CHAPTER TWO

A REVIEW OF RELEVANT LITERATURE

2.1 Introduction

In an endeavour to contextualize this study, it would be pertinent to review the literature in this area, to help define and give shape to the consequent analysis. It would be relevant then to look at reading in ESL, and then at reading-into-writing, and how ESP fits into the scheme of things. Finally, it would be necessary to examine just what an ethnographic study entails.

2.2 Reading in ESL

Students seem to consider reading to be one of the more important of the four skills in learning a second language. And, an ability to read well and good comprehension skills will enable them to perform successfully in their academic tasks.

There are several theories pertaining to how reading is accomplished. Following, is a discussion of the main theories on reading.

2.2.1 Bottom-Up View

Early studies in reading saw it as a passive process. This bottom-up view of reading saw reading in a second language as primarily a decoding process. The reader was
thought to seek to reconstruct the author’s intended meaning by recognizing the letters in the text. These he then recognized as words, then phrases, clauses and then intersentential links. In the bottom-up view, the reader was text bound and sought to derive meaning from the printed word.

From the bottom-up view of reading, later theories looked at reading holistically—leading to the propounding of reading as a top-down process.

2.2.2 Top-Down View

Another view of language developed with the psycholinguistic model of reading making and impact on prevalent thoughts on reading. Goodman’s (1971:135) oft quoted description of reading as a ‘psycholinguistic guessing game’ in which ‘the reader reconstructs ... the message which has been encoded by the writer as a graphic display’. In this view of reading, the reader does not use all the textual cues. He makes predictions as he reads and constructs meaning as he moves along. Using cues from the graphophonetic, syntactic and semantic systems of the language, the reader predicts, then confirms predictions, all by relating them to his own experiences and his familiarity with the language.

This process came to be known as the ‘top-down’ process of reading – a process that was said to be concept driven, with the reader playing a very active role in it. One feature of the top-down view, that is, background knowledge, was recognized to play a very important role in reading. This then lead to the theory on the importance of schema.
2.2.3 Schema Theory

With the advent of reading being viewed as a top-down process, the role of schema became acknowledged as very important in the reading process. ‘Schema’ is the term used to refer to the knowledge already present in the reader’s memory. Anderson and Pearson (1988) quote Ausubel (1963) who posited that for meaningful learning to occur, a reader’s knowledge would ‘anchor’ the new information found in the text. This background knowledge is what the reader brings to the reading task and enables him to read and understand at a reasonable rate.

Rumelhart (1980) propounded that text does not in itself carry meaning. It is the reader’s schemata, which he brings to the text, that enables him to devolve meaning from it. This is seen as an interactive process – between the reader’s background knowledge and the text.

What happens to readers when they are unable to activate the necessary schema? ‘Advance organisers’ are prescribed (Anderson and Pearson, 1988:41). This could include a statement or terms specifically introduced (for example, by a teacher or facilitator) before the text is read, to act as a ‘conceptual bridge’ between what the reader already knows and what is found in the text. Via the advance organiser, meaningful reading was thought to occur.

Therefore, the role of teachers is to provide students with the prior knowledge or experience they will need to read efficiently and with understanding. (James, 1987) To facilitate the acquisition process, the teacher will need to create the conditions
within which students can develop their inherent potential for becoming readers in the second language.

However, neither the bottom-up nor the top-down view of reading could adequately explain the complex process that made up reading. And, it was felt that many other elements, not yet recognized, came into play to make for effective reading.

2.2.4 The Interactive View

However, it is felt today that reading is not readily pigeon-holed into an exclusively ‘bottom-up’ or ‘top-down’ view. It is considered that there is interaction between the reader and the text, and thus reading is now looked at as an interactive process (Grabbe, 1988; Carrell, 1989). Reading encompassed ‘an array of processes’ and readers who were weak in one aspect, would rely on other aspects of the process as compensatory strategies to get by.

The implications of viewing reading as an interactive process are many. Top-down processing has an important role in the reader’s dealing with the text. However, lower level processing skills are also important, as is the need for an extensive vocabulary. The role schemata plays is pivotal. It is felt that a lack of relevant schemata would lead students to switch to a text-bound manner of reading or to guess at meaning.

Carrell (1989:8) feels that second language reading involves ‘a variety of complex cognitive processes in which readers engage’. The knowledge the reader brings to the
reading task includes knowledge of content, rhetorical structure, and linguistic knowledge that includes lexical, syntactic, semantic and pragmatic knowledge.

Text processing therefore becomes an interactive process that is both ‘top-down’ and ‘bottom-up’, with both these processes interacting ‘from the lowest levels of feature, letter and word recognition, to syntactic and propositional levels, to the highest, most global levels of text and context. (Carrell, 1989:8) Interaction is not only between and across levels within the reader, but also occurs between the reader and the various properties of the text.

One of the theories that explores this view is Bazerman’s (1985) study on “Physicists reading Physics”. He notes that the purpose for which a text is read and the background knowledge, schema, of the reader determines how a text is read. He shows that the reader’s own need to carry on research and his knowledge of the field moulds his reading process, helping him decide what he is going to read, how much of it is important, and whether he will read further, or not at all. Thus, what he hopes to accomplish (his task) will determine the way he reads. And, how he reads is determined by his existing schema.

In another study, Spivey and King (1989) posit that readers make meaning from a text they are reading, by integrating content from the text with previously acquired knowledge. They do this through a process of selection, organization and connection. Thus reading is seen as a reductive process. Readers make selections that are **textual** (van Dijk, 1979) – how high the content is placed in the text structure; or **contextual** - how important this content is in relation to the reading task. And even when readers
have what Kieras (quoted in Spivey and King, 1989: 669) terms ‘shallow semantics’, they are still able to select textually important content. Once selection is made, this content is organized in the construct of a mental picture of the text. Readers have an idea of how texts are conventionally organized, and they utilize this knowledge to help them with their understanding. On a more local level, the reader has to understand prepositions, phrases, sentences, etc. It is here that the reader finds ‘cues’ from which to make inferences about the text.

Spivey and King contend that topic knowledge can affect how the reader constructs meaning from the text. ‘People with extensive topic knowledge know what is important to select; they instantiate appropriate organizational patterns for the content and can use their topic knowledge to make connective inferences to fill in gaps’ (1989:670).

How well a learner reads is also determined by his level of proficiency in the second language. Clarke (1980, in Devine, 1987) posits that limited control of a language can cause even good readers to ‘short circuit’ – to revert to poor reader strategies when confronted with a difficult or confusing task in the second language.

Devine (1987) concurs that low competence in the target language limits the learner’s ability to read in the target language. The short circuit forces the reader to revert to less efficient strategies, especially depending on graphic rather than semantic information in the text. She posits that this text boundness may also inhibit the reader’s ability to activate the appropriate higher order schemata.
Having discussed reading, it would be pertinent at this juncture to look at writing and its role in the achievement of academic success.

2.3 Writing

Writing is language and thought put on paper. As such, it becomes very important in the achievement of academic success. Most courses evaluate students through some form of written text (Leki and Carson, 1994). An ability to write well has a twofold importance: it is necessary to achieve academic success and to demonstrate achievement.

Even before a student begins to write, he has to decide on various aspects of the piece he is going to work on. For instance, he has to decide on his audience, his purpose for writing, and perhaps even what form his work will take. Freedman, Adam and Smart (1994) note that students have problems when writing as they do not know who they are and who they are writing for and so are often confused. They thus tend to write for the lecturer, and this leads to the problem of deciding what their ‘shared knowledge’ is. This includes the question of how much detail to include.

Freedman et al. (1994:206) posit that ‘student writing is the knowing made manifest for inspection’. As such, detail is very important as this is not based on how much the reader needs to know to understand the text being written, but rather how much is necessary to demonstrate to the lecturer what the writer knows, and has learned. How much the writer has learned is deemed very important to the lecturer, and far outweighs the quality of the text.
In the same vein, Schmidt (1997) a Chemistry lecturer writing in the Journal of Chemical Education, agrees that students write for their instructors. Thus, they often leave unwritten what they assume the instructor already knows, and write what they believe the instructor is expecting.

Leki (1995) explores the experiences of five ESL students who need to write outside the walls of the English or writing classroom.

The results of this study give us an in-depth and detailed picture of this group of ESL students at the initial stages of acquiring discipline-specific discourse strategies not in the English classroom but while fully engaged in the struggle to survive the demands of disciplinary courses.

(Leki, 1995:235)

Although Leki’s study traces the experiences of only five students, and its findings need to be extrapolated with caution, it offers an insight into the learning strategies these ESL writers employed in order to handle the tasks set for them by their respective discipline-specific lecturers. The strategies employed by the subjects included: clarifying strategies, where they asked the lecturers to redefine what was needed; focusing strategies; relying on past writing experiences; using their first language knowledge to advantage; using current experience and feedback from peers; looking for models; accommodating teachers’ demands; and, managing competing demands.

One of the points noted in Leki’s study was the students’ failure to refer to anything they had learned in their ESL classes. Leki questions whether this could be because
what they had learned in ESL had become automatic and thus ‘integrated seamlessly into their normal writing behaviours’ (Leki, 1995: 255). But she does find it ‘worrisome’ that students could find no links between what was taught in the ESL classroom and what was needed in their other courses.

Another aspect concerning writing is that we need to widen our view – as we have a very restricted notion of what makes up writing and text. Winsor (1994) says that such items as lists and diagrams, as much belong to what is termed ‘text’ as do ‘extended arrays of connected sentences and paragraphs’ (Winsor, 1994: 228). Witte (in Winsor, 1994) went on to define a text as the creation of symbols, and that it need not only be sentences complexly linked together. And, in order to understand writing, it would be necessary to widen our view of text and the processes by which it is produced, this being especially relevant in the field of science.

The use of the term ‘invention’ has been used to describe the process of writing (Berkenkotter, 1993; Flower and Hayes, 1984) – referring to the process of generating knowledge in order to write. And, as writing is a recursive process, knowledge is also generated as a result of writing, and this is used to revise what has already been written, as well as to continue with writing.

This is shown in Winsor’s (1994) study, where she studied how students produced knowledge through their writing. Notes and lists made up part of their technical writing, and served in the final analysis, when the required report needed to be written. Notes were not just a mechanical process, but they showed that the students had begun the process of thinking about something.
something, affected the quality or type of notes made. Clifford (1990, in Winsor) feels that notes are never a passive recording, but rather always imply active interpretation by the note maker.

Thus far, the roles of reading and writing in the content-area classroom have been explored. And, it must be noted that in the content-area classroom, reading is an ancillary activity with in the academia, and a take-off point for all other academic tasks. It would thus be pertinent at this point to look at the role reading and writing play together in the content-area classroom.

2.4 Reading-into-Writing

Research into the field of the relationship between reading and writing is still in its infancy (Tierney and Shahanan, 1991). And, until recently, research into each area was kept separate, with researchers focusing on either one or the other, but not together.

However, with the development of schema theory, there has been a shift in thinking, with the view that perhaps there could be similarities between reading and writing in that they both require the active construction of meaning, dependent on prior knowledge or schemata (Mustapha, 1996).

Mustapha (1996) quotes Taylor and Beach's (1984) study on text structure instruction on recall of expository texts. It was found that instruction in reading helped both reading and writing, and that instruction in writing helped neither process. This
strongly suggests a reading into writing connection that researchers and teachers alike should note.

The relationship between reading and writing is a very real one. While writing may not directly help a student’s reading practice, extensive reading does help his writing. When students have read texts in their target level, they unconsciously internalize the models that they come across and this is reflected in their writing. Boyle and Peregoy (1990) posit that reading in a second language provides language learners with input that will in turn lead to further second language development. Writing provides valuable practice. So while reading enables the reader to access new information, writing enables him to use this information.

Krashen (1984, in Carrell, 1989) explores the effects of what he terms ‘uninstructed’ reading on writing ability. He suggests that there is a high correlation between the amount of reading and writing ability. Krashen does not imply a causal connection. However, that there is a connection cannot be discounted.

Attempting to understand writing, which is a process, requires a focus on writing both as a process and as a product. Analyzing the product, that is the written text, will enable inferences about the process. Meyer (1982, in Carrell, 1989) argues that an understanding of a reader’s mental representation of a text and how that represents forms and functions in the long term memory, can be used to help a writer plan texts which enable readers to create representations which better match the writer’s purpose in communication.
At tertiary level students are frequently asked to use reading as a basis for writing an essay, or report or even an exam answer. In an ESP class, before the end product is required, moderating tasks (comprehension questions, discussion, etc.) are provided to help the student come to grips with his reading. In the content-area class this is not provided (Allison, Berry and Lewkwicz, 1995). They see a need for bridging activities that would empower students to work independently to achieve the same ends.

To this same end, Williams (1997), a Chemistry professor and regular contributor to the Journal of Chemical Education, writes that it is necessary for students at tertiary level to read, and to read widely. He posits that this reading informs their writing, and that good writing is important for success in the (Chemistry) course. Good writing, to him, includes being able to explain clearly, and being able to demonstrate an understanding of the subject or topic being discussed.

Spivey and King (1989) describe a study on synthesis – where students were given multiple reading sources and asked to write a synthesis of these sources. It appears that ‘general reading ability and success in synthesizing overlap to a great extent: 83% of students in the study performed similarly on the synthesis task to others in the same reading ability group’ (Spivey and King, 1989:686). They were able to correlate a reading level against ability to synthesize the texts given into a cohesive whole. Better readers produced better texts.

Taking a leaf from their book is Comeford (1997:392), herself a Chemistry lecturer, who observes that many students think that Chemistry is merely ‘an exercise in
flipping through the textbook to find the right equation’. As a consequence of this, she
discovered that many of the students in her Chemistry class were able to calculate
answers correctly but were unable to understand the physical and chemical processes
behind their answers. In an effort to remedy this situation, she embarked on a
programme that required students to write essay-type answers for her. This she felt
was necessary to enable students to come to terms with the quantity of information
available in their prescribed text. Students were asked to read a given text and then
consider a number of questions based on the text. From this, students wrote a short
essay, responding to the questions as they wrote. Their writing informed her teaching,
and enabled a deeper understanding of the texts for her students.

In science, what a student needs to do is to understand key concepts and procedures.
He accomplishes these goals via all the four skills (Tierney, et al. 1989). Learning in
the content-area, then, involves understanding various concepts and topics, and
developing problem-solving skills. Tierney et al. quote a panel of U.S. educators
commenting on a biologist’s use of writing and reading:

A learner is only a partial biologist, for instance, if he cannot read or write to discover
information and meaning in biology. When a student takes the results of his or her
observations about lobsters, reads, writes a draft, talks, reads, then writes again, he
or she learns what it is to think critically.

(Tierney, et al., 1989:199)

In essence, what is said in the above is true of all academic endeavour.
However, despite the above, what actually happens in the content-area classroom seems to be quite different. Tierney et al.'s study found that all that students were required to do was read a text and respond with a word or two but 'not much more'. They say that their investigations have shown that the reading-and-writing experiences of students 'prompted not just what students learned, but also how they learned' (1989:199) They feel that reading and writing practices that require students to pick out ideas, formulate and question, and then think evaluatively about the topic would make for meaningful reading and writing. They feel that reading into writing practices not only enable students to learn more – they also enable students to think more critically.

2.5 English for Specific Purposes

Reading and writing in English are an integral part of the second language learner's world in his content-area classroom. In order to assess his needs in these areas it would be necessary to carry out an assessment of his language needs and to then develop a programme that attempts to address these needs.

The aim of the English for Specific Purposes (ESP) course that is born out of this needs analysis should not be to teach 'content'. That comes under the purview of the subject specialist. However, the ESP programme should address what Frydenberg (1982) refers to as 'high transfer skills' that students come across in the texts used in their content-area courses. It should be planned to enable students to function in English in the courses they are undertaking.
2.5.1 English for Science and Technology

To get an idea of how English of Science and Technology is realized, it would seem pertinent to examine Widdowson’s (1979) explorations in the area, albeit written some years ago, in the 70’s. For, it is here that Widdowson already notes the intrinsic difference between the way we should look at science texts and the way we look at other material.

Widdowson contends that scientific and technical English be represented not as a variety of English text, but rather as an independent entity. It is a language that is defined in functional terms and is part of the culture of scientists and technologists.

The language teacher may recognize every word in a sentence in a Chemistry textbook and yet it would communicate no meaning to her. This is explained by the fact that much of the knowledge is communicated via symbols, and the non-member of this discourse community would not be privy to the norms and conventions that govern its discourse.

Along the same lines, referring to the effect of a non-native reader’s background knowledge on the text content on second language reading, Carrell points out that a student’s background knowledge of content is a more important factor in reading comprehension than the linguistic factors. Carrell also touches on what she has termed ‘discipline-specific’ effects (1989:9). Each discipline is said to be a different subculture. Students in that discipline become enculturated with the norms and culture of the discipline, and therefore, material from that discipline is easier to read and
understand than linguistically comparable material from an unfamiliar discipline. Quoting Alderson and Urquhart, (1985) she posits that the more specialized the content of the text, the better the reading ability of the discipline-specific reader.

Hence, formulas, diagrams, equations and calculations make up a significant portion of the scientific textbook and they pose no difficulty to members of the community. Comprehensible to the members of the scientific community, they represent a universally accepted set of conventions for representing concepts and procedures. Widdowson sees these as part of the deep structure of scientific discourse.

A student entering higher education would be already familiar with much of the information found in his textbook. At the very least, he would understand the system of symbols and equations and be able to derive meaning from them as he had already learned them in his first language.

What the student needs to learn then is how this system of scientific communication is carried out in English. He would need to learn how to engage a transfer of knowledge from one system to the other. This then would be the role of the English teacher:

... to extend the range of the students communicative ability by making him aware of an alternative way of expressing the knowledge of science he already has.

(Widdowson, 1979:28)

Johns and Paz (1997) add that it is crucial that in science, non-linear features such as visual representations that include charts and graphs, are equally important to the reader as the text. They also feel that the macro-structure of a text is part of a reader's
prior knowledge of a text. Quoting Hoey (1986) they posit that students should be
drawn to discover the problem/solution nature of scientific texts. These texts are felt
to have certain co-occurring content – that is, the problem itself, the causes of the
problem, and suggested solutions. Enabling students to recognize this characteristic of
scientific writing could empower them to read effectively.

Another aspect of reading and writing with relation to scientific texts is the premise
that how students are taught to look at scientific texts will ultimately affect the way in
which they write. One aspect of scientific texts that students need to be made aware of
is the occurrence of ‘hedging’ – what Lakoff (1972) described as strategies to make
things more or less ‘fuzzy’.

Salager-Meyer (1997) feels that students need to be made aware of hedging as it is
used in scientific writing for a very real purpose. This is because science is not as
objective a discipline as students seem to believe from their textbooks. She states that
a number of studies in ESP have shown that hedges are an important area of academic
discourse.

Indeed, scientific ‘truth’ is as much the product of a social as that of an intellectual
activity, and the need to convince one’s fellow scientists of the facticity of
experimental results ... explains the widespread use of hedges

(Salager-Meyer, 1997:106)

She posits that hedging is chosen as a linguistic tool by scientists as it fits their
communicative purposes. It allows them to distance themselves from what they are
saying and to gain ‘communal adherence and acceptability’ for the claims they
present. Hedging also reflects a fundamental characteristic of science – that it is uncertain and doubtful. Via this linguistic tool, academics are able to anticipate the criticism of their peers, and to attempt to take some precaution against this.

Bearing this in mind, Salager-Meyer outlines two ‘pedagogical justifications’ to help students develop an awareness of hedging. One, is so that they can recognize it when it is used, and recognize a hedged statement from a proven fact. The other is to make students themselves able to use it successfully, and develop a hedging strategy of their own in their writing.

Bazerman (1988) has noted that this failure to modulate their work is a feature of the work of second language learners in western universities. Their writing is written in a direct, unhedged fashion and that this is not ‘socio-culturally appropriate’ (p.116) for the scientific community, in which hedging is a fundamental characteristic.

Thus it is deemed necessary for new members of a discourse community to master the ‘code’ of the community he wishes to be a member of. Bhatia (1997) says that this is important, and that aspiring members be ‘sensitized’ to not only the generic forms and content of the specific discourse of the community, but also to understand how they respond to any changes in social practices. Hence, he feels that students would need to develop a knowledge of the code of the community; be made aware of the appropriate procedures and conventions typically associated with this community; become familiar with the way language is typically used; and finally, exploit this knowledge he has gained. He feels that it falls within the purview of the ESP practitioner to help students achieve these goals.
Another study, while not directly related to reading and writing, is worth mention for the insight it could afford the ESP practitioner when assessing the needs of his students. Yook’s (1995) study of Malaysian students abroad in the U.S. shows that despite having attained a minimum level in the TOEFL examination (500, in her study), students still faced linguistic problems in class – in doing their reading assignments, in taking notes, and in understanding what was meant in examination questions, among others.

Another area in which she found that students faced problems was when they needed to speak in class. Quoting Ludwig (1982:3) she writes: ‘...foreign students manifest a fear of appearing foolish in front of peers and teachers, and feel stripped of their real selves and their real language capacities’.

Yook notes that cultural knowledge should be one of the areas addressed when students are prepared for studies in a foreign culture – be it in a foreign land, or when foreign lecturers come to our shores to teach (as is the case with Uniten). She quotes (p.5) Gumperz (1981):

When interpretations of behaviour differ as they do in most ethnically mixed classrooms, there is no way to safeguard against cultural bias in evaluating performance and to distinguish between differences in ability.

(Gumperz, 1981, quoted in Yook, 1995:5)

Another aspect noted was that Malaysian students were what Yook termed ‘passive recipients of knowledge’, (1995:20) their greatest fear seems to be their belief that they are linguistically inadequate. It would seem that the need to make students aware
of the 'rules' of the other culture, so that they are not disadvantaged, and to help them gain confidence in their linguistic ability, are all elements that need to be factored into the framework of what will eventually be the ESP programme.

Having discussed the content of the study thus far, it would now be appropriate to review the research design of the study, and elaborate on the methodology used to seek enlightenment in this area.

2.6 Ethnographic Research

In view of the nature of the questions being researched, ethnographic analysis was selected as the method of investigation. The Longmans Dictionary of Applied Linguistics (1992:129) defines the Ethnography of Communication:

... the study of language in culture and society. Language is not studied in isolation, but within the socio-cultural setting. Ethnography of communication studies for example, how people in a particular group or community communicate with each other and how the social relationships between these people affect the type of language they use.

Ethnographic research methods are qualitative in nature – they attempt to derive a theory from the data, and not impose a theory on it. Hence, the researcher would need to accustom herself to the culture of the content classroom, and look at the processes of academic socialization of the students as they assimilate the behavioral patterns suitable for the target community.
Thus, the task of the ethnographic researcher is to discover the role played by language in the carrying out of the day-to-day functions of the community. Saville-Troike (1989), in the tradition of Hymes, delineates this task as that which involves ‘first and foremost field work, including observing, asking questions’ (1989:4) and generally testing hypotheses and intuitions against what is actually observed, without allowing the preconceived notions or presuppositions of the researcher to cloud judgement.

This is essentially qualitative research, with an ‘emic’ perspective, using the tools of enquiry mentioned above ‘within the time frame necessary for gaining an understanding of the actor’s meanings for social actions’ (Davis, 1995:436). Davis, as does Saville-Troike, sees this emic description, also variously referred to as ‘thick’ description, as not simply the researcher’s evaluation of what is observed. It is necessarily the perception of the researcher triangulated against how the actors themselves interpret the behaviour.

The information gathered needs to be processed to show how the various elements in the system work together to develop into the various networks of communication between the community under study and the world it interfaces with. One would then be able to suggest a model which would serve both to describe and explain the communicative system of the community. This model, suggested from the examination of data, is referred to as ‘grounded theory’ (Davis, 1995:441).

It has thus far been established that an ethnographic study would be qualitative research that uses the tools of ethnography to establish grounded theory based on
thick descriptions. Watson-Gegeo (1988), however, cautions against labeling all qualitative studies 'ethnographic', adding the caveat:

One of the hallmarks of the ethnographic method is intensive, detailed observation of a setting over a long period of time.

(Watson-Gegeo, 1988:583)

It is necessary to note here that the present study spanned a time frame of about five weeks, incorporating close to twenty-four hours of observation, not including the hours of interviewing the informants. It is thus important to qualify the present study: it is an analysis of the communicative needs of a community utilizing the tools of ethnography.

In this quest for a 'thick' description, it is not sufficient to look at texts alone, but also, as Swales says, to understand holistically:

the roles texts have in their environments; the values, congruent and conflictive, placed on them by occupational, professional and disciplinary memberships; and the expectations those memberships have of the patternings of the genres they participate in, be they monographs, textbooks, lectures, examination papers, memos, minutes, testimonials...

(Swales, quoted in Ramani et al.,1988:83)

The move towards ethnographic discovery would seem to be a logical move for the practitioners of ESP as there is a need to develop courses that truly address the needs of the end-user (in this case, the student in the Engineering Faculty). A specific study
of the target situation, would mean 'taking the guesswork out of ESP' (Roe, 1993:10). And Tickoo (quoted in Swales, 1994:12) rightly adds the following:

A full grasp of the institutional culture has to be the cornerstone of a truly viable ESP programme.

Hence, if the need is to discover the reading-writing experience of first-year Engineering students, this community in its entirety would need to be examined. Only then would the true picture emerge; and, only then can what is to be included within the purview of an ESP programme be determined.

In the light of the above, it would be appropriate at this point to review some of the studies in this relatively new area of inquiry.

2.6.1 Some Earlier Studies

The three studies cited below show how ethnographic analysis was employed to discover the communicative needs of communities. All offer an insight into the 'thick' descriptions that can be obtained via ethnographic studies. The studies of Ramani et al. and Noraini Ibrahim were studies conducted in the academia, while that of Ainol Haryati is a study of language in the workplace.

2.6.1.1 The work of Ramani, et al. (1988)

At the Institute of Science, in Bangalore, Ramani et al. carry out a study with the aim of revising and designing the English language syllabus for students at the Institute.
They argue for an ethnographic approach to needs analysis, and explore what makes up a typical day in the life of a student at the Institute under study. They outline a research design based on the following steps:

Step 1. Observe the students in their natural academic environment.
Step 2. Ask the students about their communicative practices, needs and problems.
Step 3. Ask the subject specialists.
Step 4. Ask ourselves, the language specialists.

(Ramani et al., 1988:84)

Hence, using the tools of ethnographic inquiry, they observe students in class, at lectures, at seminars; carry out interviews with students and with lecturers; examine and analyze documents – all with the aim to discover the needs of the student population. Their analysis, carried out over a period of one month, was able to uncover, via insider-members of the community, how the scientific community under study perceived its own communicative patterns and needs. And, this knowledge became the framework which informed their eventual syllabus design.

2.6.1.2 The work of Ainol Haryati (1993)

In this study, Ainol Haryati sets out to investigate the communicative events of a department in a Japanese multi-national company in Malaysia. This ethnographic study was a quest for ‘thick’ description, using among others, the main tool of complete participant observation.
Complete participant observation was employed to enable the researcher to discover ‘first hand data that are uncontaminated by factors standing between the investigator and the object of research’ (1993:105). While this brings to the fore the issue of invasion of privacy, it also highlights the aspect of the researcher losing her objectivity and ‘going native’. Another criticism of this method was its total dependence of the observer’s interpretation of the situation. Ainol Haryati was able to overcome these limitations by triangulation of data against other tools of analysis that included unstructured interviews and analysis of the documentation of the community.

Also of note, was her setting the study into two distinct phases: the pre-field stage, and the in-field stage. In the pre-field stage, all that was required to set the study in motion was carried out by the researcher. This included determining the community of choice, and negotiating entry into the site. The in-field stage encompassed the study proper.

2.6.1.3 The Work of Noraini Ibrahim (1997)

Employing the tools of ethnographic inquiry, Noraini Ibrahim demonstrates how students, in the Law Faculty at University Kebangsaan Malaysia, read legal cases in English. Her study explores how students struggle with these readings because of their inability to grasp the language and rhetoric of these texts. Using the tools of ethnography, this study sets out to discover the process of academic socialization of first year Law students. The ethnographic tool of classroom observation of tutorials was utilized, and the data obtained was triangulated against data obtained via other
ethnographic tools of analysis – from specialist informants via interviews; and from the perusal of relevant documents. Via these tools the researcher was able to see how specialized the reading for Law is – in essence, that the reading is for legal argumentation based on human reasoning.

2.7 Conclusion

In this chapter, the prevailing theories on reading and writing have been examined. These have also been looked at in relation to ESP and especially with regard to the role of English for Science and Technology in this area. It would be pertinent next to examine whether these theories hold in the content-area classroom. This study, then, proposes to discover how first-year Engineering students use the English language when they leave the English language classroom and enter the Engineering faculty.

Thus far, at Uniten, the English language teacher has seemingly taught in a vacuum, not being privy to the nature of the communicative events that occur for students upon entry into the faculties of their choice. This study then, seeks to steal a glance into the Engineering faculty – to discover what exactly students do in the classrooms there. The knowledge gleaned from this study would enable the ESP practitioner to better empower students to be independent readers and writers who can work efficiently and effectively in their respective content-area subjects.

To this end, it would thus be necessary to employ a research methodology that would allow the language teacher an unfettered glimpse into the world of the content-area classroom. This researcher is confident that the ethnographic exploration decided
upon for this study, would afford just that. Hence, in the following chapter, the methodology employed will be outlined – that of an exploration of the students’ reading and writing experience using the tools of ethnographic analysis.