CHAPTER III

RESEARCH METHODOLOGY

I. Rationale for the study

Most teachers would agree that learners are often frustrated in their attempts to communicate effectively in writing, as they are unable to match their writing with intended meaning. Many learners are unaware that revision strategies need to be evolved and used to enhance their written work Even if they do engage in revision, it is restricted to surface corrections like correcting grammar, punctuation spelling etc. Meaningful changes in the text remain unattended to. As a result, disparity exists between learner writing and teacher expectations. Research in writing suggests that those learners who detect problems in their texts and apply problem-solving strategies are able to produce writing that clearly expresses their thoughts. To enhance writing abilities of learners, it is important to train them in the use of revision strategies. Training would help them to detect problems in their texts and evolve strategies to resolve them, resulting in effective compositions. It would make them aware of the different options of language that are available

for use; it would help them to develop the ability to use this available corpus of language; it would help them to develop clarity in thinking and sharpen their decision-making skills. Finally, training learners and exposing them to strategies for revision would help them to develop a problem-solving approach to writing. The study therefore, calls for considering revision a classroom activity so that, learners may be trained to detect dissonance in their texts, evolve and apply revision strategies to their writing to communicate effectively.

A. Assumptions

The study undertaken is based on the following assumptions:

1. Revision strategies are cognitive in nature. Revision is an intense, complex mental activity involving many sub-processes.
2. Learners have individual styles of processing information. Hence, use of revision strategies is differential.
3. While composing, all learners use revision strategies irrespective of proficiency levels.

Considering the above assumptions, the objectives of the study are to map revision strategies of ESL learners; to identify those learners who adopt

more strategies for revision; and to investigate the different kinds of revision strategies used by different categories of learners.

B. Variables

To meet the objectives, the research attempts to examine the relationship between revision strategies and the following variables :

1. Language Proficiency
    a) L1 Proficiency (Mother Tongue)
    b) L2 Proficiency (English as second language),
2. Writing Expertise (WE),
3. Cognitive Measure (CM).

1. Language Proficiency

a) L1 Proficiency

First language studies on revision have revealed several important observations about the perceptions and applications of revising strategies. Literature on revision has always made a distinction between the revising behaviours of novice and expert writers (Hayes et al.1987; Bereiter and Scardamalia, (1983, 1987b), student writers and experienced adult writers

(Sommers 1980), intermediate and advanced learners, (Witte 1980), basic and competent writers (Monahan 1984). This distinction is based on the language proficiency of learners. For experienced / advanced / proficient/ expert writers, revising encompasses the entire writing task from the initial planning stage to the final drafting. They also sense that revision is a process of discovering meaning (Murray 1978; Sommers, 1980). Experienced writers enhance not only the form but also the content of the text by engaging in multiple word changes (Stallard 1974), sentential changes (Sommers 1980), and also its voice (Murray 1978; Sommers 1980). Novice/basic/unskilled writers on the other hand, often view shaping and reshaping of ideas a laborious task (Monahan 1984) and relegate revising to cosmetic adjustments of texts for grammar and mechanics (Beach 1976; Sommers 1980).

b) L2 Proficiency

In view of inadequate research on revision exclusively in the context of L2, no composite picture emerges of the revision process. Researchers in L2 appear to be guided by L1 theoretical constructs and research findings in developing theories on L2 revision. Discussions on the composing behaviours of ESL learners by Zamel (1982), Raimes (1985b) and

Cumming (1989) may provide insights into revising behaviours. These studies claim that language proficiency does not affect the composing process of learners. As revising is a part of composing, it suggests that language proficiency may not affect revising behaviours of learners However language proficiency does seem to have a role in the transfer of L1 writing skills to L2 writing (Vanikar and Mujumdar 1994). The notion of Common Underlying Processes (Cummins 1981) appears relevant in accounting for this transfer. Considering that revising is an integral component of the writing process, revising strategies are also seen transferable and interdependent across languages. Revising behaviours are claimed to be common across L1 and L2 (Chelala 1981; Zamel 1983, Gaskill 1986; Hall 1990 and Bisaillon 1992). In order to study the role of L1 and L2 proficiency on revision strategies, an exploration of this relationship is considered central to this research.

2. Writing Expertise

Writing expertise is a central cognitive ability and appears to be a specially developed intelligence with unique cognitive characteristics that can be applied across languages. Cumming (1989), sees a relationship between discourse organisation and writing expertise. The act of

composing is an intense, cognitive mental activity, involving a series of decision making skills. Learners who are proficient in writing, with well developed writing skills are known to attend to complex aspects of writing while taking decisions to produce more effective content and discourse organisation (Freedman 1977; Breland and Jones !984). These learners are also observed to use extensive heuristic search strategies to evaluate and resolve problems in their text (Cumming 1989). Revision is considered an effective writing strategy that proficient writers use to recreate their texts. Hayes et al (1987) claim that revision is a problem-solving activity and the use of revision strategies involves decision-making skills. A close relationship is thus perceived between writing expertise of learners and the problem-solving activities they apply to their written texts. The study therefore attempts to investigate this relationship between writing expertise of learners and their use of revision strategies.

3. Cognitive Measure

The term 'cognitive' refers to processing of information or invoking of knowledge, both conscious and unconscious, deliberative and automatic. It also refers to all processes by which the sensory input is transformed,

reduced, elaborated, stored, recovered and used (Neisser 1967). Given such a definition, in language learning and specially in second language teaching, cognition means, processing input and output of language (Rivers 1983). Cognitive studies include an exploration of a wide array of mental procedures learners use to process information to achieve their goals. For articulating thoughts on paper, they use a range of mental representations. While composing, at some point of time, covertly or overtly, every learner detects 'dissonance' in his/her text. The detection of the problem varies on a continuum, from simple detection to specific diagnosis. Based on individual problem detection, the learner selects appropriate strategies to resolve perceived problems. Hayes et al. (1987), claim that revision is a problem-solving activity which involves numerous sub-processes. This makes revision an intense, mental cognitive activity in which learners process information that they have written. Writers are observed to use revision strategies to enhance their writing. As both processes, writing and revising are cognitive, a significant relationship is perceived between learners' cognitive measures and their use of revision strategies. Therefore, there appears to be a strong case for investigating this relationship.

C. Hypotheses

1. All learners are likely to use revision strategies regardless of proficiency levels in Language 1 (L1), Language 2 (L2), Writing Expertise (WE) and Cognitive Measure (CM).
2. All learners in the Average L1, Average L2, Average WE and Average CM are likely to use strategies at all three levels - Surface, Cognitive and Affective.
3. Individual learners are likely to reveal differences in frequency use of various revision strategies.
4. Learners of Average L1 and Average L2 proficiency are likely to use some common L1 revision strategies with learners of AAL1 and AAL2.
5. Scores on the use of revision strategies are likely to correlate with scores in L1 proficiency, L2 proficiency, Writing Expertise and Cognitive Measure.
6. Feedback on revision strategies is likely to positively affect the revised version scores of the compositions of learners.

II. Research Design

It is important to choose a research design that would not replicate earlier designs yet, freely combine elements from different kinds of research approaches such as qualitative, descriptive, and research designs such as experimental and quasi experimental etc. But a point to be considered is, the degree to which a research design can be eclectic. Therefore, before deciding on a research design for this study, the researcher felt that it would be appropriate to review the different designs and methods used to measure revision.

A. Review of Research Designs and Methods Used to Measure Revision

The shift from the product to a process approach in writing has led to the use of different methodologies and data collecting procedures. The thrust of various research studies has been to explore the underlying processes in each activity. Likewise in revision, measures have been evolved to change the thinking processes of learners into numerical values so that comparison is possible between individuals, groups or the class as a whole.

Earlier, traditional and large scale experimental studies were undertaken Inquiry relevant to the composing process was generally conducted on three levels from which revision behaviours were inferred. They were:

1. personal reflections, often conducted by the writer's themselves;
2. defining quantifiable variables and testing statistical hypotheses by educational researchers; and
3. close analysis of individual texts.

Descriptions of phases occurring during composing took the form of **narratives.** But, these descriptions did not provide graphic evidence of the underlying patterns and regularities. These narratives did not provide a method of ascertaining the frequency, relative importance and place of each behaviour within an individual's composing behaviour.

Next, the **introspective analysis** of what the writer did while writing was considered a methodology because it was assumed that the best way to model the writing process was to study the writer in action. This process required subjects to observe the workings of their own minds when involved in a particular task and report on them as they occured But,

this was found to be inaccurate as it was likely to be influenced by their notions of what they should have done.

As an alternative, **retrospective self reports** were also considered. Retrospection probes the subjects for information after completion of the task. This requires the subjects to infer their own mental processes or strategies from their memory of the particular mental event under observation. But, these reports were also rejected on the grounds that they might seem less intrusive and incomplete since all information involved in performing a task did not enter short term memory.

Until the 1970's, revelation of revision and revision processes was limited to personal testimonies of how revision occured and what it means (Cowley 1958; Plimpton 1963, 1967, 1976; Dembo and Pondrom 1972; Murray 1978a). Revision analyses were also made of their own drafts (Hildick 1965). But in the 1980's, with reconceptualisation of revision as a process and as a subprocess that could occur at any time of the writing activity, five clusters of research methods emerged:

1. coding systems for categorising revisions;
2. process tracing methods, including think-aloud techniques, questionnaires, interviews and taped self evaluations;

3. a participant-observer method;

4. a simulation by intervention method; and

5. an error detection method.

1. Coding Systems for Categorising Revisions

During the 1970's and 1980's coding systems and accompanying procedures developed for collecting evidence on revisions. These were developed when theories on revision were being evolved. These focused solely on the written products, revealing much about when revisions occurred and what revisions were made of, but it revealed very little about the process of revising.

Some of the earlier analysts of revisions used global classifications for revisions, such as "tidying up changes" and "structural alterations" (Hildick 1965). But the landmark studies that initiated the growth of coding schemes were Stallard's (1974) work and the National Assessment of Education Progress (NAEP) (1977) report. Stallard classified marks according to six types - spelling, syntax, multiple-word, paragraph, punctuation and single word changes. In the NAEP study of revision, changes were coded into nine categories ranging from cosmetic to

informational and orginazational. But, several problems were associated with the early coding schemes. These schemes seemed to lack well-developed theoretical bases; the categories within each scheme were not mutually exclusive; meaning and surface changes were not clearly distinguished and some kinds of revision operations, such as, adding deleting were not accounted for.

The next set of coding scheme addressing some of the limitations in the earlier work, was evolved by Bridwell (1979, 1980) who analysed three stages of revision - in-process revision while writing the first draft, between-draft revisions and in-process revision while writing the last draft. Sommers (1980) also used a similar procedure.

The advancements noted in Bridwell's (1979, 1980) and Sommers' (1980) coding schemes were that revision operations and linguistic levels were distinguished and revision categories were mutually exclusive. Also, a procedure emerged for analyzing revisions at several points in the writing process (Bridwell 1980).

But the most recently developed coding system, that incorporated Bridwell's (1980) procedures for data collection and which was built on

research in discourse analysis (Clark 1977; Corothers 1978, 1979; Halliday and Hasan 1976; Kintsch 1974; Meyer 1975; van Dijk 1980), was Faigley and Witte's (1981, 1984) taxonomy of revisions which accounted for revisions related to the syntactic aspects and the semantic structure of the text. The taxonomy distinguished characteristics of changes such as surface and meaning changes and microstructure and macrostructure features. Also, six types of operations such as adding, deleting etc. and six linguistic levels such as, graphic, lexical changes were coded. Yet, this most comprehensive of the coding schemes and the accompanying procedure for data coding seemed to have one salient drawback, that is, they were used to analyze only in-process and between-draft changes. Changes made before articulating words on paper probably could not be coded using this taxonomy (Witte 1985).

2. Process Tracing Methods

Process tracing methods allow researchers to gain insights into writer's thinking by observing them and recording their behaviours. These methods also in a general or in a directed way, investigate their performance, decisions or thoughts. At least four types of process-tracing methods have emerged in research on revision: asking individuals

to think aloud while writing, questionnaires, interviews and asking individuals to tape the evaluation of their work after each draft.

In a **think aloud study**, writers are asked to verbalize their thinking process while they write for about 60 to 90 minutes during one to four sessions (Hayes and Flower 1980a, Perl 1979). Their thoughts are tape-recorded and later transcribed. The transcriptions are referred to as the "think-aloud protocols". The protocols are analyzed descriptively or quantitatively using indexes such as counts of interjections and content ideas. Protocol analysis thus, helps to identify psychological processes in problem-solving tasks (Newell and Simon 1972). Most of the well known studies by Flower and Hayes (1980a, 1980b, 1981a, 1981b, 1981c) and studies conducted by other researchers like, Raimes (1985b, 1987) are based on the data collected from think aloud protocols.

Researchers using think-aloud protocol believe that data collected by this procedure offers direct insights into mental processes of learners Yet, concern regarding its reliability and validity is voiced. Zamel (1983) and Witte (1980) raised doubts about the extent to which verbalising aloud one's thoughts while writing simulates the real composing situation. Verbal protocol requires writers to do two things at a time - they must

write and they must attempt to verbalise what they are thinking as they pause. Subjects may be trained to do both tasks with facility, but many writers find that "analysing orally what they are doing as they write, interferes with their normal composing processes, interrupting their train of thoughts" (Faigley and Witte 1981 412). In writing, many activities occur unconsciously and consciously; not everything that writers do is verbalised. Hence, according to Erricson and Simon (1979), information from protocols remain "incomplete". The fact that the writing situation is unnatural, forces the investigator to speculate about how to interpret the protocol and how to classify individual composing behaviours.

Critics like Cooper and Holzman (1983), point out that some protocols appear to be remarkably disciplined and are empty of the affective tone. This is because "their introspectors notice virtually nothing other than that which is to the point" (290).

The think-aloud technique elicits data on cognitive activities and holds promise as a useful means of determining how cognitive activities like revision occurs. The use of this technique has documented that revision appears to be a goal-directed process and it can take precedence over and

interrupt all other writing processes at any time of composing (Hayes and Flower 1980a, 1980b; Perl 1978, 1979).

A type of **questionnaire** called a "guided self-assessing form" was used by Beach (1979) and Beach and Eaton (1984), to determine facets of writers' goals and strategies that precipitated revision. The form was used as an intervention technique (Beach 1979; Beach and Eaton 1984), and as 'an outcome measure' (Beach 1979), but in each case it was used to reveal the writers' thoughts.

Interviews have occasionally been used to gain insights into thoughts about revision. Stallard (1974) and Sommers (1980) used retrospective interviews for data collection. Stallard observed writers while they wrote and interviewed them immediately after their writing task. The data obtained was descriptively categorised and analysed. Sommers interviewed writers about revisions after their first, second and third drafts of their three essays. From transcriptions of taped interviews, she developed a scale of writers' primary, secondary and tertiary concerns. Zamel (1982) and Monahan (1984) in their case studies collected data on the revision behaviours of learners by interviewing them and analysing their written work. But, they could only infer revision behaviours. **Prospective**

interview method was used by Fitzerald and Markham (1987). Data was coded in a variety of ways, such as the degree to which goals were specific and what types of changes were suggested.

Another process-tracing method used by Beach (1976) to collect data on the revising behaviours was **"taped self-evaluation".** He analysed responses descriptively to determine the characteristics of the revision process.

3. A Participant-Observer Method

This method was developed by Graves (1981b, 1983) and his associates (Calkins 1979, 1980a, 1980b, 1982; Gentry 1980a, 1980b; Graves and Murray 1980) to yield information about the development of revision. In this method, the investigator works in a classroom, observing and recording through notes and tapes. He/She videotapes events, sometimes also helping the teacher and/or the students. Anecdotes, rich and detailed narrative accounts written by the investigators constitute data. Results are summarized descriptively.

4. Simulation-by-Intervention Methods

This innovative method was designed to investigate composing strategies or abilities by structuring tasks to simulate common writing situations or processes (Bereiter and Scardamalia 1983; Cattani, Scardamalia and Bereiter 1981; Scardamalia and Berieter 1983; Scardamalia, Berieter, Gartshore and Cattani 1980). It is a way of investigating one process by setting in motion a hypothetically similar process and comparing the outputs of the natural and the simulated process. Its special characteristic, however, is that simulation is achieved by intervening in a natural process.

Structured simulation task was used by Bracewell (1987), to examine students' ability to manipulate surface-level features of the text (syntax) so as to better reflect the intended meaning. This task helped to provide insights into (a) the revisions writers could carry out with external support and (b) the ability to coordinate written and intended texts. Another structured simulation task was used by Lehrer and Comeaux (1987). They could analyze revision choices of students to gain insights into levels of textual constraints (global and/or local) that guided students' revision choices.

Though sometimes cumbersome and painstaking for subjects, the simulation-by-intervention method is unique and imaginative. It does not make strong assumptions about all component processes to be investigated, and provides freedom to explore partly understood processes. The, use of this method, thus holds promise for revealing new perspectives on how writers think about revising.

5. An Error-Detection Method

To gain insights into writers' indentification of errors or ideas for revision and their choices of how to make revisions, Hull (1984) and Lehrer and Comeaux (1987) used an error-detection-and-correction paradigm. Students read self-written or rigged passages that have surface-level or global-level errors that need to be detected. Students are told to make changes, they are also asked to explain aloud why they make the change. Quantitative and descriptive data then provides insights into the students' abilities to detect problem areas, and their reasoning for making the required changes.

The **case study approach** was used by Sommers (1980) and Monahan (1984) to investigate the revision processes of learners. This seems to be a useful approach because it is believed that individual performances are more revealing than studying large group of subjects. Since each individual may have their own method of developing language competence/strategies, case studies are seen to differentiate between individuals and group as a whole. This approach also encourages communication of fresh insights into the pedagogy of writing and allows for a collaborative effort between the teacher-researcher and the learner. However, this approach emphasizes in-depth analysis, and therefore, involves relatively less number of students. Though this approach may be fruitful in developing the hypotheses that are being tested, it does not allow for broad generalisations. Thus, the main drawback of this approach is that the interpreted data and its results cannot be easily generalised.

Reviewing the different methods to obtain data and measure revision, the researcher observed that each and every procedure could elicit quantifiable and descriptive data. Yet to replicate any method in its entireity would be doing injustice to the study undertaken because the context of the present study is different from the context of the studies in which the different procedures were used. Certain aspects needed

consideration before a research design could be evolved. They are: (1) the study is set in a pluralistic society, in which most learners are bilingual or multilingual. They bring with them 2/3 parallel linguistic systems which are likely to affect their writing process. (2) the study is set in an ESL setting in which learners learn English as second or third language; (3) the poor infrastructural facilities available at the educational institutions do not allow for using methods like the think-aloud protocols used by Hayes et al (1987) to gain insights into the revising processes of learners ; and (4) as Indian classrooms have large number of students, it does not allow the researcher to adopt methods like the case study approach.

The researcher was interested in an objective analysis of the sample which would lead to valid generalisations. Therefore, it was felt that the research design should have both, a qualitative and a quantitative approach - Qualitative analysis allows the researcher to study the individual performance closely, which may or may not represent the behaviour of other learners, and quantification is important for any research to become valid and applicable if an analysis is made of the normative behaviour of the population. Therefore, as this study

is a descriptive attempt to investigate revision strategies of ESL learners, it was felt that both, a qualitative, together with a quatititative approach would suit the purpose of the study. Therefore, not replicating any of the methods and considering various factors in which the study is set in, the researcher developed a research tool to collect data to map the revision strategies of learners.

B. Development of the Tool

A prominent feature of the research design involves development and use of a meaningful method for rendering the revision process of learners a sequence of observable and scoreable behaviours. To develop a tool which would reveal insights into the underlying revision process of the learners and which would help in classifying revisions, the researcher considered the methodologies used by Liner (1978), National Assessment (1977), Smith (1978), Stallard (1974), Sommers (1978), Bridwell (1980) and Faigley and Witte (1981). The scheme developed by Liner (1978) and Smith (1978) involved linguistic structures, but did not account for all the changes found in the study. Sommers' (1978) system employed both syntactic levels and operations, but did not include surface level which the researcher wanted to incorporate, because she was of the view that for

certain students surface level changes would dominate than meaningful changes. The National Assessment Scheme (1977), included nominal categories based on the intent of the writer, for example, informational, stylistic and organisational, but it was impossible to determine the extent of the changes involved. Thus the classification schemes used by Liner (1978), Smith (1978) and Sommers (1978) seemed not to suit the purpose of this present study. Instead, the exhaustive coding system developed by Bridwell (1980) and the taxonomy of revision strategies formulated by Faigley and Witte (1981), seemed better suited for the purposes of study.

Bridwell's (1980) scheme examined revisions of learners according to linguistic structures involved, with operations possible at each level serving as sub-classifications. Seven initial categories were identified reflecting a movement from smaller to larger linguistic units. The seven categories are the following - Surface Level, Lexical Level, Phrase Level, Clause Level, Sentence Level, Multi-sentence Level and Text Level. This classification scheme is presented in Appendix A.

The taxonomy developed by Faigley and Witte (1981), (Figure 3), is based on two distinctions: Surface Changes and Text based Changes, that is,

revisions that affect the meaning of the text, and those that do not affect the meaning of the text.

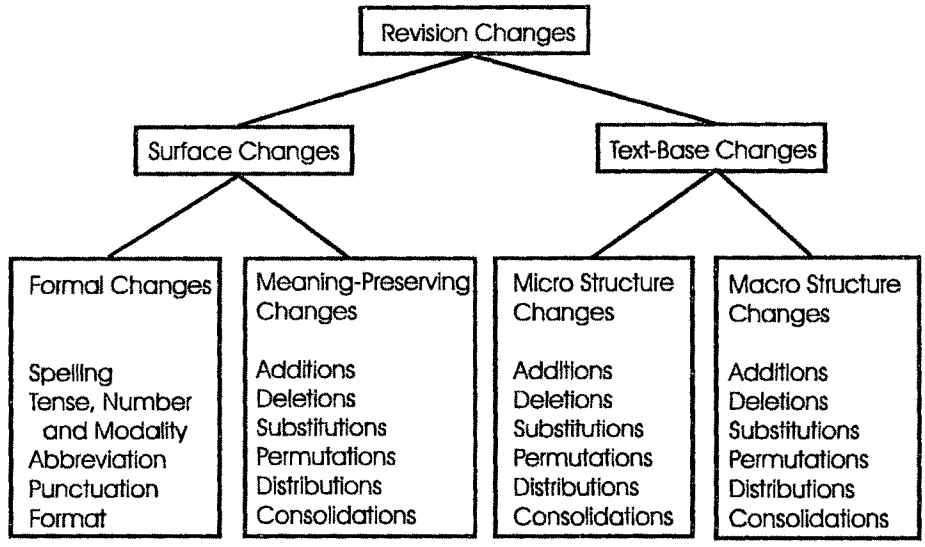

Figure 3: A Taxonomy of Revision Changes (Faigley and Witte, 1981)

In Surface changes, revisions that do not bring in new information to the text, or remove old information are termed as Formal Changes, while revisions that bring new information to the text are termed as Meaning Preserving Changes. The classification system also distinguishes meaning changes which are simple adjustments or elaboration of existing texts from changes that make more sweeping alterations.

In text-based changes, the taxonomy creates a distinction between Microstructure Changes and Macrostructure Changes. Macro level change is a major revision change which could alter the summary of the text. Micro level change, in contrast, is a meaning change that would not affect the summary of the text. For Meaning preserving changes as well as Micro and Macro level changes, the same six operations of addition, deletion, substitution, permutation, distribution and consolidation are used.

Extensive scrutiny of 75 essays written by learners helped the researcher to identify certain revision strategies which ESL learners frequently employ in their texts.

For the purpose of the study, to map revision strategies of learners, the researcher was of the view that the coding system of Bridwell (1980) would help analyse surface corrections while Faigley and Witte's taxonomy (1981) of revision strategies and the strategies identified by the researcher would help to analyse meaning preserving changes in the texts. The research tool thus developed (Appendix B), is based on the classification scheme of Bridwell (1980), taxonomy of revision strategies

by Faigley and Witte (1981) and extensive scrutiny of learner compositions by the researcher.

1. Description Of the Tool (Appendix B)

The tool formulated to analyse and classify revisions in learner writing comprises 63 revision strategies. The revision strategies are addressed to three major components: Surface level, Cognitive level and Affective level.

Surface Level Strategies

Surface level strategies are those changes, which do not bring new information to the text. They remove old information from the text in a manner that it cannot be recovered through drawing inferences. 9 strategies are identified in this component (Appendix B).

Cognitive Level Strategies

Cognitive level strategies are those that are used by learners to solve intellectual tasks. Cognitive skills include activities like remembering,

reasoning, recalling knowledge, problem-solving, concept formation and creative thinking. Cognitive techniques emphasise remembering or reproducing something which has been presumably learnt. It also means involvement in solving some intellectual tasks for which the individual has to determine the essential problem and then reorder materials or combine it with ideas, methods or procedures previously learnt. Cognitive strategies vary from simple recall of materials to highly original and creative ways of combining and synthesizing new ideas and materials. 30 cognitive strategies are identified in this component. (Appendix B).

Affective Level Strategies

The term 'affective' refers to the domain of emotions and feelings. It is usually linked to the writer's writing anxiety about his/her writing ability and motivation and beliefs towards his/her writing. Learners use these strategies to create audience awareness in their text. The use of these strategies describe changes in interest, attitudes, values, in the text. These strategies also emphasise a tone of feeling, emotions or a degree of acceptance or rejection. They vary in intensity from 'cold' (preferences, moods, attitudes,) to 'hot' (emotional states characterised by activation of the autonomic nervous system); they also vary in direction, from

positive to negative. 24 strategies are identified in this component. (Appendix B).

C. Subjects

The students participating in the study are 70 in number, all enrolled at First Year, M.S. University of Baroda. Of the 70 students, 27 are enrolled at the Department of Architecture, Faculty of Technology and Engineering, of which, 11 are girls and 16 boys. The remaining 43 students, all girls, are enrolled at the Faculty of Home Science. The sample of 70 learners comprise 16 boys and 54 girls. The learners are in the age group of 18-19 years. All of them voluntarily participated in the study. All students had passed the Higher Secondary Certificate Examination (Standard XII), a necessary exam to undertake further college studies. After completion of the School Certificate Examination, (Standard X), all learners received two years of specialised training at school. 38 students received training in sciences and remaining 32 in humanities and commerce. At school all students were exposed to teaching of English for a minimum of 5-7 years. All appeared and passed in two language papers - Gujarati/Hindi as L1 and English as L2. English was the medium of instruction for 31 learners, Gujarati, for 38 learners

and Hindi for one student. All students underwent a course in Communication Skills in English during the First Semester at their respective faculties.

This sample can be considered fairly representative in terms of mother tongue and language background. Gujarati was the mother tongue of most learners (52), followed by Marathi (5) and Hindi (4). There were others who spoke Tamil, Sindhi, Bengali, Kacchi, Rajasthani, Punjabi and Urdu. Most learners hailed from Baroda and neighbouring places like Godhra, Bhayali, Limbdi, but, there were others who had completed their Std. XII at Jaipur, Bhavnagar, Bombay, Nagpur, Madras, Kanpur, Ahmedabad, Rajkot, Gandhinagar and Bangalore. These learners came to Baroda in pursuit of higher studies. Regardless of their mother tongue and medium of instruction, majority of the students, who hailed from the state of Gujarat, were fluent speakers of Gujarati while others who hailed from different places like Bombay, Nagpur etc. had gained a functional command of the language due to adequate exposure. The researcher felt the importance of the sample being representative of a range of linguistic backgrounds, since research in ESL writing seems to indicate that "the manner in which a student writes in English, may be related to the thought patterns of that student's native language" (Zamel 1983: 171).

D. Task and Data Collection

Data was collected on learners' L1 and L2 proficiency, Writing Expertise, Cognitive Measure and Revision Strategies by

1. administering a Questionnaire to obtain learner information and measures of learners' language proficiency,
2. assigning a writing task that involved learners to write three drafts of the same composition,
3. administering the WAIS-R Test 1981, to obtain information on learners' cognitive measures, and
4. analysing written compositions for revision strategies using the Research Tool prepared by the researcher.

Questionnaire (Appendix C)

A questionnaire is widely used to obtain information on learner background, educational experience and attitudes towards English and English writing. In this study, the questionnaire is administered to obtain information regarding students' sex, age, mother tongue, languages

known, medium of instruction, subjects offered in Std. X and Std. XII, and marks obtained in Gujarati / Hindi as L1 and English as L2.

Language Proficiency Score

Data on language proficiency of learners was obtained through the questionnaire (Appendix C). Learners had appeared for two language papers at the 10+2 level, in Gujarati / Hindi as L1 and English as L2. Marks obtained in these two language papers were considered a reliable measure of language proficiency because it is a standardised test which every learner in pursuit of higher studies has to undertake. Marks obtained in Gujarati / Hindi were considered L1 Proficiency Scores, while marks secured in English were considered L2 Proficiency Scores. For the purpose of the study, L1 and L2 Proficiency Scores were divided into two groups - Above Average L1 (AAL1) and Average L1 (AL1), Above Average L2 (AAL2) and Average L2 (AL2). The profeciency groups are.

a) Above Average Gujarati (AAL1) - students with 62 marks and above

b) Average Gujarati (AL1) - students with 42 - 61 marks

c) Above Average English (AAL2) - students with 62 marks and above

d) Average English (AL2) - students with 35 - 61.

The rationale for considering marks below 40 in the Average English group was that, those learners who had secured less than 40 marks had secured fairly good marks in Gujarati. For example, four learners secured 35 marks in English while their corresponding Gujarati marks were 79, 49, 60, and 47. Though their marks in English would not have contributed much to the analysis, their marks in Gujarati as L1 would have a significant bearing on the analysis. Hence the inclusion of marks below 40 in the Average English group.

No learner secured less than 42 marks in Gujarati. Hence the Average L1 group did not have any learner with marks below 42. 36 learners made up the AAL1 group and the remaining 34, the AL1 group. 25 learners were placed in the AAL2 group while 45 learners constituted the AL2 group.

Writing Task

The procedure for gathering data on the writing task was similar to that used by Lilian Bridwell (1980). Data was collected over a period of three days during class time. Time duration of one period was 50 minutes. On the first day, during the first 50 minute class session, learners were assigned an argument task, "Why is Circus a dying form of entertainment"? Several considerations went into the selection of the topic:

1. Firstly, it is the kind of writing that is conventionally required of students to write in composition tests and courses. Usually on a given topic, students write arguments to prove the superiority of a particular concept. Britton et al. (1975), terms the resultant writing as "transactional". According to him, "it is the language to get things done: to inform people....., to advise, persuade or instruct people. Thus the transactional is used..... to record facts, exchange opinions, explain and explore ideas, construct theories; to transact business, conduct campaigns, change public opinion" (88). This type of discourse is most representative of the kind of writing students are required to undertake in schools and colleges.

2. Secondly, it is a demanding, intellectual topic with personal implications.
3. Thirdly, it fulfils the expectations for writing in a formal academic register .

The writing assignment was as follows:

In the first 10 minutes of the first 50 minute session, after the topic, "Why is Circus a dying form of entertainment" was assigned, learners were asked to brainstorm and think on the topic given. They were asked to make a note of the points in any language. This allowed students to develop ideas before articulating them. It is reported that students' involvement with the writing assignment influences writing behaviours (Emig 1971; Pianko 1977; Sanders and Littlefield 1975). The National Assessment revision study (1977) also reported that if learners were allowed to engage in prewriting preparations, their engagement with the writing task seemed to increase. Considering this research evidence, it was felt that if learners were allowed to make a note of the points in their Mother Tongue (MT) or any language they were familiar with, it would relieve them of any writing anxiety or mental block they have in their mind at the thought of writing in the Target Language (TL). This would also help them to involve themselves in the writing task. After the

first 10 minutes of the pre writing activity, the remaining 40 minutes were devoted to the writing of the essay. After 40 minutes, all compositions were collected to be returned unmarked to the learners during the next class session, the next day.

On the second day, during the second 50 minute session, the compositions were returned. Learners were instructed to read their essays carefully. After re-reading they were asked to rewrite the essay on a fresh sheet of paper, by improving upon it. The instruction given was, "Revise your essay to improve it." Both compositions, written on the first as well as the second day, were collected by the researcher.

On the third day, during the third 50 minute session, the first 40 minutes were used by the researcher to provide feedback to the learners on use of revision strategies. The various operations of addition, deletion, re-ordering, substitution, consolidation, segmentation etc. were explained and elaborated. Examples were also provided to substantiate explanations. After feedback, both compositions, written on the first and the second day, were returned to the learners. They were instructed to read both compositions first and then revise and rewrite the composition written on the second day, on a fresh sheet of paper. **Specific**

instructions were given to change only those portions of the text they thought were incorrect or needed to be changed. At the end of the 50 minute session, all the three drafts were taken by the researcher. On all three days, all instructions to the learners, except the feedback, were given in English, Hindi and Gujarati. Feedback was provided in English. Doubts raised by students were clarified in English, Hindi and Gujarati. A colleague of the researcher helped her to conduct the writing task.

Writing Expertise Score

The scores on Writing Expertise of learners were obtained by evaluating the drafts written by the students. Two senior teachers of the Department of English, M.S.University, Baroda, with nearly twenty years of teaching experience, holistically evaluated learner compositions on the basis of the ESL Composition Profile by Hughey, et al. (1983). (Appendix D). This profile was considered for three reasons:

The profile provides an outline of an ESL writer's success at composing or synthesising the main elements of writing in connected, coherent, effective piece of written discourse.The Profile contains five component scales, each focusing on an important aspect of writing and weighted

according to its importance for written communication. The content component concerns the 'inventio' of writing - having something to say. The organisation component addresses 'dispositio' or the rhetorical principles of arrangement. Vocabulary, Language use and Mechanics together deal with the linguistic and mechanical principles for effective writing. The total weight for each component is further broken down into numerical ranges that correspond to four mastery levels; (Excellent to Very Good, Good to Average, Fair to Poor and Very Poor) which are characterised and distinguished by key word descriptors representing specific criteria. A writer's composition profile is indicated in two ways; (a) by the individual scores in each component; and (b) by the sum of scores from all five. A component score provides information about a writer's mastery of the particular criteria which define that component. The total score is a composite profile of the writer's mastery of all criteria. The separate component scores thus provide specific, diagnostic information about areas of strength and weakness, while the total score provides an index of the writer's overall success at composing.

Secondly, reliabilities could be obtained by using this Profile. As the raters came from similar teaching backgrounds, they had a chance to talk about descriptions and could practice the use of the Profile.

Thirdly, differential qualitative scores were of interest to determine to what extent certain kinds of revisions were related to the qualitative scores on both ideational and mechanical ratings.

The compositions were labeled with an identification number so that the evaluators would not know that a given composition was written by which student and whether the draft was the Original Draft, Revision I (the first rewrite) or Revision II (the second rewrite, after the feedback). Student's names and other details were recorded separately for the same reason.

The raters were allowed as much time as was necessary to go through this process of evaluation. Both raters read each of the three drafts and marked them separately. This was necessary so that simultaneous comparisons could be made between the performances of groups of students, between the scores assigned by the raters and between scores on the three drafts. The raters did not know that the compositions were written by students of two faculties - Architecture and Home Science. Inter-rater reliability was calculated using the Pearson product-moment correlation coffecient.

To establish the reliability of evaluating the written drafts, at first, each evaluator randomly selected 10 drafts and assessed them using the ESL Composition Profile (Hughey et al. 1983). At first a reliability of .71 was obtained. As the raters came from similar background, they had a chance to talk about their evaluations and sort out their disagreements. Through discussions, each rater came to an agreement on the applicability of the ESL Profile. Final reliabilities of .89, .91 and .92 were obtained for the Original Draft, Revision I and Revision II respectively. Raters scored all three drafts of the essays in three sessions. A week elapsed between each session and the raters reported that they were unable to discern whether they were evaluating the Original Draft, Revision I or Revision II, even though they could remember reading some papers with roughly the same content.

The scores obtained by learners on the third draft were considered the Writing Expertise Scores. It was felt that the third draft would reflect enhanced writing abilities of learners because they were provided feedback in use of revision strategies before they wrote Revision II. For the purpose of the study, Writing Expertise scores of learners were divided into two groups. Those learners who had secured a composite

score of 60 marks and above out of a total of 100 marks, constituted the Above Average Writing Expertise (AAWE) group and those learners who had secured below 60 marks were placed in the Average Writing Expertise group (AWE). 10 learners constituted the AAWE group while the remaining 60 were placed in the AWE group.

Cognitive Measure Score

To obtain data on the cognitive measure of each learner, the sample was administered the Wechsler Adult Intelligence Scale-Revised, (WAIS-R) 1981 (Wechsler 1981). This test is intended for use with individuals aged 16 years and older. It consisted of two sections - Verbal tests and Performance Tests. The Verbal tests included - Information, Digit Span, Vocabulary, Arithmetic, Comprehension and Similarities. The Performance tests included Picture Completion, Picture Arrangement, Block Design, Object Assembly and Digit Symbol.

Each item in the Verbal and Performance tests were scored according to the system provided in the WAIS-R manual. The raw scores recorded were converted into Scaled Scores using the 'Table of Scaled Scores Equivalents'provided in the manual. The sum of scaled scores of the

Verbal and Performance tests constituted the Full Scale Score for each learner. Every individual's Full Scaled Scores were located in Table 20 of the manual for corresponding IQ equivalents. The Full Scale IQ of the learner was the Cognitive Measure score for each learner.

For the purpose of the study, Cognitive Measure scores of learners were divided into two groups. Those learners whose cognitive measure scores were 100 and above, constituted the AACM group, while those learners whose cognitive measure scores were less than 100 constituted the ACM group. 32 students were placed in the AACM group while 38 constituted the ACM group.

Analysis of Written Compositions for Revision Strategies

The writing task of the learners, that is, all three drafts written by learners were analysed for revision strategies on the basis of the research tool prepared by the researcher. As reported earlier, the research tool formulated was based on the taxonomies of revision strategies by Bridwell (1980) Faigley and Witte (1981) and intense scrutiny of learner compositions by the investigator. A total of 63 revision strategies were identified which were addressed to three levels of revision - Surface,

Cognitive and Affective. Surface level component comprised 9 strategies, Cognitive level 30 strategies and Affective level 24 strategies. The changes that individual learner made from the Original Draft (OD) to Revision I (RI) were scored on a 0 to 1 point scale. The total number of changes made by the individual learner constituted the Revision Strategy Score of each learner in Revision I. The revision strategies identified in RI were further classified into surface, cognitive and affective strategies according to the change in meaning they brought to the text.

Revision II of each learner was also analysed for revision strategies with the help of the research tool. Changes made from Revision I to Revision II were recorded and scored on 0 to 1 point scale. The sum total of the changes made by the individual learner constituted the revision strategy score of each learner in Revision II. The revision strategies identified in RII were also classified into surface, cognitive and affective strategies according to the change in meaning they brought to the text.

The frequency count of a particular strategy used in Revision I and Revision II was also scored separately on a 0 to 1 point scale. The total number obtained on each strategy was the frequency count of that individual strategy.

A detailed analysis and interpretation of the data collected is presented in the next chapter.