveyed the census reports on Chandigarh from the point of view of bilingualism, educational level and occupation. These three variables have indicated that English is an important language for a very important fraction of the Chandigarh population. This important
fraction is highly educated and probably controls the industrial, professional, academic and social life of Chandigarh. Therefore, it is important to study the use of English in Chandigarh.

2.3 Scope

The study of bilingualism among educated bilinguals is the study which is restricted to MT-English bilinguals between the central and ambilingual point on the scale of bilingualism (Kachru 1965, 1966). We shall call these bilinguals 'educated bilinguals'. As we found in section 2.2, there are 24.26% of the residents of Chandigarh who are MT-English bilinguals and there are 33.32% of the residents of Chandigarh who are matriculates and above. Similarly, 18.86% of the residents use English in one context or the other in their professions. Therefore we wanted to restrict our study to the use of English among the residents who qualify to be 'educated bilinguals'. This means that in order to be an educated bilingual, one should fulfil the following criteria:

i) be a MT-English bilingual

ii) be a matriculate or above (preferably a graduate)

and iii) be in a profession that requires use of English.

Though anyone of the above criteria can be used to identify an educated bilingual, an ideal bilingual is the one who fulfils all the three criteria mentioned above. We feel that any resident of Chandigarh who fulfils criterion iii) also fulfils criterion i) and ii). Therefore, we planned to restrict our study to those residents of Chandigarh who fulfil criterion iii), i.e., we studied only those residents who are in the professions in which the use of English is relatively frequent and thus they have high educational qualifications and are MT-English bilinguals.
Therefore, we identified the following professional groups in Chandigarh as the possible educated MT-English bilinguals:

1) Bank Officers and Clerks
2) Company Officers and Clerks
3) College/ University Teachers/ Students
4) Civil Officers and Clerks
5) Army Officers
6) Doctors
7) Lawyers
8) Newspaper Administrative Staff/ Journalists

2.4 Pilot Study

This research was conducted by means of a questionnaire. The questionnaire, given in Appendix A, was first prepared for a pilot study. This questionnaire consisted of five parts. In part I of the questionnaire the respondent had to give his/ her demographic information related to name, age, sex, religion, birthplace (village or town, district and state), educational qualifications, occupation, mother tongue, medium of instruction (at primary school, secondary school, college and university). This part of the questionnaire also assessed the respondent's proficiency in English and other languages. This part would have given us a number of social variables and would have helped us to know which of the social variables affect the respondent's use of English and his language attitudes.

Part II of the questionnaire covered mass media. The respondent had to list upto three languages that he used to read newspapers, magazines and novels and to listen to radio broadcasts.

Part III of the questionnaire, used for the pilot study, covered the use of language for spoken communication. This part investigated the differential use of the MT and the other tongue(s) (which could be any
Indian language, including Hindi and English) in different domains with different interlocutors in the given speech situations (ranging from one to three speech situations). There are eight different domains – home, friendship, neighbourhood, public place, education, religion, shopping, and place of work – in this questionnaire. As is clear in the questionnaire, given in Appendix A, the respondents never knew what domains we were testing because in reality they would answer questions with reference to interlocutors and not with reference to domains. Each domain is represented by one to five interlocutors.

- father
- mother
- husband/wife
- son/daughter
- brother/sister

friendship: friend

neighbourhood: neighbour

public place: people at social gatherings, clerks at railway station etc.

education: school teacher, college teacher

religion: priest
Three speech situations - casually conversing, requesting and discussing important matters - were constantly used for all the interlocutors in the domains of home, friendship, neighbourhood, public place, and education. Only two speech situations - casually conversing and discussing important matters - were used for the domains of religion and place of work. There was only one speech situation for the domain of shopping because it was felt that, while shopping, one does not have a number of speech situations to converse with the vegetable seller, provision merchant etc.

Part III of the questionnaire (Appendix A) has four columns - A, B, C and D. The speech situations have been presented in column A and the interlocutors in column B. The respondents had to indicate their use of language on a five point scale:

1 = always in the mother tongue
2 = more in the mother tongue than in the other tongue(s)
3 = equally in the mother tongue and the other tongue(s)
4 = more in the other tongue(s) than in the mother tongue
5 = always in the other tongue(s)
If a respondent ticked any one of the last four points—2, 3, 4, or 5—on the scale, then he had to mention in column D what other tongue(s) he used. Depending upon his mother tongue, he could mention English, Hindi, Punjabi etc. as the other tongue(s).

Part IV of the questionnaire assessed the respondent's use of language for written communication. He was asked to list the language that he usually used to correspond with different interlocutors for personal and official communication. The interlocutors with whom a respondent could have personal written communication are father, mother, husband/wife, children, brothers and other relatives, and friends and colleagues. The situations listed for official written communication are letters to strangers, application for leave, letters to government officials, letters to semi-government officials, letters to children's school/college, letters to school/college and letters, drafts, reports, resumes, papers, lecture notes etc.

Part V of the questionnaire was constructed to gather information on the respondent's opinion on various aspects of language. We based this part of the questionnaire on the studies made by Taylor (1973), Zughoul and Taminian (1984), Schmied (1985) and Van Hout and Münstermann (1988). This part has two sections. There are three questions in section 1. These questions are related to children's schooling and the medium of instruction best suited for classes I to VI, classes VII to XII, undergraduate classes, post-graduate classes and professional and technical training. Section 2 has thirty-three statements and the respondents were asked to rate each statement on a Likert scale as follows:
There are six basic categories tested through the thirty three statements. The six basic categories are as follows:

A. Language for impersonal use:
   Statements: i, ii, ix, xi, xx, xxiv, xxix

B. Language for personal use:
   Statements: viii, x, xiii

C. Language for communication between people from different states:
   Statements: xix, xxii

D. Language in domains:
   Statements: iii, iv, vi, vii, xii, xviii, xx, xxv, xxvi, xxx

E. Language for education:
   Statements: xiv, xv, xvi, xxvii, xxxii, xxxiii

F. Code-mixing:
   Statements: v, xvii, xxiii, xxviii, xxxi

This questionnaire was tried out in a pilot study conducted in Chandigarh during ten days in September-October, 1987. It was given to seventy residents of Chandigarh, who were company executives and clerks, bank officers and clerks and college teachers/students. Each respondent was requested to give me his/her comments on the questionnaire. It was discovered, during the pilot study, that for certain reasons civil servants, army officers and lawyers were reluctant to fill in the questionnaire. Forty seven respondents returned the questionnaire to me.
The following observations were made on the basis of the pilot study:

1. While interviewing the respondents, many of them pointed out that they were influenced by their parent's and brother/sister's proficiency in English.

2. Some of the respondents also discussed with me why they preferred the T.V. news in English, Hindi or Punjabi.

3. Eight respondents did not complete column D under part III. Twenty six respondents, while returning the questionnaire, told me that they found column D difficult and that the concept of 'the other tongue' was not clear to them.

4. Sixteen respondents mentioned that they would prefer to respond to an item like "casually conversing on family matters", "casually conversing on political matters" etc. under column A of part III.

5. A few respondents also told me that they preferred to use English with civil servants.

6. Many respondents pointed out that it would be easier to answer part IV if brothers and the other relatives were mentioned as two distinct interlocutors, rather than as the same interlocutor.

7. Nine respondents did not complete item 2vi) under part IV. When they were asked, they told me that they either did not remember the language they used to write applications/letters to their school or they never wrote any application to their school as this job was done by their parents.

2.5 Revised Questionnaire

On the basis of the observations made on the pilot study, a revised questionnaire, given in Appendix B, was prepared. In part I (Background
Information) of the revised questionnaire, we included information on the language(s) spoken by father, mother, brother, sister and husband/wife. In part II (Mass Media), in addition to seeking information on the preferred language for reading newspapers, magazines and novels and listening to radio broadcasts, a question seeking information on the language in which the respondents watch T.V. news was included.

As indicated in observations 3 and 4 in section 2.4, part III of the questionnaire required major changes. Therefore, the following changes were made in part III:

i) Column D was deleted in the revised questionnaire (Appendix B). Thus the revised questionnaire has only three columns A, B and C in part III.

ii) As indicated in observation 3, instead of speech situations, we listed topics under column A. Three topics - domestic/personal matters, matters related to work/academic subjects and matters related to sports/extra-curricular activities/weather/national and inter-national events - were included.

iii) A few changes were also made in column B. We retained the same interlocutors for the domains of home, friendship, neighbourhood, shopping, and place of work. In the domain of education, in addition to school teachers and college teachers, we also included classfellows in school and classfellows in college.

iv) In the domain of public place, people at social gatherings were replaced by people at public place. The clerk at a railway station/post office was retained and, in addition, an interlocutor, stranger, was included in this domain.

v) The domain of religion was excluded and, therefore, the priest was dropped under column B.
vi) The domain of government was included and, therefore, four interlocutors, I.A.S./P.C.S./H.C.S. officers, government clerks, bank officers and bank clerks were listed under column B.

Under column C, the five point scale was retained but the value for each point was changed, as follows:

1 = always in the mother tongue
2 = more in the mother tongue than in English
3 = equally in the mother tongue and English
4 = more in English than in the mother tongue
5 = always in English

Only minor changes were made in parts IV and V of the questionnaire. In question 1 of part IV (written communication), instead of a single interlocutor, brothers and relatives, two interlocutors, brothers and sisters and other relatives were included. In question 2 of part IV, letters to your school/college was excluded from the revised questionnaire. In part V of the revised questionnaire, item xvii in section 2 (I speak sometimes mixing English and Hindi) was excluded. This item was excluded because i) in part III of the revised questionnaire, it was mentioned that a respondent may consider an Indian language other than his mother tongue as part of his mother tongue and ii) it was felt that those respondents whose mother tongue is other than Hindi may not be mixing Hindi and English but only the mother tongue and English.

Part I of the revised questionnaire, on Background Information, was intended to provide us with the background information necessary to understand a respondent's use of English and/or the mother tongue for various purposes. The first item, the name of the respondent, was only included to contact a respondent incase it was required to discuss a few questions
on the use of English. However, those respondents who wanted to remain anonymous were requested not to write their names. Items 2, 3, and 4 were included to study if age, sex and religion influence use of language and language attitudes. Though age and sex, as social variables, were used to study the respondents' use of language and their language attitudes, item 4 (religion) only helped us study the distribution of the respondents by religion. Item 5 required information about the village/town, the district and the state of birth of the respondent and was included in the questionnaire to study the distribution of the respondents. However, while analysing the data, the information on district was not considered important to study the distribution of the respondents. As the number of the respondents born in each one of the states of India, other than Chandigarh, Punjab and Haryana, was small, it was decided to study the distribution of the respondents in terms of Chandigarh, Punjab, Haryana, Northern states, Southern states, Eastern states, Western states and Foreign countries. Item 6 was included to study the distribution of the respondents by educational qualifications. In addition, this item was used to study the effect of educational qualifications on language use and language attitudes. Item 7 was included to get information on the occupation of a respondent. Since this study is based on a stratified sample based on occupation, it was obligatory to include this item in the questionnaire. Item 8 gave information on the mother tongue of the respondent, the language learnt first and the mother tongue of the husband/wife. It is quite possible that a person's mother tongue is x (e.g. Hindi) and he learnt y (e.g. Punjabi) as the first language. The mother tongue was taken as an important variable to study its influence on language use and language attitudes. In order to study the distribution of the respondents by mother tongue, it was decided to have
three categories only; Punjabi, Hindi and other Indian languages. Item 9 was included to get information on the medium of instruction at primary school, secondary school, college and university. This item was included to study primarily the effect of age on the choice of the medium of instruction at different levels. As will be shown in chapters 4 and 6, the medium of instruction was used as an important variable to study the influence of English on language use and language attitudes. Item 10 studied the respondent's proficiency in the four skills of English, Hindi, Punjabi and any other Indian or foreign language. Sadanand (1983; 95) points out "Greater flexibility in the use of English and the various Indian languages ... may stem from a knowledge of a large number of Indian languages in addition to English". Items 11a, b, c and d studied the proficiency of father, mother, brother/sister and husband/wife in different languages. This item was included to study the use of different languages by the relatives above the peer group level (father and mother) and by the relatives at the peer group level (brother/sister and husband/wife).

Part II of the questionnaire studied the respondent's choice of a language to read newspapers, magazines and novels, to listen to radio broadcasts and to watch the T.V. news. As a respondent may be using more than one language for any one of the above mentioned items of mass media, he was asked to list up to three languages (in order of preference) for each of these items. It was felt that a comparison of the order of preference of each language for each item would give us a deeper understanding of the choice of different languages for mass media.

Part III of the revised questionnaire is on spoken communication. As mentioned earlier, this part of the questionnaire has three columns. The topics were listed under column A. The interlocutors for each domain were listed under column B. The interlocutors, for those domains for which three
topics were listed, were repeated and listed for each topic. The number of interlocutors varies from one (for the domains of friendship and neighbourhood) to five (for the domain of home). The respondents were asked to list their use of language with a given interlocutor with reference to a given topic or a situation on a five point scale. The value for each point on a five point scale has already been mentioned earlier.

Part IV of the revised questionnaire is on written communication and the respondents were required to mention the language that they usually use to correspond with various interlocutors.

Part V of the revised questionnaire is on the respondents' language attitudes. Section 1 of the revised questionnaire has the same questions as used in the questionnaire for the pilot study. Section 2 also has the same statements as the questionnaire used for the pilot study except the statement, I speak sometimes mixing English and Hindi, which was deleted. The detailed categorisation of the statements under this section has been given in chapter 6, section 6.0. The respondents were asked to rate each statement on a Likert scale, as explained in section 2.1.

2.6 Criteria for Selection of Respondents

As mentioned in chapter 1, section 1, the scope of the project is to study the use of language among the educated residents of Chandigarh. It was decided that the best place to meet and interview the educated residents of Chandigarh would be the place of work. Therefore, it was decided to visit various government, autonomous, private and educational institutions. As I wanted to cover different types of institutions, I decided to include the following organisations in the sample:

a) Banks
b) Companies (both autonomous and private)
c) Colleges and University
d) Newspaper Offices

e) Post-graduate Institute of Medical Sciences (PGIMS)

f) Government Offices (if possible)

and e) Any other resident of Chandigarh whom I met in any one of the above public institutions.

The second criterion to include respondents within each of the six groups listed above (a to f) was the function of a respondent in an organisation. Therefore, I decided to have the following sub-group(s) of each group included in the sample:

- **a) Bank**
  - Officer
  - Clerk

- **b) Company**
  - Officer
  - Clerk
  - Teacher
  - Student

- **c) College/ University**
  - Administrator
  - Journalist
  - Doctor

- **d) Newspaper Office**
  - Administrator
  - Journalist

- **e) PGIMS**
  - Doctor
Though I wanted to include lawyers, army officers and civil servants in the sample, I discovered in the pilot study that they were reluctant to answer the questionnaire.

Thus the sample chosen for this study became a stratified sample. However, the sample is not a stratified random sample but is just a stratified sample. The sample chosen for this study was drawn haphazardly from the organisations visited by convenience. This was done purposely because the goal of this study was to include respondents from different occupations, with different educational backgrounds and with different mother tongues. Thus, in all the organisations visited, the respondents were adequate for the purpose of the study as long as they i) were willing to participate, ii) were employees of the organisation visited and/or iii) lived in Chandigarh at the time of the interview. Some of the earlier sociolinguists, who conducted research on language use, have mentioned the above technique of collecting data. For example, Hidalgo (1986; 199) mentions that her sample was drawn haphazardly from U.S. assembly plants, banks, public offices, and schools as long as the respondents were willing to participate and had been residing in Juaraí. Similarly, Garcia et al (1988) interviewed their respondents in Washington as long as the respondents were Hispanics and resided in Washington Heights and Elmhurst/Corona.
2.7 Data Collection

During January - February, 1988, I visited a number of institutions/organisations in Chandigarh to obtain answers on a self-reported questionnaire. Though it is always good to supplement the results of self-report with observation of actual language used, it was decided not to use the observation method for the present research because I was going to contact the respondents at their place of work and, therefore, I could observe their spoken communication in the domain of place of work only. The employees of the following institutions/organisations in Chandigarh were requested to complete the questionnaire:

1) New Bank of India, Sector 22
2) Bank of Maharashtra, Sector 17
3) Syndicate Bank, Divisional Office, Sector 17
4) Bank of India, Zonal Office, Sector 17

5) Case Computers, Sector 8
6) BHEL, Sector 17
7) Air India, Sector 17
8) Housing Development Finance Corporation, Sector 22
9) Krib Co. (Punjab), Sector 22
10) Markfed (Punjab), Sector 17
11) Government College for Boys, Sector 10
12) Government College for Girls, Sector 10
13) Department of Sociology, Panjab University
14) Department of Political Science, Panjab University
15) Department of Physics, Panjab University
16) Department of Zoology, Panjab University
17) The Tribune
18) Indian Express

19) Department of Radiology, PGIMS
20) Department of Dentistry, PGIMS
21) Department of Bio-Chemistry, PGIMS
22) Department of Parasitology, PGIMS

23) DPI (Colleges), Punjab
24) Geological Survey of India
25) Director SCERT (Haryana)

26) Some other respondents who were not employees of any of the above mentioned institutions/organisations but met me at one of these institutions/organisations and were interested in filling in the questionnaire.

Procedure: First I would contact the Head of the institution/organisation and briefly explain to him the questionnaire and request him to allow me to meet the other employees to get the questionnaire filled in. In most of the cases, the Head of the organisation would agree but in some cases either he would show his inability to help me or would tell me that he could not ask the other employees to fill in the questionnaire. Therefore, I could not cover those organisations where the Head showed his inability to get the questionnaire filled in. This procedure was followed at all the organisations except at PGIMS, the two colleges and Panjab University. At these educational institutions, I would meet the senior faculty members individually and explain them the questionnaire and also request them to
get the questionnaire filled in by their students. After the Head of the organisation had agreed to help me, I would either meet the other employees personally or explain the questionnaire in detail to the Head of the organisation, who in turn would explain and distribute it to the other employees.

Except at Government College for Girls, Sector 10, and Krib Co., the respondents were not ready to complete the questionnaire in my presence nor did they want me to complete the questionnaire while I interviewed them. They were more interested in completing the questionnaire in their leisure time at home, in office or even while travelling (a bank manager told me that he completed the questionnaire while travelling from Chandigarh to Delhi). The respondents, probably, wanted anonymity while filling in the questionnaire and this they got when they completed the questionnaire alone rather than in my presence. However, I feel I got a more balanced response from the respondents. This method had its disadvantage as only 62.92% of the respondents returned the questionnaire to me.

At many of the company offices, I was introduced to the visitors who were residents of Chandigarh and were interested in my work and were willing to answer the questionnaire. These respondents were included in the sample under the category 'others'.

As mentioned earlier, the respondents in general wanted to fill in the questionnaire in their leisure time. Therefore, very few respondents returned the completed questionnaire to me on my first visit. Among those who returned the completed questionnaire on the first visit were some of the respondents at Government College for Girls and all the respondents at Krib. Co. Most of the respondents asked me to collect the
questionnaire on my second visit, which ranged from one day to three days. As shown in table 2.4, 24.00% of the respondents returned the completed questionnaire on my second visit. Some of the respondents, on my second

<table>
<thead>
<tr>
<th>No. of Visit</th>
<th>No. of Questionnaire</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Visit</td>
<td>43</td>
<td>6.61</td>
</tr>
<tr>
<td>Second Visit</td>
<td>156</td>
<td>24.00</td>
</tr>
<tr>
<td>Third Visit</td>
<td>163</td>
<td>25.08</td>
</tr>
<tr>
<td>Fourth Visit</td>
<td>29</td>
<td>4.46</td>
</tr>
<tr>
<td>Received by Post</td>
<td>18</td>
<td>2.77</td>
</tr>
<tr>
<td>Total Received</td>
<td>409</td>
<td>62.92</td>
</tr>
<tr>
<td>Total Distributed</td>
<td>650</td>
<td>100.00</td>
</tr>
</tbody>
</table>

visit, told me that they had forgotten the questionnaire at home or that they had not yet completed it. So I had to visit them again, i.e., for third time. 25.08% of the respondents returned the questionnaire on my third visit. Still many others asked me to visit them fourth time. Only 4.46% of the respondents returned the questionnaire to me on my fourth visit. I soon discovered that, in a survey of this kind, a researcher can save time if he does not bother to visit a respondent four or five times because the interested respondents would return the questionnaire during second or third visit. There were a few exceptions to this generalisation. 18(2.77%) respondents, from Department of Political Science and Department of Sociology, Panjab University, Government College for Boys and Directorate of SCERT, Haryana, returned the completed questionnaire by post at my
Shillong address. This was done, probably, out of a feeling of belonging to the same profession, a feeling which I could not generate among the other occupation groups.

Out of 409 questionnaires received, only 327 were used for the final analysis. 47 of the questionnaires were found to be incomplete. 35 of the questionnaires either had exaggerated answers or were not understood by the respondents as many of these 35 respondents had ticked only one point on the five point scale for all the answers under part III and part V. After rejecting 82 questionnaires from the sample, I got 327 questionnaires. The following is the distribution of the respondents by occupation:

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank Officers and Clerks</td>
<td>48</td>
</tr>
<tr>
<td>Company Officers and Clerks</td>
<td>59</td>
</tr>
<tr>
<td>College/ University Teachers/</td>
<td>84</td>
</tr>
<tr>
<td>Students</td>
<td></td>
</tr>
<tr>
<td>Newspaper Administrators/</td>
<td>36</td>
</tr>
<tr>
<td>Journalists</td>
<td></td>
</tr>
<tr>
<td>PGIMS Doctors</td>
<td>30</td>
</tr>
<tr>
<td>Civil Officers and Clerks</td>
<td>32</td>
</tr>
<tr>
<td>Others</td>
<td>38</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>327</strong></td>
</tr>
</tbody>
</table>

2.8 **Computer Programme**

In June 1988, I got the computer programme made so that I could transfer the data to the computer. The computer used for this project is an IBM compatible personal computer in the Department of Geography,
Initially, I attempted to transfer the data directly from the questionnaires to the computer. However, I found that it was very laborious because the questionnaire had not been coded for the computer. Therefore, I first transferred the codified data to sheets of paper. It took me six weeks to transfer the data to sheets of paper. I transferred the codified data to the computer from the third week of August to the last week of October, 1988.

2.9 Statistical Techniques

1. Presentation of Frequencies and Percentages: Simple frequencies and percentages have been used in chapters 3, 4, 5, 6 in the form of tables to compare two or more variables or sub-variables.

2. The Kolmogorov-Smirnov (K-S) One-Sample Test: The Kolmogorov-Smirnov (K-S) one-sample test, like the Chi-Square test, is a statistical method for testing the degree of agreement between a sample of observed values and an hypothesized probability distribution. This test has been used in chapter 4 (spoken communication) and chapter 6 (language attitudes) as the K-S one sample test was very usefully applied to 1 (always in the mother tongue) to 5 (always in English) scale for spoken communication and 1 (strongly disagree) to 5 (strongly agree) scale for language attitudes to determine a) if there was a significant difference among the percentage of respondents on the five point scale and b) if there was a significant difference among the respondents, then which point(s) has/have the highest load. The K-S test was used, in addition to the z-test, because the z-test is carried out on the mean score and standard deviation. The mean score represents an 'ideal respondent'. For example, the mean score on a five point scale can be 2.5, 2.67, 3.25 etc., a point which is never indicated by any respondent. Thus 2.5, 2.67, or 3.25 is
the average of all the respondents and only represents an 'ideal respondent'. Though the standard deviation accounts for the variation among the respondents, it was felt that, in addition to the z-test, the K-S test could be used so that actual percentages of the respondents for each point on the five point scale could be presented to the reader.

3. The Analysis of Variance: The Analysis of Variance "is an extremely powerful and versatile technique applicable to many different kinds of quantitative work wherever the basic problem is to compare means and the scatter of scores around the means" (Milroy 1980; 121). Since the basic technique of quantitative sociolinguistics is to compare mean linguistic scores of social subgroups of various kinds, one can use this test to compare more than two population means. The Analysis of Variance not only accounts for the mean scores but also takes into account the size of the group and the manner in which the scores within the group are distributed.

The Analysis of Variance produces a statistics known as F-ratio. If the value of F indicates significant differences, then a further statistical technique known as the t-test or z-test can be used. The t-test is recommended where the number of observations/respondents is less than 30; however, if the number is more than 30, then the z-test is used. Since in our sample, the number for any variable was generally more than 30, we used the z-test.

As mentioned earlier, the Analysis of Variance can compare more than two population means. For example, we divided the sample into three age groups: A1 (0 - 25 years), A2 (26 - 40 years) and A3 (41+ years). If we wanted to study the affect of age on the use of language in the domain we could first use the Analysis of Variance on the mean scores for A1, A2,
and A3. If, after applying this test, we discovered a significant effect of age (as shown by the F-ratio), we could then apply the z-test between A1 and A2, between A1 and A3 and between A2 and A3 to locate the significant difference between the means of two age groups.

4. the z-Test: The application of the Kolmogorov-Smirnov one-sample test showed that there could be considerable variation within the sample in relation to a particular item on the five point scale. It was felt that it was possible that when the sample was further divided into different social groups defined on the basis of age, sex, educational qualifications etc., it shows similar variation within each social group. What is needed for the finer and detailed analysis is a representative point/score on the five point scale. Such a representative score is the mean score. The variation in the sample around the mean score is accounted for by the standard deviation. Using the mean score and the standard deviation, one can use the z-test to study the significant difference, if any, between two groups or subgroups in the use of language or language attitudes. As mentioned earlier, the z-test may be used if the F-ratio produced by the Analysis of Variance indicates significant differences.

The various steps used in carrying out these statistical techniques have been discussed in detail in chapter 4, section 4.1.