CANADIAN THESES

THÈSES CANADIENNES

NOTICE

The quality of this microfiche is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy.

Previously copyrighted materials (journal articles, published tests, etc.) are not filmed

Reproduction in full or in part of this film is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30.

AVIS

La qualité de cette microfiche dépend grandement de la qualité de la thèse soumise au microfilmage Nous avons tout fait pour assurer une qualité supérieure de reproduction

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure

Les documents qui font déjà l'objet d'un droit d'auteur (articles de revue, examens publiés, etc) ne sont pas microfilmés

La reproduction, même partielle, de ce microfilm est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c C-30

THIS DISSERTATION HAS BEEN MICROFILMED EXACTLY AS RECEIVED

LA THÈSE A ÉTÉ MICROFILMÉE TELLE QUE NOUS L'AVONS REÇUE

An Approach to Evaluating ESP Materials

Richard Moon

A Thesis

in

The TESL Centre

Presented in Partial Fulfillment of the Requirements
for the Degree of Master of Arts at
Concordia University
Montréal, Québec, Canada

July 1987

ISBN 0-315-37085-8

ABSTRACT

An Approach to Evaluating ESP Materials

Richard Moon

Widdowson (1983) proposes a framework for ESP course design which is based upon his view that language use should involve discourse procedures which convert a knowledge of language usage into communicative activity. The purpose of this thesis is to determine the usefulness of this framework as a guide for the assessment, selection and/or revision of non-native speaker materials. An evaluative instrument is created and used to evaluate a set of Canadian non-native speaker materials. Essentially, these materials are used as a sample on which Widdowson's framework is tested. The strength and weaknesses of the program are discussed in light of the tool. Finally, the strengths and weaknesses of the evaluative tool are discussed. It is concluded that Widdowson's framework-cum-tool is useful as a guide for ESP evaluation.

ACKNOWLEDGEMENTS

I would like to thank several people for their help and support. I want to thank Ron Mackay, my thesis advisor, for his time and great insight, as well as for his support and patience.

I am grateful to my readers, Palmer Acheson and Alex Sharma, for their meticulous scrutiny of the text and for their helpful feedback.

I am also grateful to Bruce MacCormack for his friendship and encouragement.

I would also like to thank Leila Ranta for her help in the final stages of preparing the manuscript.

Finally, I would like to particularly thank my dear wife, Jude, for her unselfish support, patience and professional advice.

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER 1

REVIEW OF THE LITERATURE

Introduction

In the recent past there has been a growth in the demand for specific purposes second language training. Increasing numbers of learners, in Canada and elsewhere, need English not only as a subject in their curriculum but as the medium through which they study. Much of the effort devoted to the development of English for specific purposes (ESP) has concentrated on "communicative" materials design and production (Robinson, 1980; Alderson & Waters, 1982). This has brought about a need for teachers trained in the new methods and materials. Although such changes in materials and methods imply development of evaluative procedures, nothing of the same scale has been shown in the creation of appropriate instruments for evaluating ESP courses and materials (Alderson & Waters, 1982). Hence, teachers often have no formal way of assessing materials and the task of judging a given set of materials is frequently carried out in an arbitrary or partisan way. It has become the case with ESP course design, as Widdowson (1983) notes, "a busy area of basically ad hoc operational activity without reference to any clear theoretical principles" (p. 13).

The general question that this thesis will address is: How can an ESP teacher determine the usefulness of a given set of materials in helping to achieve the goals set for his/her students?

A Review of the ESP Literature

Essentially, materials evaluation is about "making judgements, assessing the value and quality of what is being done, and ideally the argument supporting the judgement will have been arrived at in an unequivocal, reasoned way" (Murphy, 1985, p. 2). The focus of this review of the ESP literature is to examine the extent to which a body of evaluative instrumentation exists within this context.

A review of the literature reveals a lack of importance assigned to evaluation in general in ESP. This may be due in part to the general view that "new" is necessarily better. Because the "communicative method" is the new methodology, it is automatically assumed to be better and therefore, the focus has been on production; evaluation has been neglected as a result (Murphy, 1985). Further, materials production has focused on specific needs and language description, as opposed to general learning theory. Consequently, the only materials assessment found to date has been limited to the narrow question of the extent to which materials meet specific needs. It seems that there has been such confidence in the principle governing the production of the materials that evaluation has been reduced to a practically non-existent step in the production process. This focus on production is apparent in the literature in that there is a substantial body of articles and books on teacher training and materials development, but little on evaluative instruments.

Within the ESP literature, evaluation has come to mean one of two things. The first of these is the end-of-course testing variety (Robinson, 1980; Shaw, 1977). Among these are initial placement, progress, achievement and proficiency tests. This is not the type of evaluative tool required for these purposes. Alternately, and to a greater extent, evaluation has been equated with curriculum evaluation. These more broad-ranging evaluation projects have been concerned with the assessment and accountability of large, long-term language-teaching projects, such as are found in the Third World (Brumfit, 1983). These offer little aid to teachers with the specific task of determining the usefulness of a given set of materials. Thus, ESP course/materials evaluation, although not absent, is in most cases relegated to a select group of experts, working on large, well-funded projects. Such projects are often very narrow in their scope, for example the evaluation of a secondary course textbook (Clarke et al., 1983), and have little generalizability. Moreover, such evaluation schemes are cursorily described; procedures and methods are not mentioned and if they are, they are not clearly specified so as to enable one to replicate the scheme (Brumfit & Roberts, 1983). In short, the ESP literature provides ESP teachers and administrators with few formal means for assessing materials, or for the construction of evaluative instruments.

Likewise, a review of the L1 literature (McCormick, 1981; Dauzat, Coy & Newman, 1981; Ball, 1976) reveals that

evaluative procedures in that realm do not directly deal with the language component of the learning situation and are obviously inadequate for LSP purposes.

I now turn to an examination of the evaluative frameworks available in the literature for general-purposes English second-language (GPE) teaching.

Review of the General-purposes English Second-language Literature

The need to evaluate methods/materials was recognized by Mackey (1965) and similarily urged by Corder (1973). We can repeatedly find that evaluation is mentioned and its general purpose described in many places. However, as in the ESP literature, the view that evaluation is equated with end-of-course examinations is widely held. Nevertheless, there exists a body of evaluative frameworks. For the most part, these frameworks are organized in similar ways: practical considerations, layout and design, activities, skills, language type, content and guidance. However, the interest of the instrument proposed herein lies in the approach of content determination. In addition to similar core features, the frameworks found in the literature seem to share the opinion that the judicious selection of a textbook or set of materials depends primarily on the teacher's ability to evolve his/her own set of criteria for the particular language teaching situation. In other words, what is shown to exist is seldom based on principled assumptions and often relies too

heavily on language descriptions and needs analyses.

Cunningsworth (1984) states that teachers should formulate objectives with the needs of the learners in mind and then seek out material which will achieve those objectives. This seems to reflect a general trend. Jeremy Harmer (1983) explains that:

> the teacher must have come to some conclusions about his students and what their needs are. This knowledge is necessary for him to be able to judge the materials in the light of his knowledge of the students who may eventually use them. (p. 237)

Howatt (1974), Marian (1983), and Williams (1983) express similar viewpoints. Thus, the GPE literature offers evaluative procedures which are not entirely suitable for ESP evaluation. This focus on "specificity", or what learners will need once their course of studies is over, narrows the prospective materials unnecessarily.

This is a problem in both general purposes and ESP realms. An ESP teacher in search of materials, even given the proliferation of ESP materials, is often unable to find a fit with the particular situation or the particular group of students. This situation is not entirely due to the materials but to the restricted view of specificity. Teachers have come to think in terms of differences rather than similarities. There is a lot of common ground underlying all that material which often fails to be acknowledged in the eagerness to present learner-specific material (de Escorcia, 1985).

What gets ignored is the potential of any course to develop learning capabilities or generalized strategies. A shift of focus to generalized strategies would have implications not only for the production of teaching materials but for the means with which we select and/or evaluate materials. Indeed, one consequence of this shift would be a concern with engaging students in the appropriate kind of task as opposed to just the appropriate kind of text. This attention to learning strategies is Widdowson's focus in syllabus design.

Widdowson (1981) describes his position as follows:

> the language content of the course is selected not because it is representative of what the learner will have to deal with after the course is over, but because it is likely to activate strategies for learning while the course is in progress. (p. 5)

Having found little in the way of evaluative instrumentation, I return now to the ESP literature and propose the use of Widdowson's "Model of Language Use" which, although offered as a guide for the design of ESP materials, can be adapted for evaluative purposes.

In Learning Purpose and Language Use, Widdowson (1983) proposes that course content be established in accordance with principles derived from our understanding of how people learn and use language. In Widdowson's words, content must be based on some "description of learning, not what has to be learned: So in outlining objectives, we

have to take methodological means into account" (Widdowson, 1983, p. 83).

His view requires that considerations of appropriate methodology be superordinate in the staging of course design and that course design be "directed at servicing its requirements and not the reverse" (Widdowson, 1983, p.107). Most importantly, consideration should be given to the development of learning activities which enable learners to process discourse. Widdowson's views on methodology will be examined in chapter 2.

In the context of course design, the approach which Widdowson is advocating calls for significant changes to the traditional goal-oriented approach. Widdowson's (1983) view is that a determination of course content through some form of linguistic description should not serve as the basis for course design.

The Focus of the Study

This realignment of methodology in course design will be used as a central tenet in the creation of a tool (chapter 2) that teachers can use in the evaluation of ESP material. Widdowson's framework will be used as a primary construct in addressing the more specific question of: How useful is Widdowson's framework as a guide for the assessment, selection and/or revision of non-native speaker materials?

In chapter 3, I will use the instrument arrived at in chapter 2 to evaluate a set of Canadian materials -- The

Barren Ground Caribou Program (BGCP) (Beverly and Kaminuriak Caribou Management Board, 1984) -- a program which was created specifically by educators for use in the northern regions of Manitoba, Saskatchewan, and in the Northwest Territories. Essentially, I will be using the BGCP materials as a sample on which the tool and the use of Widdowson's framework will be tested. To this end, I will systematically relate the main tenets of Widdowson's framework, embodied in the instrument to selected features of the program, and will report the findings of this application of the instrument. I will discuss the strengths and weaknesses of the program in light of the evaluative framework.

Finally, in chapter 4, the findings will be discussed in relation to the question posed in chapter 1: How useful is Widdowson's framework as a guide for the assessment, selection and/or revision of non-native speaker materials. In short, I will discuss the strengths and weaknesses of the evaluative tool.

CHAPTER 2

WIDDOWSON'S VIEW OF ESP COURSE DESIGN: THE MODEL AND EVALUATIVE CRITERIA

Introduction

In chapter 2, I will show that Widdowson's framework, although offered as a guide for ESP course design, can be adapted and used as a basis for an evaluative tool.

Following a look at the trends and developments in ESP course design of the 1970's, it will be seen that Widdowson has offered not only a coherent and usable theoretical framework with which ESP programs can be characterized, but also a set of reference points from which ESP materials can be evaluated. It will be argued that essential features extracted from his "scale of specificity" and his "model of language use" can be thought of and used as criteria for course evaluation. Finally, an evaluative instrument will be presented.

Background to ESP Course Design

For the most part, ESP course designers have based the aims of their courses on language specifications and needs analyses. As Strevens (1977) puts it, ESP occurs whenever "the content and aims of the teaching are determined by the requirements of the learner['s]" future purposes (p. 146). The result has been that many ESP courses have had as their aims very narrow purposes with the emphasis on specifications of linguistic content. An example of this

would be an English course for airline purposes in which general educational criteria are for all intents and purposes absent, with extensive vocabulary and linguistic structure for airline purposes in their place. This is precisely the type of course one thinks of when one thinks of ESP.

But ESP does not necessarily imply such narrow purposes. In fact, there is quite a wide range of course purposes, including educationally-oriented ones. Mackay and Mountford (1978) posit three varieties based on their different purposes: occupational requirements, vocational training programs, and academic or professional programs. Strevens (1977) proposes a two-part breakdown: occupational and educational. Widdowson (1983) proposes a "scale of specificity" with education at one end and training at the other, indicating that courses will fall anywhere on the scale.

The situation remains that no matter what the purposes or scope, program designers and hence materials have been directed by the specification of terminal course goals. Consequently, ESP designers have not necessarily seen as part of their mandate a consideration of the most effective means of achieving these goals. Widdowson (1983) characterizes the state of affairs with respect to this "goal-oriented" approach in ESP course design with the following:

> The assumption ... is that what learners need is a knowledge ... of the English of their speciality, and

> that this can be conveyed to them by conventional means of a very general sort, which need have no connection at all with the activities for which they need to use English. Any methodology will do so long as it gets the information across. (p. 88)

In Widdowson's view, course designers' exclusive preoccupation with learning outcomes is mistaken.

Widdowson's View on ESP Course Design and Methodology

Widdowson (1983) advocates that a specification of pedagogic means, or methodology, be superordinate in the staging of syllabus design and implementation. Moreover, he asserts that this be established with reference to "learning activities" compatible with the principles of how people learn and use language. Although Widdowson does not provide us with a taxonomy of methodology, he is quite explicit as to what he means by it. For Widdowson, methodology is comprised of activities and exercise types which "set up conditions whereby learners will actually engage [in] discourse procedures to achieve what they can recognize as relevant communicative outcomes" (p.97).

To appreciate Widdowson's view on ESP course design and methodology, several key concepts must be examined.

Use vs. Usage

First, Widdowson (1978) distinguishes between "use" and "usage". For Widdowson, "usage" implies the linguistic rules which afford the learner the ability to generate

grammatically-correct sentences, while "use" implies the rules for effective communication which afford the learner the ability to use language appropriately to achieve communicative purposes. "Thus, when we learn a language we do not only learn to compose and comprehend correct sentences as isolated units of random occurrence; we also learn how to use sentences appropriately to achieve a communicative purpose" (Widdowson, 1978, p. 21).

Widdowson maintains that although there have been shifts in the thinking and orientation of ESP designers, the idea that the teaching of "usage" will suffice is still a cogent idea expressed by some. Structural courses have assumed that teaching "usage" will ultimately result in communicative ability and actual language use. The shift to the notional-functional orientation has modified the focus of the goals to a large extent (i.e., away from linguistic structure and toward notions and functions) but has failed to modify the role of pedagogy in syllabus design.

Widdowson acknowledges that the traditional approach to staging in course design has been that language description and specification take priority over methodological considerations. However, he argues that methodological considerations be primary and that course design "be directed at servicing its [methodological] requirements and not the reverse" (Widdowson, 1983, p.107). In this sense, Widdowson (1979) suggests that the work on notional syllabuses can best be seen as a means of

developing the status quo rather than replacing it.

This shift to the notional-functional approach has had a direct impact on ESP course design and has actually led to the misconception that "aims" and "objectives" can be (and, as a result are) "conflated" (Widdowson, 1983, p.12).

Aims vs. Objectives

Widdowson makes a second valuable distinction, that between "aims" and "objectives." "Aims" refer to what the learner has to do with the language once he has learned it. "Objectives" refer to the facilitative means which allow the learner to attain the desired end of course aims; "objectives" refer to the interim pedagogic means, that is, exercise activity used to exploit text.

For Widdowson, the "training" operational approach of ESP erroneously equates the aims of learning as derived by specification of linguistic content with the pedagogic objectives designed to attain them. As a result, some learners are required to perform communicative acts (the aims of the course) which they may be unable to achieve as they do not have the facilitative means and resources to guide them toward such terminal goals. In such cases, the designer may have specified the "product" of the learning but failed to specify the pedagogic concerns; that is, they have overlooked the actual learning "process."

This specification of linguistic content of a program "tells us nothing whatever about the procedures people

employ ... when they are actually engaged in communicative activity. These are communicative facts which are ignored" (Widdowson, 1979, p. 254).

To account for these processing abilities, Widdowson (1983) has posited his "model of language use." In his framework, these "procedures" are fundamental; they represent the kind of processes, skills and abilities competent language users employ in actual language use and as such, can serve as a model for language learning. "Procedural activity" is the key to the functioning of the model, and it is for this reason that ESP course design requires that a "procedurally based methodology" be "placed at the very heart of the [syllabus design] operation" (p. 107).

In sum, such a methodology in Widdowson's view has to be compatible with the "use" strategies the competent learner employs when actually performing a task. However, it is the role of the course designer/materials writer to build in methodological procedures which facilitate the engagement of the L2 learner so that he, like the competent speaker, will ultimately be able to achieve the communicative aims of the course.

Widdowson's Scale of Specificity as a Basis for Characterizing ESP Courses

Training vs. Education

Within his framework for ESP course design, Widdowson proposes a "scale of specificity" as a means of

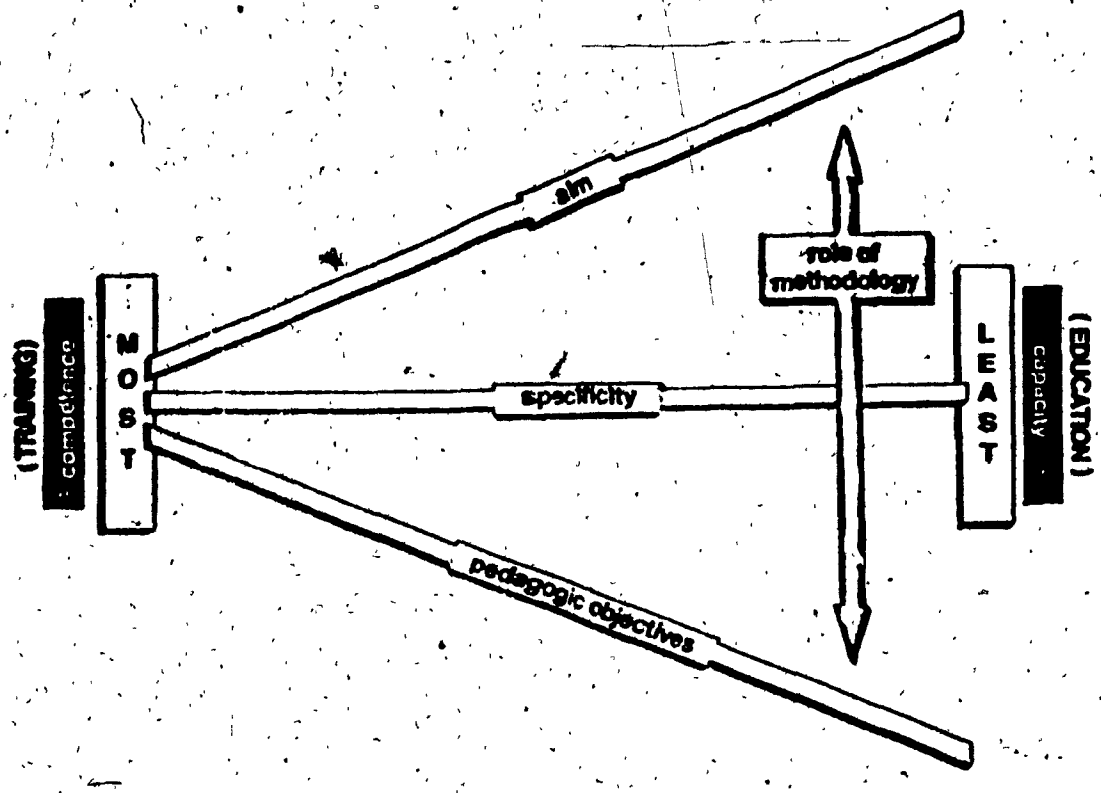
characterizing ESP courses. The specificity in Widdowson's scale refers to the degree to which the learners' target purposes are specified. When the learners' purposes are very specific, for example, English for air-traffic controllers, the course falls at the training end of the scale. The course "seek[s] to provide learners with a restricted competence to enable them to cope with certain clearly defined tasks" (Widdowson, 1983, p. 6). To a large extent then, the aims are equal to the objectives. Mackay (1985) has reduced the framework to an elegantly simple diagram (see Figure 1).

When the learners' purposes cannot be very precisely articulated and are more general educational purposes, for example, to be able to study in one's second language, then the course falls at the education end of the scale. The course "seek[s] to provide learners with a general capacity to enable them to cope with eventualities in the future" (Widdowson, 1983, p.6). Because there are no definite aims, there is a need for intervening objectives arising out of pedagogic theory.

It should be clear that Widdowson is very much concerned with the methodology and pedagogy of ESP teaching. In this regard, his theory is highly practical not only for course designers, but for ESP teachers and course evaluators alike. What has been between the lines throughout the discussion is that if the field lacks such a comprehensive perspective on ESP, then it is also true that

teachers have had no comprehensive means with which to evaluate, select or modify existing ESP materials.

I am proposing here that the same principles which guide the design of ESP courses can be used as criteria for the evaluation of ESP courses. The following, which is based on Widdowson's work, is a guide to the evaluation of the aims and objectives of a given course.



Widdowson's (1983) Scale of Specificity (Mackay, 1985)

Fig. 1

Organization of Tool

Out of this theoretical discussion of Widdowson's scale of specificity comes Part I of the evaluative tool, an attempt at the direct application of the scale of specificity for use as a means of characterizing ESP courses. This section of the two part evaluative schema deals with the assessment of the appropriacy of course aims. In other words, Part I allows the evaluator to consider some of the issues in establishing whether aims are appropriate and to determine the degree of specificity required in the pedagogic objectives in light of the target population.

Subsequently, Widdowson's model of language use is presented. This framework serves as a basis for Part II of the tool, the evaluation of the specificity of pedagogic objectives and allows the evaluator to consider whether the pedagogic objectives are suitably developed methodologically.

In using the tool, the evaluator should consider the questions in both Part I and Part II. So as to aid the evaluator in understanding the rationale for each question, a justification derived from Widdowson's framework precedes each. The justification is intended to provide a rationale for the questions and show how they emerge from Widdowson's thinking. Then, a guide to application on how to answer the questions when faced with materials is given. This application is a tentative attempt to communicate with a potential user of the instrument and help the evaluator

understand its application; it should not be regarded as final.

It is suggested that the evaluator provide evidence for each of his responses, in order to substantiate any judgement about the materials. For example, to claim that the exercises are pitched at the level of discourse can only be substantiated by describing in what manner and how often this occurs. Hence, providing evidence through means of documentary analysis would help to ensure objectivity of the evaluative judgements (McCormick, 1981). An additional advantage of providing evidence during the procedure is that the educator will have access to the evidence if the need arises.

Finally, a checklist of questions is provided for ease of reference at the end of the chapter.

GUIDELINES FOR EVALUATING APPROPRIACY AND SUITABLITY OF AIMS: PART I OF TOOL

AIMS/SPECIFICITY

Widdowson (1983) claims that for the course designer, understanding and establishing the aims to which the learner will put the learning when the course is over is important, not so much because he is concerned with teaching aims but because he needs to know the aims so as to be able to establish interim objectives. In Widdowson's terms, the idea is to be in a better position to delimit "learning needs [which] will have to be taken into account in the methodological implementation" of an ESP course

(Widdowson, 1983, p. 20).

In Widdowson's view there is a principled relationship between course design and its methodology. The reason for placing the course on the scale of specificity is that ultimately this perspective will allow the evaluator to judge how much and what kind of methodological development is required to fulfill the course aims.

1. ARE THE COURSE AIMS CLEARLY STATED? IF YES, WHAT ARE THEY? IF THE AIMS ARE NOT SPECIFIED, CAN THE AIMS BE EXTRAPOLATED FROM THE COURSE MATERIALS?

2. WITH THE AIMS ARRIVED AT IN QUESTION ONE, WHERE ON THE SCALE OF SPECIFICITY DOES THE COURSE BELONG?

Application

In the case of some materials that are examined, the aims are clearly stated; in others they are not. In any case, the course aims should be elaborated or extrapolated from the target project.

Widdowson asserts that aims should be derived from academic, vocational and professional areas of activity connected with the learner. When extrapolating aims, the specificity should be determined, that is, whether the course aims emphasize a concern with general educational values or more practical restricted language prescribed by the specific purpose. In other words, one needs to determine whether the learners require the skills, abilities and strategies needed to cope with eventual

unpredictable language activity (education) or whether they require the more restricted language associated with their narrow purpose (training).

TARGET POPULATION

Without a clear understanding of who the target population is, and the purposes to which the learners will eventually put the learning, an evaluator can hardly evaluate a program. How well the materials fulfill the learners' needs is a large part of the value of the materials. Thus, knowing the aims of the target population gives the evaluator the information required to judge the appropriacy of the stated course aims for the given population.

3. HAS THE AUTHOR ACCURATELY SPECIFIED THE TARGET POPULATION (FOR WHOM THE COURSE MATERIALS WERE WRITTEN) AND ITS AIMS? IF NO, DESCRIBE YOUR PERCEPTIONS OF THE TARGET POPULATION AND ITS AIMS?

Application

It may be that the author's perceptions of the aims of the target population differ from the evaluator's perceptions of the aims of the target population. For example, the author may have designed a program for a group of vocational school students with the idea that they need first and foremost a firm grounding in the terminology and idiom of Business English. It may be perceived that in addition to Business English, these same students are in

need of more general English which would better prepare them for all possible future language activity. In other words, the author's perceptions and the evaluator's perceptions of their needs are different. So whether the perceptions differ or not there should be at the evaluator's disposal a comprehensive description of what the target population and their aims are perceived to be. This includes a description of their occupational, technical or educational purposes. These can be best arrived at through the use of a comprehensive needs survey (Munby, 1978; Richterich & Chancerel, 1978, cited in Robinson, 1980).

APPROPRIACY OF AIMS

It seems obvious that the author's stated aims should be suitable for his learners' target aims but this is not always the case. Authors have been known to unintentionally misjudge or misrepresent the learners' needs and create courses unsuitable to their target groups; consequently, the courses have fallen at the wrong end of the scale. The evaluator, then, needs to assess not only what has been done but that what should have been done has been done. In other words, we are looking at the distinction between "merit" and "worth" of the endeavor (Guba & Lincoln, 1983). If one is looking at the "merit" of a course, his concerns are with what the author says he is doing and whether he has done it. On the other hand, if he is looking at the "worth" of a program, he is examining

it in broader terms, in terms of what the circumstances are actually requiring the author to do.

For example, a course which teaches oral competence and does it well, has real "merit". But what is it worth to a group of learners who need to be able to write academic English? Thus, judging how appropriate the specified aims are for the target population is in some sense a means for assessing the "worth" of the program.

4. ARE THE COURSE AIMS APPROPRIATE FOR THOSE WHOM YOU ARE SELECTING THE MATERIALS?

Application

With the course aims stated in question one, and the description of the target population arrived at in question three, it should be ascertained whether the aims are suitable for the target population.

The actual genre and quality of the objectives will be examined in detail following a discussion of Widdowson's model of language use.

Widdowson's Model of Language Use as a Basis for an Evaluative Tool

The following is a description of Widdowson's model of language use from which I will extract and describe the essential criteria by which to evaluate pedagogic objectives, that is, exercise activity in an ESP course.

Widdowson's model of language use is an attempt to describe the processes involved in the use of language,

which provide a basis for establishing the methodological objectives of ESP courses. Central to his model is the idea that pedagogic objectives not be established in accordance with target aims or linguistic product but with reference to learning strategies and activities which will facilitate attaining target aims. The end product of such a course will be learners who not only have a set of new linguistic structures and vocabulary, but learners who have attained, to a greater or lesser degree, a "learning process" to be used again and again toward their eventual aims. Widdowson (1983) is concerned with developing "use" so as to gain competence, and methodology is the key to achieving this end.

Widdowson (1983) draws upon child language acquisition (Halliday, 1973, 1979) in conjunction with recent theory in the psychology of cognition (Rumelhart, 1980) and suggests that:

> as the child abstracts his linguistic rules from the mass of language data, so he also abstracts conceptual outlines from the recurrent circumstances of language use and associates these outlines with linguistic realizations ... the language that is learned retains a trace of its situational provenance. (p. 39)

Levels of Language Knowledge: Systemic vs. Schematic

Widdowson posits two basic levels of language knowledge: the "systemic", or knowledge of grammar and phonology, and the "schematic" or "stereotypic patterns

derived from instances of past experience which organize language in preparation for language use" (Widdowson, 1983, p. 37).

According to the model, the systemic level, where a measure of a user's systemic knowledge is referred to as "linguistic competence", plays a "crucial" (p. 31) but "auxiliary" (p. 38) role in language use. Unlike schema, system plays "no direct executive function" (p. 38). Its function is seen as providing "a set of directions for which schema in the user's mind is to be engaged" (p. 36), as well as providing "resources for sustaining the schematic level when required" (p. 58). Thus, the systemic resources are seen as exerting no direct control in the discourse process.

The schematic level, on the other hand, plays a key role. It alone is directly engaged in active language use. In fact, Widdowson (1983) asserts that it is this level of language competence which constitutes "communicative competence" (p. 40) which he frequently refers to as "schematic competence" (p. 41). In short, schema serve as the "main source of reference" and we use our schema to interpret and predict meaning. In Widdowson's terms, we map these "stereotypic images", which are derived from past experience, "on to actuality in order to make sense of it" (p. 34). It is language or system which gives them form. It follows then, that for Widdowson, schemata plays a large part in language use.

Communicative Capacity vs. Communicative Competence

Central to the understanding of schemata is Widdowson's concepts of "capacity." "Capacity" is the ability to "use" language which Widdowson is aiming for. In short, "capacity" is the ability to engage in activity which enables the language user to actualize stored schematic knowledge of one form or another. It is this capacity which determines the extent of his capabilities as a language user.

Widdowson distinguishes between "communicative competence" and "communicative capacity". For Widdowson (1983) "communicative competence" refers to the language user's store of schematic knowledge. "Communicative capacity," on the other hand, refers to the ability to make use of the procedures necessary for the accessing of schematic knowledge. In other words, capacity allows for the user to actualize his competence in discourse. Therefore, capacity is not a storage or compilation of linguistic structures but a set of strategies or creative procedures for realizing the value of and actually using those linguistic elements (Widdowson, 1983). Capacity is what allows a language user to effectively deal with new and unspecified circumstances.

Interpretive Procedures

The last of Widdowson's important concepts to be dealt with here is "interpretative procedures." Schemata are activated and engaged in the discourse process through the

use of "intepretative procedures." These are "interactive negotiating activities" (p. 40) which account for the actual functioning of the model of language use. In other words, the learning of language is seen as being like any other learning; it is a matter of relating knowledge which has been gained from past experience to given instances by procedural problem-solving activity. It is a matter of making sense of the new with recourse to the old. Interpretative procedures are "needed to exploit schematic knowledge and bring it to bear on particular instances of discourse" (p. 40).

In more concrete terms, requiring the learner to understand and transfer information from the verbal to the non-verbal mode of communication, or vice versa, is an example of such a procedure. In the case of writing, the learner might be asked to write a set of directions based on a diagram of a process. Such an exercise concentrates on both the process of interpretation and the expression of verbal discourse.

In sum, interpretative procedures are the activities which negotiate meaning in discourse and make it interactive. They are the strategies for interpreting directions and for altering expectations "in light of new evidence as discourse proceeds" (Widdowson, p. 41).

We, as competent users of a language, possess "a capacity for very nimble mental activity in making sense in discourse" (p. 43). In Widdowson's view, capacity, to a greater or lesser degree, is what any language course

should engender in the learner. It is for this reason that Widdowson asserts that exercises involving interpretative procedures be built into the methodology of language materials. They are means to capacity. What is included in the materials should facilitate the learning of procedures for learners to be able to achieve their own aims after the course is over. The task for the ESP course designer is to devise exercises and activities which will exploit both levels of language knowledge (systemic and schematic) in order to extend the learner's ability to include capacity to attain his own (study) purposes.

The Learning Process

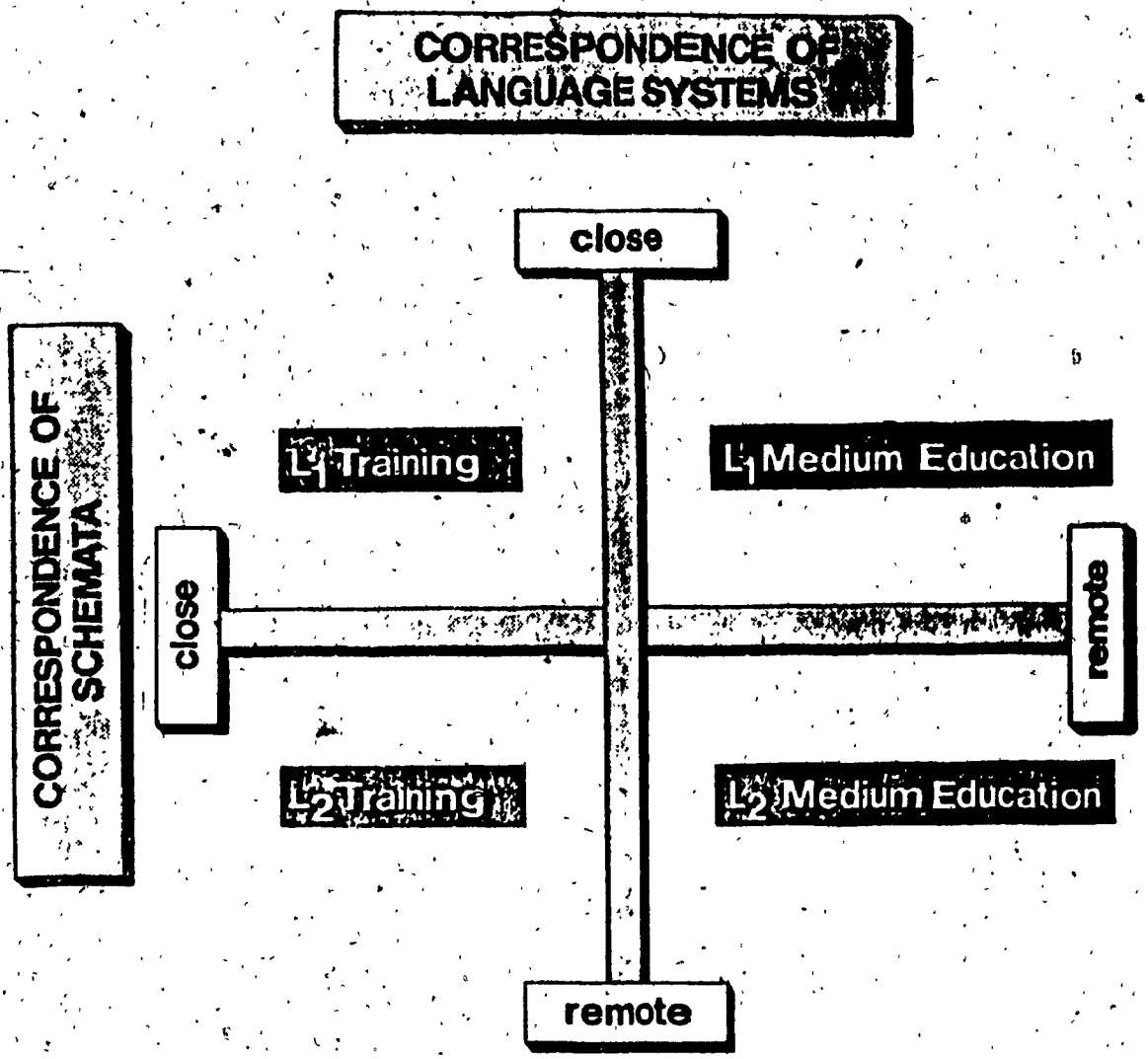
We have seen that Widdowson (1983) views the area of course design as being related to and dependent on a view of the process of language use. He says that his concepts of competence and capacity are not restricted to language alone but are "principles which control all learning and all uses of learning and which underlie human conceptual and perceptual processes in general" (p. 106). From this it follows that the factors or criteria which have to be considered in the design and/or the evaluation of an ESP course derive from principles of learning and pedagogy. If the principles of pedagogy serve as the basis of ESP course design, then "the learning of language for a purpose cannot be dissociated from the other activities that need to be undertaken to achieve that purpose" (Widdowson, 1983, p. 108). ESP is a means for achieving some other

professional or academic goal (formulated in a set of aims with specific learning objectives) and not an end in itself, and must be seen as such.

The Proportion of System and Schema

The proportion and nature of the methodological development of each level of language knowledge depends on the learners' background and linguistic mastery. Mackay (1985) provides an illustration of the possible interactions of the two variables in terms of typical learning situations. In so doing, he has provided a grid with which one can characterize the learning situation and thereby, through a logical analysis, determine the methodology required.

Mackay's (1985) figure shows intersecting axes (see Figure 2). The horizontal axis represents the varying degrees of correspondence between a learner's schemata and his course. The vertical axis represents the varying degrees of correspondence between the learner's linguistic system and his course. The intersection of these two axes gives four quadrants which typify different educational and language training situations. Each quadrant represents varying degrees of correspondence between the learner's schemata and linguistic system and those of the LSP course which he is entering. Thus, a trained professional who is studying his speciality in his L2 will probably share a close correspondence with the course materials and instructor; there will be a close correspondence of



Training and Education in Both L1 and L2 (Mackay, 1985)

Fig. 2

schemata. The correspondence between language or the systemic component will be somewhat more distant but much closer than that of the near beginner who is studying a new subject in his L2. In this latter case, there will be little correspondence on either dimension and consequently more methodological development of the systemic component will be required to get at the schematic level of the course.

The point of this diagram is to illustrate that a clear knowledge of the learner's background in both dimensions is essential in that it determines the choice and extent of the methodological development required. In this context, the nature of the learner's needs, his previously acquired knowledge and current communication skill are all aspects which should be considered starting points in the establishment of course objectives.

Widdowson's model is "as much a plan of action as it is a theoretical framework" (Mackay, 1985, p. 31). His three-part system, with an insistence on informed methodology to bring the "schematic" components into closer correspondence with the "systemic" conventions focuses upon the issues that other evaluative tools gloss over, or ignore.

Engaging the Learner in Authentic Activity

The mainstay of many traditional ESP teaching materials is simplified texts used to provide data for a series of language exercises. Such exercises, usually

trite and mechanical, trivialize language activity by directing the learner to fill in the blanks, to focus on vocabulary, retrieve unimportant details, etc. Such a format makes it difficult for the learner to achieve much more than "usage" of the language; it does not require the learner to engage in procedures which engender "authentic response" (Widdowson, 1978, p. 80). As a result, the learner has little opportunity to use the language he is presented with.

In reaction to this earlier use of contrived, simplified language data, ESL and ESP instructors have more recently turned to the use of authentic materials. There has been a trend toward the use of authentic texts extracted from first language course textbooks, periodicals, radio broadcasts, etc. complimented with genuine communicative activities requiring learners to perform target-like tasks. It has been reasoned that exposure to target-like texts (which are often only partially understood) and involvement in target-like activities provide the necessary conditions for learning the language.

For Widdowson, they may be necessary, but they are not sufficient. Widdowson (1979, 1983) takes issue with this trend not because he disagrees with the use of authentic materials but because he feels that educators have uncritically accepted the need to present authentic data and this has led to "an avoidance of pedagogic responsibility" (Widdowson, 1979, p. 171).

Although this new approach creates a situation where the learner is duly challenged by interesting and relevant material, he is often denied the necessary facilitative means that enable him to perform the given task. Simply, the learner is unable to satisfactorily process language in actual "use".

Widdowson points out that extracts, by definition, are authentic, but if the learner is not able to communicate with the text and to engage himself in activities which allow him to access the material, then the extracts "cannot be said to be authentic instances of use. Genuineness is a characteristic of the passage itself and is an absolute quality. Authenticity is a characteristic of the relationship between the passage and the reader and it has to do with appropriate response" (Widdowson, 1978, p. 80). Davies (1984), Swaffer (1985) and Mountford (1981) express similar views on authenticity.

As such, Widdowson (1983) makes a case for establishing adequate means to achieve the desired ends while still providing opportunities for language use. However, it is not enough to simply draw arbitrarily from the general pool of methodological practices. Not all exercises are authentic in Widdowson's terms. Authenticity is not "a quality ... residing in instances of language but a quality which is bestowed" (Widdowson, 1979, p.).

In Widdowson's view, the learner should be provided with discourse procedures which convert a knowledge of language usage into communicative activity. In other

words, procedural activity is needed to reconcile the two levels of language knowledge: the systemic and the schematic.

Criteria for Evaluating Pedagogic Objectives: Part II of Tool

Introduction

It should be pointed out that Part II is not comprised of conventional evaluation criteria: they are not so much concerned with eventual aims as they are with interim course objectives which are the "pedagogic constructs designed to facilitate learning" (Widdowson, 1983, p. 106). For the evaluator, it is not the product which determines the content but rather the language learning process which determines the content.

Part II of the evaluative tool is designed to focus upon how effectively the exercises reconcile the two dimensions of language knowledge, proposed by Widdowson. The evaluation ultimately asks the evaluator to judge whether the materials have been sufficiently developed methodologically as to allow the learner to engage in actual language use. However, this does not mean that conventional features should be neglected. For example, it is not suggested that linguistic specification of content or text selection criteria be omitted, the emphasis is simply shifted from a focus on text to a focus on exercise.

Although Widdowson (1983) does not provide a taxonomy

of procedural activity or clear guidelines for their production, previous works (1978, 1979) and his L2 learning textbooks provide examples of such activity. The following are the criteria which have been extracted from Widdowson's model and from activites found in course materials based on his writing (1983, 1979, 1978) and other explanatory papers (1981, 1983). Essentially, all the criteria share a common characteristic: each has as its central purpose the engagement of the learner. Widdowson (1983) asserts that in order to process discourse, the user's schemata must be engaged. If the schemata appropriate to a given situation are not engaged the knowledge or experience which they represent will remain abstract and will not be realized as communication. In short, language activity must engage the learner.

PURPOSEFUL ACTIVITY

Widdowson asserts that the learners' interest should be viewed as "an intrinsic part of the language-using process itself, not a state of mind it is desirable to be in so as to make them more receptive to teaching" (Widdowson, 1983, p. 91). If learners see no "reason for achieving meaning ... they will not engage procedures and so will not authenticate the language as discourse at all" (Widdowson, 1983, p .91). Widdowson (1979) argues:

> confronted with a class of physics students wanting to learn English so as to read textbooks in their subject, I might be tempted to select passages

relevant from a whole range of sources on the assumption that I am thereby furthering the communicative purpose for which the learners need the language. But if I exploit these passages for the traditional kind of comprehension question, structure exercise and so on, their authentic potential remains unrealized. I might just as well have selected an extract from the Highway Code or Winnie the Pooh. (p.166)

Such "unthinking" exercises are clearly designed to "implant items of knowledge in the learner's mind and not to develop a capacity for using this knowledge" (Widdowson, 1983, p. 100). Further, these exercises are in no way congruent with the kind of intellectual activity required by learners in the pursuit of special purposes study. The purpose of methodological development is thus to generate problem-solving activity of the kind which is "congruent with the student's specialist preoccupations" (Widdowson, 1983, p. 100) and for which language is needed as a contingency.

5. DO THE EXERCISES INVOLVE THE LEARNER IN MEANINGFUL, PURPOSEFUL ACTIVITY WHICH IS CONGRUENT WITH THE LEARNERS' SPECIAL PURPOSES?

Application

In Part I of the tool the evaluator was asked to determine whether a training or more educational approach is taken. The more training-oriented the program, the more

straightforward the task of providing relevant restricted content. The more educationally-oriented the program, the greater the call for a methodological component and hence, the less emphasis on restricted content. Inherent in such a wide angle approach is the likelihood of the materials being viewed as irrelevant. In other words, students may not be interested in materials unrelated to their discipline because they fail to see how dealing with such materials can develop what they perceive their needs to be, that is, the vocabulary specific to their specialization.

The evaluator's task, particularly when evaluating an educationally-oriented course, is to note whether materials which reflect other areas of specialization are used, and if so, whether they are presented in such a way that they "activate the capacity for language use and learning" required by the target learners (Widdowson, 1983, p. 91). In other words, one is to assess the extent to which these materials include activity which directs the learner to participate in the type of activity needed in order to make sense of the materials and, ultimately, be able to carry out target activity associated with the learners' purposes.

Take for example a group of Kuwaiti policemen who need interviewing strategies so as to be able to collect data on special weaponry and tactics. Presenting them with a video on interviewing procedures, although unrelated to police technology, is a valid pedagogical move. Techniques in

asking and rephrasing questions is representative of their future communicative needs.

In addition to evaluating exercises for their representativeness of communicative abilities sought after, the evaluator should assess the extent to which the methodology makes "appeal to the ... intellectual dispositions of learners" (Widdowson, 1983, pp. 97 8). Thus, one should evaluate the extent to which the target learners will be involved in exercises which are compatible with their intellectual pursuits and capacities.

SCHEMATIC KNOWLEDGE

Schematic knowledge, sometimes referred to as "background knowledge" or "past experience", consists of any number of areas: everyday experiences, areas of previous study, interpersonal relationships and cultural heritage, to mention a few.

Widdowson asserts that exercises should utilize schematic knowledge, as a means toward effecting their end and developing greater long term language processing strategies. A good part of comprehension is achieved by reference to previous knowledge and to "frames of reference" (Widdowson, 1983, p. 54) which the language user has drawn upon from other experiences and learning. Coming to course material "cold" deprives the learner of such contextual clues, and, as a result makes comprehension more difficult. Moreover, the learner is less likely to develop transfer strategies which help him with his language

encounters in unspecified future circumstances.

Activities should aim at exercising "the normal learning strategy of relating new experience to existing conceptual and behavioral patterns" (Widdowson, 1979, p. 75). For example, sentence combination is a useful exercise in the manipulation of logical relationships and structural elements but does not work or cannot be effective if the learner cannot draw upon his backgound knowledge in order to effect the transformation. In other words, it is meaningless unless the learner can assess or verify the truth of the resulting statements by recourse to his knowledge of the area concerned. In keeping with Widdowson's view, Hutchinson & Waters (1982) encourage the use of opportunities for learners to use their own knowledge and abilities to reinforce connections between the new material and the students' "fund of backgound concepts" (p. 110). An important advantage of such an approach is that a teacher can be more confident ~~that the~~ content is firmly based in the student's experience. Moreover, such a contextualization of knowledge has the added advantage of making the target information more meaningful and easier to remember.

6. DO EXERCISES DRAW UPON AND ENGAGE THE LEARNERS' SCHEMATIC KNOWLEDGE?

Application

In evaluating the extent to which the learner's schematic knowledge is drawn upon, the evaluator should note whether the complex of new (and unknown knowledge) to be taught (both schematic and systemic) is presented within a framework of using what the students already know. In other words, activity should serve as a means for allowing the learners to generate/recognize their already existing knowledge so as to aid in contextualizing the new knowledge to be studied. For example, requiring the technical learner to establish which tools might be needed to complete a plumbing task at a strategic point in the learning situation allows him to relate the subject matter to his own knowledge and begin the process of using his abilities and strategies. Additionally, working in thematic units can be effective in building up the learners' background and placing the new knowledge into context. In short, it should be noted whether exercises relate the language to be learned with what the learners already know and whether the exercises use the language for an extension of this knowledge.

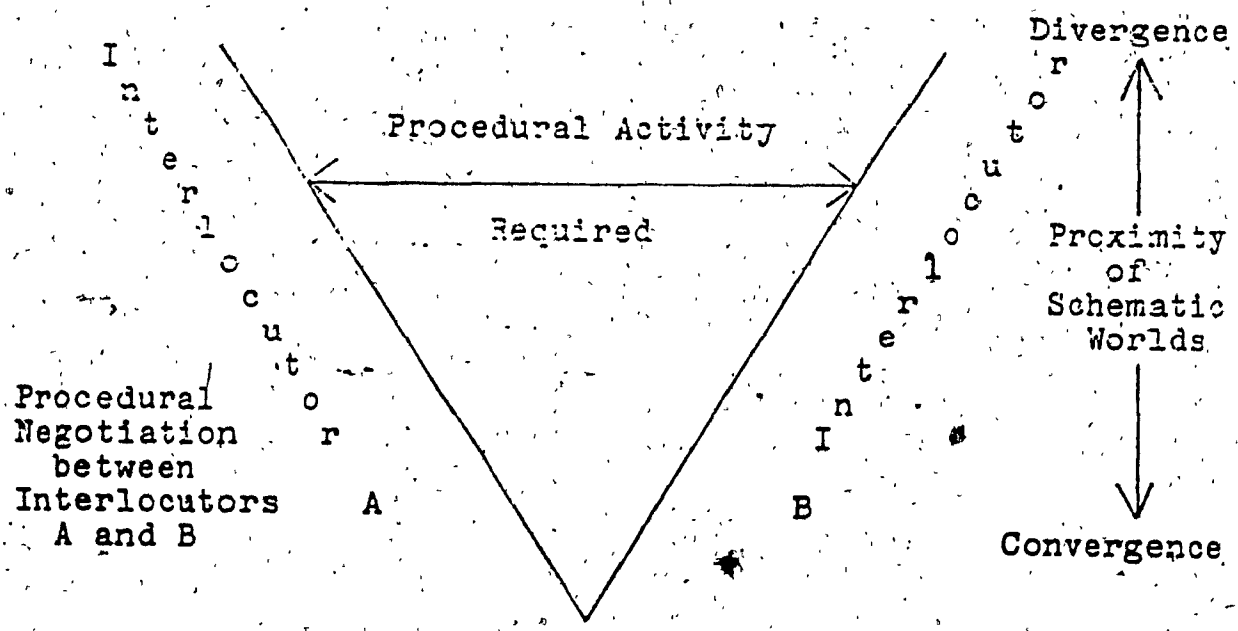
SYSTEMIC MEANS

Widdowson makes a case for the inclusion of a systemic component. According to Widdowson (1983), for the language user:

> All communication depends on the alignment and adjustment of each interlocutor's schemata so that

they are brought into sufficient correspondence for the interlocutors to feel satisfied that they have reached an understanding. (p.40)

MacCormack (1986, p. 113) illustrates that the amount of interactive procedural negotiation required is a function of the convergence of their schematic worlds (see Figure 3).



Procedural Activity in Relation to Schemata (MacCormack, 1986)

Fig. 3

This is especially true and even more important for second language learners because they are also dependent on the compatibility of their respective systemic masteries. Clearly, a program for L2 learners must be concerned with both dimensions, the systemic and the schematic.

What Widdowson stresses is that although the systemic is not executive, it does play an important role. In Widdowson's terms, to realize meaning requires the ability "to draw systemic knowledge into the immediate executive level of schemata and to relate these schemata to actual instances" (Widdowson, 1983, p.106). As such, the systemic conventions provide the learner with the tools with which to reach a schematic fit with his interlocutor. Widdowson further asserts that although the linguistic conventions cannot "figure explicitly in the presentation of language as communication, they have a crucial role to play in the learning of language for communication" (Widdowson, 1983, pp. 30-31).

7. IS THERE SUITABLE EXPLOITATION OF THE LEARNERS' SYSTEMIC NEEDS? ARE THE STRUCTURE EXERCISES MEANS TO COMMUNICATIVE ENDS?

Application

The evaluator's task is to decide whether the kinds of linguistic means which are required to successfully complete the task are incorporated into the material. In other words, one need assess whether those linguistic skills demanded to carry out tasks are present and exercised and whether they are "an intrinsic feature of the communicative abilities" sought after. These means should have been selected on the basis of their usefulness, and according to the students needs and proficiencies. Such items may be purely structural, functional, rhetorical or a

combination thereof. For example, a unit on the preparation of lab reports could include instruction and practice in use of the passive voice. And, analysis of sample lab reports for the use of relative clauses in classification would be relevant activity. Nowhere does Widdowson insist that all activity be models of real-life tasks. In fact, if the exercises serve a useful purpose, that is, if they are means toward developing an authentic end, they are then, steps toward authentic activity; they are part of the methodology required in the learning situation.

DISCOURSE

From Widdowson's discussions (1978, 1979) of "text" vs. "discourse" and "cohesion" vs. "coherence" comes a justification for the creation of exercises which encourage language use. For Widdowson, the grammatical relations which work together to form "sentences" constitute "text" while the way in which "utterances" express meaning in communicative contexts constitute "discourse". The ability to process language at the sentence level involves an understanding of grammar, while the ability to process language at the utterance level involves the capacity for communication. Widdowson points out that using the language involves the use of sentences to express utterances but that "they do not occur in isolation: they combine to form discourse" (1978, p. 52). Further, Widdowson claims that a knowledge of how the language

functions in communication does not necessarily follow from a knowledge of sentences.

The distinction Widdowson makes between "coherence" and "cohesion" offers further justification for exercises operating at the level of discourse.

> Whereas cohesion ... has to do with the way propositions are linked together by a variety of structural operations to form texts, coherence has to do with the illocutionary function of these propositions, with how they are used to create different kinds of discourse: reports, descriptions, explanations, and so on. (1978, p. 52)

The connections between propositions are frequently signaled by sentence connectors such as "however", "thus", "because", etc. Widdowson's point in making the distinction between cohesion and coherence is that "these expressions operate as indices of schematic structure" (Widdowson, 1983, p. 73) and as such, help make discourse more easily interpretable. However, because they are not always present, the task for the language learner is not only to identify cohesive devices but also to interpret the illocutionary forces or utterences they connect. According to Widdowson, exercises which focus on coherence and discourse are essential in order to involve the learner in language use.

8. DO EXERCISES REQUIRE THE LEARNER TO OPERATE AT THE LEVEL OF DISCOURSE?

Application

The evaluator's task is to assess whether the exercises operate at the discourse level. In other words, discourse should serve as a reference point for the exercises. Widdowson suggests that teaching units be "organized as moves from one instance of discourse to another" (Widdowson, 1978, p. 146). The learner's progress through the material is "cyclical"; the exploration of the first instance (eg. reading a text) has at the same time the function of preparing the learner for his interaction with/production of the second (eg. transferring textual information to a table). The function of the exercise is "to mediate this shift" (Widdowson, 1978, p. 146) in discourse.

For example, a discourse activity might include a series of exercises designed to reinforce the use of anaphoric devices in writing a cohesive text. A possible first exercise would be rearranging a jumbled list of sentences according to a diagram. A second task would involve combining an expanded list of sentences according to specific directives. It is at this point that specific anaphoric references would be substituted for key, repetitous words. This could be followed by a cloze which would demonstrate a correct model. After explanations of anaphoric reference and perhaps an exercise which requires underlining every anaphoric device in the passage and its antecedent, the students would finally be given a diagram of another sort with which they would be asked to produce a

short paragraph using anaphoric references where possible.

In sum, it should be assessed whether the materials include exercises which link together and logically flow with respect to genuine discourse and not whose link is a particular theme, grammatical point or function. The materials are not only to be assessed in terms of theme, or grammatical point or function, but more importantly, in terms of how well the exercises link the discourse. It is to be understood that in a learning situation where the unifying link is only a grammatical feature, each exercise may have its own internal coherence but is decontextualized in relation to the greater whole. In sum, the materials are to be evaluated with respect to whether there is an overlapping of discourse activity so that each exercise is set up in response to some discourse feature of a previous activity providing organized moves in processing discourse.

INTERNAL PROCESSES

Widdowson stresses that the materials should include exercises which make overt what goes on in the mind in the process of decoding. Inference and prediction exercises are examples of such exercises. The learner is made aware of internal strategies, which, if developed, are aids to comprehension.

Widdowson (1983), referring back to his previous work (1978), stresses that comprehension exercises, for example, should not distract the learner from internal processing strategies. For instance, teachers insisting on complete

sentences in response to wh- and yes/no questions draws the focus away from comprehension and places it on production. This distracts the learner from the natural heuristic processes that go on in the mind when decoding. Comprehension question types "should not strive to simulate any kind of normal social interaction ... or require him to provide anything like a natural overt response" (p. 98). This only serves to emphasize the artificiality. Widdowson further exemplifies this assertion by stating that although multiple-choice questions are preferable to wh- and yes/no questions, they are not ideal either. They are likely to distract the learner from his reading of the passage by focussing his attention on the response options whose differences are likely to be slight, making the whole process all the more distracting.

9. DO EXERCISES TAP THE INTERNAL PROCESSES BY WHICH THE LEARNER ACHIEVES UNDERSTANDING?

Application

The evaluator should evaluate the extent to which the methodological development includes a concern not only for the demonstration of the learners' understanding but, more importantly, for the process by which he arrives at understanding. As mentioned above, predicting and inferencing are strategies which are normally used in decoding. Widdowson would include other exercises; for example, learners should be encouraged to work out the meanings of unfamiliar words wherever possible. Exposure

to techniques for guessing words from context will develop useful strategies for coping with later unfamiliar words. Other exercise types which meet such a criterion are contextual reference and correcting false statements, etc. Exercises which make overt the normal decoding process without unnecessary distractions fulfill this criterion.

In addition, it should be noted whether there are explanations provided which make the learner aware that he is being encouraged to use his skills and abilities which he uses in processing his native language, for example, previewing a text to get a global picture of what is to be read.

FULFILLING COURSE AIMS

As has been clear throughout this discussion, the primary focus of this evaluative tool is to establish whether the exercise activity is appropriate for projecting the learners toward fulfilling special purposes aims.

10. DO THE PEDAGOGIC OBJECTIVES (I.E., EXERCISES) FULFILL THE COURSE AIMS?

Application

A consideration of the nine criteria discussed above will involve the evaluator in many judgements. This process is by no means a mechanical one. After examining the materials from the perspective set forth, one should arrive at an overall assessment of the pedagogic objectives. Essentially, one is trying to establish to

what extent the learning situation set up in the given materials is appropriate for achieving the aims of the course. Certainly, too wide a discrepancy should caution the evaluator in a decision to adopt the set of materials. On the other hand, an expectation of a 'perfect fit' is unrealistic. A preparedness to adapt existing material, however, is more realistic. In sum, working through the nine criteria, which do overlap to some degree, should aid the the evaluator in his/her decision as to whether the objectives are successful in achieving the course aims.

TOOL AT A GLANCE

PART I OF TOOL:

1. Are the course aims clearly stated? If yes, what are they? If the aims are not specified, can the aims be extrapolated from the course materials?
2. With the aims arrived at in question one, where on the scale of specificty does the course belong?
3. Has the author accurately specified the target population (for whom the course materials were written) and its aims? If no, describe your perceptions of the target population and its aims?
4. Are the course aims appropriate for your target population?

PART II OF TOOL;

5. Do the exercises involve the learner in meaningful, purposeful activity which is congruent with the learners' special purposes?
6. Do the exercises draw upon and engage the learners' schematic knowledge?
7. Is there suitable exploitation of the learners' systemic needs? Are the structure exercises means to communicative ends?
8. Do exercises require the learner to operate at the level of discourse?
9. Do exercises tap the internal processes by which the learner achieves understanding?
10. Do the pedagogic objectives (i.e., exercises) fulfill the course aims?

Chapter 3

APPLICATION OF TOOL

Introduction

In chapter 3, I will use the instrument created in chapter 2 to evaluate The Barren Ground Caribou Program. Essentially, I will be using these materials as a sample on which the tool and the use of Widdowson's framework will be tested. To this end, I will systematically apply the main tenets of the framework, embodied in this tentative instrument, to selected features of the program. I will report the findings of this application and discuss the strengths and weaknesses of the program in light of the evaluative framework.

Specifically, the program aims will be examined using Part I of the tool. Subsequently, the course objectives will be examined with respect to their methodological development using Part II of the tool.

1. ARE THE COURSE AIMS CLEARLY STATED? IF YES, WHAT ARE THEY? IF THE AIMS ARE NOT SPECIFIED, CAN THE AIMS BE EXTRAPOLATED FROM THE COURSE MATERIALS?

2. WITH THE AIMS ARRIVED AT IN QUESTION ONE, WHERE ON THE SCALE OF SPECIFICITY DOES THE COURSE BELONG?

In the program guide it is clearly indicated that the BGCP is a course of instruction designed to meet the needs of native children in English-medium instruction. The program is intended to supplement the existing school

curriculum by providing contextually-relevant, motivating content while expanding language proficiency. Given the nature of the region and its reliance on the caribou, the program is designed to prepare children to understand what is known about the caribou and what needs to be known so as to involve the children in the issues of caribou management during their adult lives.

The course aims, extracted from the teacher's manual (see excerpt in Evidence below), emphasize a concern with general educational values, that is, English-medium of instruction goals of expanding language proficiency within the content area. As such, this program falls on the education end of Widdowson's scale of specificity.

Evidence:

> The Barren Ground Caribou Schools Program aims to prepare children to take a well-informed, articulate and constructive role in the issue of caribou management during their adult lives. This will be achieved by providing a thorough exposition of the facts as reflected by all the groups concerned and providing ample opportunities for developing skills (intellectual and practical) with which to deal with the issue. The program will support current educational ideology in seeing that children are stretched to acquire lively, enquiring minds, with the ability to question and argue rationally, to discriminate and to develop the ability to understand and sympathize with other peoples' viewpoints and

attitudes. (p. 2)

3. HAS THE AUTHOR ACCURATELY SPECIFIED THE TARGET POPULATION (FOR WHOM THE COURSE MATERIALS WERE WRITTEN) AND ITS AIMS? IF NO, DESCRIBE YOUR PERCEPTIONS OF THE TARGET POPULATION AND ITS AIMS.

This program was created specifically by educators for children (aged 9-15) whose communities fall within the area where the Beverly and Kaminuriak caribou herds graze: the northern regions of Manitoba and Saskatchewan and the south-central region of the Northwest Territories. The children are largely non native speakers (NNS) and the program is used as part of their English-medium instruction.

Evidence:

it is being offered to schools in the Northwest Territories, Saskatchewan and Manitoba, ... in a number of community schools almost all of which face a variety of different situations ... and (most important of all) [which] have as students children from different ethnic groups whose backgrounds and experiences differ widely from each other's. (p.4)

the general needs of students in Grades 4 to 9 were kept in mind. (p. 5)

4. ARE THE COURSE AIMS APPROPRIATE FOR THE TARGET POPULATION?

Yes. The stated aims reflect the eductionally-

oriented needs suitable for children in English-medium instruction.

PART II

5. DO THE EXERCISES INVOLVE THE LEARNER IN MEANINGFUL, PURPOSEFUL ACTIVITY WHICH IS CONGRUENT WITH THE LEARNERS' SPECIAL PURPOSES?

For the most part, the exercises do not involve the learner in meaningful, purposeful activity. Examination of the BGCP reveals a disparity between the texts and tasks. A look at the text reveals linguistically complex and relevant content which can be recognized as genuine treatments of the issues involved in caribou management. However, while the exercises themselves may not be entirely without interest for the learner, they do not direct him to become involved in the process of making sense of discourse or in the type of activity which will facilitate language mastery so as to be able to fulfill his/her need as a learner in an English instruction medium. Simply, the materials are lacking the necessary procedures and activities to allow the learner to engage with the materials so as to gain the desired ends.

In order to illustrate this discrepancy, I will briefly discuss the first two 45-minute lessons which will serve to contextualize lesson three, the first lesson which contains formal exercises. This discussion on meaningful activity is based, in part, on a paper given as a plenary address at an LSP congress in Belgium by Mackay (1985).

Evidence:

As an introduction and before any preparatory instruction, a videotape presenting the general theme of the unit (the Barren Ground Caribou) is played to the students. The purpose of the video presentation is to contextualize the issues and ideas for subsequent related classroom activities.

The videotape is of the talking-head variety. The text of the videotape contains about 2,000 words comprising eight monologues ranging in complexity and style. For example, a biologist is talking:

> the caribou utilizes a large amount of shrubs, mostly willows - pulls the leaves off them. But they utilize a fair amount of lichen in the summer. Then in winter roughly 60% of their diet is lichen that grow on the ground and the rest is made up of needles of fir and spruce, and jack pine. They may take those in when they are trying to get to the lichens, so it may be not an intentional diet. (Teacher's Guide, p. 25)

Suggestions on how to exploit this linguistically and conceptually complex videotape are: "show the videotape, leaving 10 minutes at the end for a summary to consolidate main points" (p.2). No directives are given as to what the consolidation procedures should be, what those main points are, or how to best go about effecting such a discussion. (A more in-depth treatment of the videotape appears in the evidence section of question 6, which follows.)

Lesson two involves the students in viewing 12 slides while listening to a text which the teacher reads aloud. These texts vary in length from between 120-220 words. The first slide is a diagram representing five animal groups. The accompanying text (see Appendix A) which is both formal and technical, is from the Teacher's guide (p. 12).

It is suggested that two to three minutes be allotted per slide. After showing the 12 sliges in 35 minutes and reading aloud 12 texts, totalling approximately 1800 words, it is again recommended that the teacher spend the last few minutes on "a summary discussion to consolidate main points" (p. 11). This time, the methodology specified is that the summarizing discussion "could be general questions based on commentary" accompanying the slides. Such a lack of guiding and principled methodological development is representative of the BGCP materials. (See other similarily vague directives in Appendix B.).

In the first ten minutes of lesson three, the teacher is asked to summarize the main points from the text. (for the teacher only -- see Appendix C) with the aid of a wall poster as a visual aid. -- For the remainder of the class, roughly 35 minutes, the students are to work through the exercises which are provided (see Appendix D). The discrepancy between the linguistic complexity of the language in the first two lessons and the tasks of lesson three is apparent. The exercises are, for the most part, examples of trite, time-consuming activity which has little to do with what constitutes English-medium instruction.

Students who may have become motivated and interested in the relevance and conceptual content of the text may find the subsequent activity unchallenging and contributing little to their real needs.

Finally, an eight-page "information digest" is included as material available for the student (see Appendix E). The 2000-word text explains the development and evolution of mammals over a 60 million year period. Concepts and terminology included in this treatment are:

-Miocene and Pliocene Epochs
-dominant species
-monotremes
-the process of natural selection
-gestation period, etc.

The inclusion of this information digest is, as we are told in the teacher's guide, "to support an extended exploitation of a particular type" (p. v). How this is used and exploited is left up to the individual teacher. It is this lack of methodology, that is, directives for material use which is the focus of this application.

A turn to other lessons reveals purposeful text complimented by similar unchallenging, and often trite, mechanistic activity. They are simply exercises serving vocabulary learning and mastery of factual information contained in the texts. Appendix F includes many extracts which are illustrative of such un-engaging activities in the program. The examples provided above present an objective portrayal of the discrepancy in the materials of the BGCP. It is clear to see that the exercises as they are presented, without other compliment procedural activity

are plainly too simple, have little if any relation to the intellectual capacity of the target purposes of the learners and in effect, test the learners competence rather than develop it.

6. DO EXERCISES DRAW UPON AND ENGAGE LEARNERS' SCHEMATIC KNOWLEDGE?

The overall presentation of the BGCP materials reveals a concern for the engagement of the learners' schemata -- presenting frames of reference linked to caribou management. However, this concern is only superficially exploited through the texts, in the sequencing and use of video. Whereas it is virtually non-existant in the exercises.

Evidence:

Generally speaking, the BGCP is of obvious relevance to the immediate geography of the learners' local situation and to their cultural backgound. Such a contextualization serves as a starting point for which unfamiliar events and concepts can be more readily accomodated by the learner. More specifically, for example, the thematic organization, thoughtfully sequenced, is helpful in contextualizing the subject matter. Sequencing factual information -- the process of rutting precedes the process of calving (which is the normal order in the caribou life cycle) -- enables the learner to better understand such process-oriented content. What is presented and sequenced as new and

familiar, then, has the greater potential of being incorporated into the learners' schematic structure of knowledge. As such, the process of bringing what is referred to within the bounds of what is familiar can be better effected.

Additionally, as briefly discussed earlier, a videotape is provided; the use of a videotape as a starting point (as is the case with the BGCP) is a sound pedagogical move for contextualizing what is to come. Essentially, it should provide the learners (and for that matter, the teacher) with a common frame of reference to which all can relate. However, the video program used in the BGCP is one which presents fixed shot close-ups of the heads and shoulders of hunters, biologists or conservationists talking about caribou processes and related activity. The only visual context provided is brief shots of sunsets and snow-laden trees interspersed throughout the presentation. In effect, the tape is an auxiliary feature of the materials providing little in the way of a visual dimension to the context of the situation. It is ineffective as a means of providing and/or building up background knowledge; it does little to ease the learner through linguistic difficulty.

In the same critical vein, although more important, there is no concerted attempt made to engage the learners' schemata through problem-solving exercises or activities. The methodology consists of short, non-directive comments informing the teacher to "offer information and answer

questions", "discuss what they see in the slides", and to "take turns to read aloud", etc. Student directives are as curt and directionless: "Work thorugh activities A and B with reference to documentation sheets"; "Work alone or in groups to complete activity sheets"; "Consolidate main points through discussion", etc. There are no preliminary strategy-oriented exercises, for example, exercises which build up vocabulary through collocation of pertinent lexical items, nor are there predictive, pre-reading exercises which generate expectations about what is to come. Furthermore, little accomodation is made for the learner who comes to the task "cold" and takes on the task under his own steam.

It is noted in the teacher's guide that the target population is from "different ethnic groups whose backgrounds and experiences differ widely from each other's" (p.4). Although there is this acknowledgement, there is little attempt to ensure that content is firmly based on the learners' experience or that they have even reached an understanding. In other words, the BGCP materials do not directly address the issue of the learners' divergent schematic worlds. Consciously devised activities, where the learners are encouraged to use their own knowledge and abilities to make connections between the new language and material and their own background knowledge, are lacking. An exception to the rule is Lesson IA5, in which learners, referring to a map of the

caribou range territory, are asked to draw upon their knowledge of local geography in answering several caribou related questions (see Appendix G). This lesson illustrates the type of exercise which allows an opportunity for learners to reconcile given schemata and graphic information (of which there is little), for example. In other words, the learners are drawn into the task by what they already know and are in a position to place the new knowledge into context. All in all, however, there are very few activities which fulfill this specification.

In general, the BGCP texts can be viewed as representing special purposes schemata; they illustrate a variety of frames of reference linked to caribou management. But, unless the problem solving means by which schemata can be engaged are provided, one is not working at the schematic level; rather texts are used to illustrate formal items of usage. As such, the exercises do not engage and utilize the learners' schemata

7. IS THERE SUITABLE EXPLOITATION OF THE LEARNERS' SYSTEMIC NEEDS? ARE THE EXERCISES MEANS TO COMMUNICATIVE ENDS?

The BGCP materials have been designed to impart caribou-related subject matter through the medium of English instruction. Throughout the materials, however, there is little acknowledgement of the learner having to cope with both <u>language</u> and <u>content</u>.

Evidence:

The texts are genuine; the concepts presented are sound. However, the linguistic level of the texts is both difficult and technical. An acknowledgement of concern for linguistic complexity can be found in the teacher's guide suggesting that commentaries and documentation sheets (see Appendix H) be adapted to individual levels of students depending on their proficiency, but the onus to simplify and/or modify such texts is left up to the individual teacher. Otherwise, there is little provision for ensuring that the language resources presented sustain the learners' schemata. The learners in this case are denied the language knowledge that enables them to do what is or what ultimately will be required by a task. In other words, there are few exercises/activities provided which make the texts accessible, which allow the learner to not only recall information (on which great value is placed) but which also allow the learner to become an instrument of his own education through the medium of English.

The series of exercises following the texts (already cited -- see Appendices D and F) primarily focus on vocabulary items essential to caribou management; without mastery of such items, the schemata and frames of reference associated with them might be incorrectly assimilated. However, the exercises are essentially presented as ends and not as means. The vocabulary items are not then used to achieve the communicative abilities sought after in the aims; instead they merely illustrate usage of some formal

items in the linguistic system.

8. DO EXERCISES REQUIRE THE LEARNER TO OPERATE AT THE LEVEL OF DISCOURSE?

The BGCP text materials, as we have seen, are presented in realistic contexts and in connection with representative cultural traditions. However, although whole units of language are presented via the texts, the exercises themselves account for why language activity is levelled at the usage and/or sentence level.

Evidence:

The exercises are decontextualized, that is, they present bits of language which are cut off from the natural circumstances of their use. The exercises/activities are simply a means for formally exploiting vocabulary items (of which we have seen many) and are not geared toward encouraging use of such linguistic knowledge to create discourse. In other words, the exercises separate out items isolated from the communicative process and as such provide little opportunity for interaction with and/or production of actual discourse. Furthermore, there is no overlapping of activity; each exercise, although having its own internal context, provides no sense of continuity or progression in the discourse process. Lesson IA4, What Caribou Eat (see Appendix I) illustrates a typical learning situation. The core of the lesson is a text explaining what caribou eat. The three exercises which follow are: a vocabulary matching exercise, a draw-and-color activity and

a fill-in-the-blank exercise. Although related by topic, the exercises provide little more than a collection of loosely unified exercises. They are not only decontextualized in relation to the greater whole, but also there is little logical progression or reason for the learner to move on.

9. DO EXERCISES TAP THE INTERNAL PROCESSES BY WHICH THE LEARNER ACHIEVES UNDERSTANDING?

There are few exercises which make overt the normal decoding process. For example, the vocabulary exercises give little if no directives which help the learner to use context clues in vocabulary building. No such strategy-like activity is encouraged. Furthermore, there are no language learning related explanations informing the learner as to the relevance of the activity. In fact, there is little acknowledgement of the fact that they are non native learners. In sum, exercises emphasize a concern for demonstrating recall of content, that is, test-like activity. There is no overt acknowledgement of a concern for the learners language learning/processing abilities.

10. DO THE PEDAGOGIC OBJECTIVES (I.E., EXERCISES) FULFILL THE COURSE AIMS?

As has been evident throughout this evaluation of the BGCP materials, the pedagogic objectives fail to fulfill the educationally-oriented aims set for the program. The program promotes, through the use of simple, random and

often purposeless activity, little of what constitutes preparation for English-medium instruction. Instead, extensive caribou-related vocabulary and content is focused upon throughout the materials. As such, it resembles a narrow-purposes training program. It is this lack of methodological development, that is, the lack of principled, purposeful and consciously-devised exercise activity which may account responsible for the learners not being able to achieve academic success in an English-medium instructional setting.

There is no doubt that the program has merit. However, given a rejection of the pedagogical objectives as a means for projecting learners toward the desired aims, a revision of pedagogy is necessary in order to have a more effective program.

SUMMARY OF FINDINGS

In applying Widdowson's tenets, now embodied in an evaluative instrument, it was arrived at that the pedagogical objectives in the BGCP fail to meet the aims specified by the course designers. Nevertheless, there is strength in the materials. This strength lies in the use of texts with a significantly rich systemic and schematic content. There are 21 units organized according to schematic frames of reference relevant to caribou life and management. Examples of this schematic diversity can be seen in the following examples:

- caribou grazing
- caribou life cycle
- calving grounds
- caribou biology

Although the range of topics, related specifically to caribou, are conceptually and thematically appropriate, there is little principled methodology which encourages an appropriate sequence of procedural activity so as to allow the learner to access the English medium instructional material for his own purposes. In short, the learner is not encouraged to engage in purposeful activity and therefore has little opportunity to 'use' language toward attaining special purposes.

Chapter 4

The general question that this thesis has addressed is: How can an ESP teacher determine the usefulness of a given set of ESP materials in helping to achieve the goals set for the students?

Widdowson's framework, although intended for use in ESP course design, has been offered as the central construct in addressing this question. The proposal to use a framework for course design as a framework for evaluation has arisen because a review of the literature revealed no appropriate evaluative tools. A review of the ESP literature revealed that for the most part, ESP evaluation is equated with testing (Robinson, 1980) and more global aspects of programs (Long, 1984). A turn to the GPE literature revealed frameworks seldom based on principled assumptions, but rather based on language description and needs analyses (Cunningsworth, 1984; Harmer, 1983; Williams, 1983). And finally, L1 frameworks were inadequate because they do not acknowledge the language component per se. As such, it was necessary to return to the ESP literature to propose the use of Widdowson's (1983) model for course design.

In chapter 2, a tentative tool comprised of ten criteria was arrived at. The tenets of Widdowson's framework are embodied in this tool.

In chapter 3, the tool was applied to a Canadian set of non-native speaker materials, the Barren Ground

Caribou Program and the strengths and weaknesses of the program were discussed in light of the use of the tool. However, the ultimate purpose of this application is to assess the evaluative instrument itself.

In chapter 4, a more specific question is addressed: How useful is Widdowson's framework as a guide for the assessment, selection and/or revision of non native speaker materials?

On the basis of the application to the BGCP, it was found that the tool has both strengths and weaknesses. First, I will focus upon what is offered in the tool that makes it qualitatively different from other tools. Despite the weaknesses, it will be argued that this tool focuses on evaluative considerations which are not only relevant but long overdue. Secondly, the tool's shortcomings will be discussed. Specifically, I will discuss what the evaluative tool does not provide. Because the tool is based exclusively on Widdowson's model for course design and focusses on exercise activity and methodology only, it does not address certain issues which an ESP evaluative instrument should address. In other words, this analysis will conclude that the shortcomings of the tool proposed are actually gaps and not problems inherent in the framework.

Widdowson's Framework is Suited to Course Evaluation

The ultimate task in any form of material evaluation is to establish whether the language teaching objectives

(defined herein as "language used for communication") project the learner toward the course aims (defined as "language used as communication"). One has to understand the difference, and one also has to understand that whatever the objectives are, they are going to be more or less contrived. This is a function of the formal classroom setting. Most importantly then, what this model-cum-tool provides is the means with which an evaluator can determine the effectiveness of a given set of materials to achieve the natural ends set for the learners.

The major premise of the tool is that it is through the realignment of methodology, "[the] set of activities designed to develop the procedural problem solving capacity of learners" (Widdowson, 1983, p. 107), that course objectives can more effectively achieve the natural end of coping with real life subsequently.

The Strengths of the Scale of Specificity

As a starting point, the evaluator establishes the extent to which the aims of the course should be reflected in the interim objectives. Although there is no precise way of determining such specificity (as one would expect from a scale of measurement), it is nevertheless a valuable concept/device. This feature has strength in that it allows the evaluator to judge the kind of and extent to which methodological development is required to fulfill the course aims.

Turning to the application of the tool to the BGCP

materials, there is no question that the placement of the course on the scale is toward the education extreme, since the aims of the program are stated as educational. The value of the tool is that in answering the questions (Part I) the evaluator becomes cognizant of the greater need for emphasis on educationally oriented objectives. This is the strength of the tool.

How it translates into practice in other situations is also essentially straightforward. The difficulty which may arise when applying the tool is where exactly a course of instruction will be placed between the two extremes of training and education. However, according to Widdowson and therefore according to this tool, it is not that important to delineate exactly where on the scale a course falls but rather to understand the emphasis required to fulfill the course aims. As such, a course whose purpose is training will focus on far more discrete language and tasks associated with the special purposes but will need to make allowances for and provide an education element. The situation where a learner needs only rote routines and formulaic expressions is rare and for this reason Widdowson (1983) claims that "capacity ... to solve problems and equivalently, to make meanings" (p. 106) should be developed in any course.

Three-Part System

Traditionally, in ESP materials, there has been a focus on providing input so as to be able to exploit

grammatical structures through the use of language exercises. When ESP materials have not adhered to such a language-oriented model, they have adopted a content-plus-task framework, in a sense, relinquishing the focus on structure. Despite what has been heralded as a more L1-like acquisition setting, the content/task-based model is no more creative than the language-based model (Hutchinson & Waters, 1982). The two models fail to reconcile the three elements involved: content, language conventions and tasks. (As is discussed in Hutchinson & Waters, content and language are similarly treated separately for the sake of this discussion.)

Widdowson (1983) acknowledges this three-part system and attempts to bring the content (schemata) element into closer correspondence with the language (system) component through the use of informed methodology (procedural tasks). The concept of methodology as viewed by Widdowson (1983) is the crux of the model-cum-tool.

A Focus on Methodology

What the tool offers is a greater concern with bringing the learners' schematic and systemic components into closer correspondence through the use of special purposes methodology. Widdowson's approach to staging in course design is in direct contrast with the traditional approach of syllabus-content specification. This focus on the methodology (used to carry out course aims) is a welcomed, more holistic approach to the process of language

development. It necessitates a reversal in the degree of dependence on language specification and presentation, and the degree of dependence on methodology. This reversal has strength in that a focus on the methodology in the initial staging of the course design process establishes as a priority a set of activities which provides opportunities for learners to make connections between expression (system) and actual meaning (schemata). Through this involvement in and use of the special purposes language, learners can be brought closer to the ideal -- where they are capable of functioning autonomously within their chosen sphere. Thus, developing capacity is seen as an essential part of the learning process, and in this schema, it is built in from the beginning. In that the tool focuses the evaluator's attention on the extent to which this is done, it is effective. Widdowson's argument of "use" is very convincing. Not only does it allow the learner to explore strategy-building techniques within the parameters set, but also it allows the teacher to better understand and diagnose learner interlanguage. As such, it is not only motivating, in that it provides return for the learner's effort in such activity but it is also pedagogically sound.

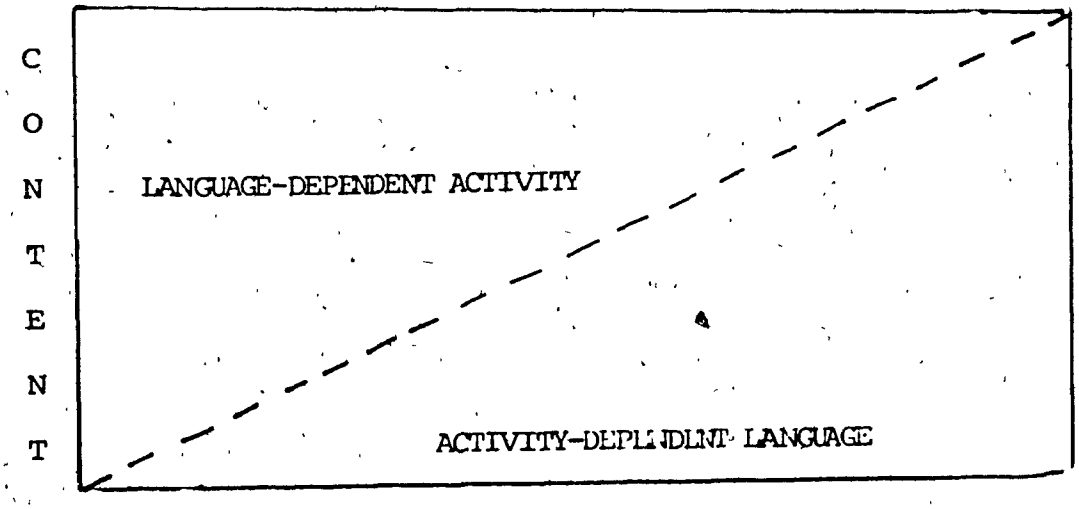
The Role of System Clarified

The problem is that this new stance is frequently viewed as too radical (Swan, 1985). In addition, Widdowson's writing is frequently quite difficult to interpret and this exacerbates the problem (MacCormack,

1986). In particular, the role of system, defined as having a less than executive role, is a confusing issue. My contention is that the approach is not that radically different and that the role of system can be stated quite simply. I think that Widdowson downplays the importance of system so as to emphasize the role of schemata in language use. However, at the same time, he does stress the importance of the systemic component. (Although system does not play an executive role, it does play an important one). Because the case is frequently overstated, this very fundamental point tends to be obscured. Partial responsibility for this confusion is Widdowson's style and the difficulty with which he is read. To illustrate, Widdowson states that "capacity depends on, even if it is not determined by, a knowledge of the rules" (Widdowson, 1983, p.58). In the same text, Widdowson claims that systemic knowledge "is not directly engaged" in language use. Now which is it? MacCormack (1986) puts it succinctly: "The picture which emerges is a sometimes paradoxical one in which language use is portrayed as being contingent upon but not bound by linguistic competence" (p. 195). The fact remains that the specification of the degree to which system is relied upon is not adequately dealt with by Widdowson and as such needs clarification. I believe, however, that this important issue is rendered clearer and simpler in the tool.

The reversal in the staging of the course design process (where the methodological component becomes

superordinate), is a reflection of the reversal in Widdowson's model, and this helps to clarify the issue of specification of degree. Just as in his model Widdowson proposes that language use be dependent on procedural activity, so system is contingent on schema in the model. But this is not to say that system does not play an important role. Before the ESP learner can be brought to engage in appropriate special-purpose activity, he must be prepared for appropriate activity with exposure to prerequisite language. The differing degrees of focus on language and focus on activity can be seen changing over time (see figure 4). Although the end sought is to get at language through appropriate activity, the means involve getting at activity through appropriate language. Thus, the reversal is not as radical as it seems. (This can be viewed in conjunction with the logical analysis proposed by Mackay (1985)).



Differing Degrees of Focus on Language and Focus on Activity Changing over Time in Widdowson's View (1983)

Fig. 4

What the Tool Does Not Offer

In sum, what Widdowson's framework has offered is a new focus for ESP syllabus design and evaluation. What it offers is an informed perspective on important issues of ESP aims and objectives. It is principally concerned with setting up a learning situation which prepares learners to cope with unforeseen future situations. What the tool offers is an extremely valuable perspective on ESP course design and evaluation. In other words, what it does, it does well. Its weakness lies in what it does not attempt to do. It has gaps.

There are a number of aspects of evaluation which this tool neglects dealing with. As a function of being based exclusively on informed methodology, the tool does not deal with other, more practical aspects of evaluation. First, depending on how comprehensive a given course is, an evaluative tool should take into account whether a variety of media and/or support materials are incorporated into the syllabus. Generally speaking, a balance between visual material and written text, for example, should be struck. An evaluator should consider the range and variety of course materials and whether there are any serious omissions.

Similarily, the tool presented does not take into account whether means are provided for developing the appropriate language skills: listening, speaking, reading and writing. In addition to ensuring that the appropriate skills figure in the program, care should be taken to

ensure that they are properly integrated.

More importantly, criteria for evaluating text itself are lacking. A comprehensive evaluative instrument should have guidelines for the appraisal of the appropriateness of texts selected for inclusion. Guidelines as to length, rhetoric, complexity and content are lacking in this tool.

What is also clearly missing is the means for assessment of the testing procedures provided for in the course materials, if any. This is an obvious omission. This and other aspects mentioned above are all aspects of evaluation which would round out the tool.

Finally, overall, the tool is too general. In some cases, the questions are still opaque and require being carried one step further; i.e., the questions need to be broken down into more discrete questions that help to better address each of the main issues.

However, although this instrument has shortcomings, the issues which are dealt with are crucial. Widdowson's framework, now embodied in this instrument, makes it the only evaluative framework that gets at these issues.

Additionally and most importantly, this framework for evaluation is equally applicable to other areas of second language teaching. The principles which govern its design are issues which are important in any area which seeks to equip learners not only with a knowledge of the language, but also with the capacity to use it. These principles are relevant to and valid for second language teaching in general. This is its greatest strength.

REFERENCES

Alderson, J. C. (Ed.). (1985). Evaluation. Lancaster Practical Papers in English Language Education, 5.

Alderson, J. C., & Waters, A. (1983). A course in testing and evaluation for ESP teachers or "How bad were my tests?" Lancaster Practical Papers in English Language Education, 5.

Alderson, C., & Urquhart, A. H. (Eds.). (1984). Reading in a foreign language. Harlow, Essex: Longman.

Allen, J. P. B., & Howard, J. (1981). Subject-related ESL: An experiment in communicative language teaching. Canadian Modern Language Review, 37(3), 535-550.

Allen, J. P. B., & Widdowson, H. G. (1974). English in physical science, English in focus. Oxford: Oxford University Press.

Ball, H. G. (1976). Standards for materials selection. Journal of Reading, 20, 208-211.

Beverly and Kaminuriak Caribou Management Board. (1984). Barren Ground Caribou Schools Program. Ottawa.

Brumfit, C. J. (Ed.). (1983). Language teaching projects for the third world. ELT Documents, 116. Oxford Pergamon/British Council.

Brumfit, C. J., & Roberts, J. T. (1983). A short introduction to language and language teaching. London: Batsford.

Candlin, C. N. (Ed.). (1981). The communicative teaching of English: Principles and an exercise typology. Harlow, Essex: Longman.

Clarke, D., Hawkes, H., Pritchard, N., & Smith, B. (1983). The English language textbook project - Somalia. ELT Documents, 116, 49-69.

Corder, S. P. (1973). Introducing applied linguistics. Harmondsworth & Baltimore: Penguin.

Cunningsworth, A. (1984). Evaluating and selecting EFL teaching materials. London: Heinemann.

Dauzat, S. V., Coy, J. J., & Newman, A. P. (1981). Checklist for evaluating adult basic education reading material. Journal of Reading, 24, 701-706.

Davies, A. (1984). Simple, simplified and simplification: what is authentic? In J. C. Alderson & A. H. Urquhart (Eds.), Reading in a foreign language. London: Longman.

de Escorcia, B. A. (1984). ESP and beyond: A quest for relevance. In R. Quirk & H. G. Widdowson (Eds.), English in the world. Cambridge: Cambridge University Press.

Guba, E. G., & Lincoln, Y. (1983). Effective evaluation. California: Jossey-Bass.

Halliday, M.A.K., McIntosh, A. & Strevens, P.D. (1964). The Linguistic Sciences and Language Teaching. London: Longman.

Halliday, M. A. K. (1973). Explorations in the functions of language. London: Edward Arnold.

Harmer, J. (1983). The practice of English language teaching. London: Longman.

Howatt, A. (1974). The background to course design. In J. P. B. Allen & S. P. Corder (Eds.), The Edinburgh course in applied linguistics 3 (pp. 21 ??). London: Oxford University Press.

Hutchison, T., & Waters, A. (1981). Performance and competence in English for specific purposes. Applied Linguisitics, 2(1), 56-69.

Long, M. H. (1984). Process and product in ESL program evaluation. TESOL Quarterly, 18(3), 409-425.

MacCormack, B. (1986). Widdowson's model of language use as a basis for course design and methodology: A critical examination. Unpublished master's thesis, Concordia University, TESL Centre, Montreal.

Mackay, R. (1985, August). The dimensions of LSP courses, a Canadian perspective. Plenary paper presented at the 5th European Symposium on LSP, Leuven, Belgium.

Mackay, R., & Mountford, A. (Eds.). (1978). English for specific purposes. London: Longman.

Mackey, W. F. (1965). Language teaching analysis. London: Longmans.

Mariani, L. (1980). Evaluating coursebooks. Modern English Teacher, 8(1), 27-31.

McCormick, R. (Ed.). (1981). Analysing curriculum materials. Great Britain: The Open University Press.

Mountford, A.(1981). Principles and procedures for text

simplification in the teaching of English for science and technology. RELC Journal (36-43).

Munby, J. (1978). Communicative syllabus design. Cambridge Cambridge University Press.

Murphy, D. F. (1985). Evaluation in language teaching: Assessment, accountability and awareness. Lancaster Practical Papers in English Language Education, 5, 1-17.

Robinson, P. (1980). ESP (English for specific purposes). Oxford: Pergamon.

Rumelhart, D. E. (1980). Schemata: The building blocks of cognition. In R. J. Spiro, B. C. Bruce & W. F. Brewer (Eds.), Theoretical issues in reading comprehension: Perspectives and cognitive psychology, linguistics, artificial intelligence and education (pp. 33-58). Hillsdales, New Jersey: Lawrence Erlbaum Associates.

Selinker, L., Tarone, E., & Hanzeli, V. (1981). English for academic and technical purposes. Rowley, Mass.: Newbury House.

Shaw, A. M. (1982). Foreign-language syllabus development: Some recent approaches. In V. Kinsella (Ed.), Surveys. (pp. 78-96). Cambridge: Cambridge University Press.

Strevens, P. (1977). Special-purpose language learning: A perspective, survey article. Language Teaching and Linguistics Abstracts 10(3), 145-163.

Swaffar, J. (1985). Reading authentic texts in a foreign language: A cognitive model. The Modern Language Journal, 69(1), 15-34.

Swan, M. (1985). A critical look at the communicative approach.(1). ELT Journal, 39(1), 2-12.

Waters, A. (Ed.). (1982). Issues in ESP. Lancaster Practical Papers in English Language Education, 6.

Widdowson, H. G. (1978). Teaching language as communication. London: Oxford University Press.

Widdowson, H. G. (1979). Explorations in applied linguisitcs. London: Oxford University Press.

Widdowson, H. G. (1981). English for specific purposes: Criteria for course design. In L. Selinker, E. Tarone & V. Hanzeli (Eds.), English for academic and technical purposes.(1-11) Rowley, Mass.: Newbury House.

Widdowson, H. G. (1983). Learning purpose and language use.

London: Oxford University Press.

Widdowson, H. G. (1984). Explorations in applied linguistics 2. Oxford; NY: Oxford University Press.

Williams, D. (1983). Developing criteria for textbook evaluation. ELT Journal, 37(3), 251-255.

Slide Presentation
Let's Talk Caribou

Slide 1.

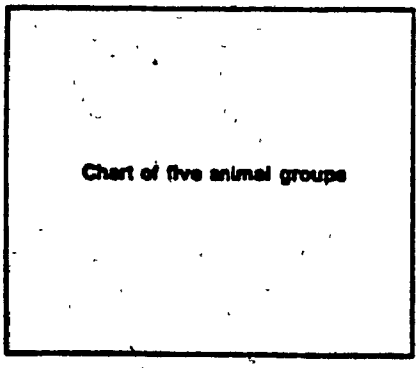
- There are many different kinds of animals living in the world around us.

- Animals which have backbones are called vertebrates. They can be divided in 5 groups: mammals, birds, reptiles, amphibians, and fishes.

- **Mammals** are different from all the rest because they are warm blooded. This means they are able to keep an even body temperature.

- Most mammals grow inside their mothers' bodies for a period of time. After they are born they feed for a while on their mothers' milk. The milk is produced by the **mammary glands**. The amount of time they are fed on mothers' milk varies according to the animal; humans may feed their babies for a year or more, whilst caribou calves are weaned after a few days.

- The slide shows that caribou are mammals. Can you think of any other mammals that live around you? (eg. bear, seal, whale)



APPENDIX B

Excerpts from Teacher Directives

"Go through documentation sheets with students, pausing where needed to explain terms" (p. 26).

"...ensure comprehension" (p.30).

"Introduce topic...[and] guide class..." (p.46).

"Lead summary discussion..." (p. 58).

"Circulate to help where needed..." (p. 72).

"...consolidate main points" (p.75).

1A2

Teacher Orientation
Mammals

Mammals first appeared on the earth approximately 60 million years ago during the Palaeocene epoch and are the dominant animal group in the world today. They live in a variety of habitats and climates.

There are certain characteristics which set mammals apart from other animal groups. They are warm-blooded and maintain a stable internal temperature. Most mammals have a protective layer of fur or skin to insulate their bodies against heat loss, and sweat glands that excrete fluid to the outside to keep their body cool. Mammals also have special mammary glands that secrete a nourishing liquid to feed their young. Their bodies also developed special structures to adapt to changes in the environment.

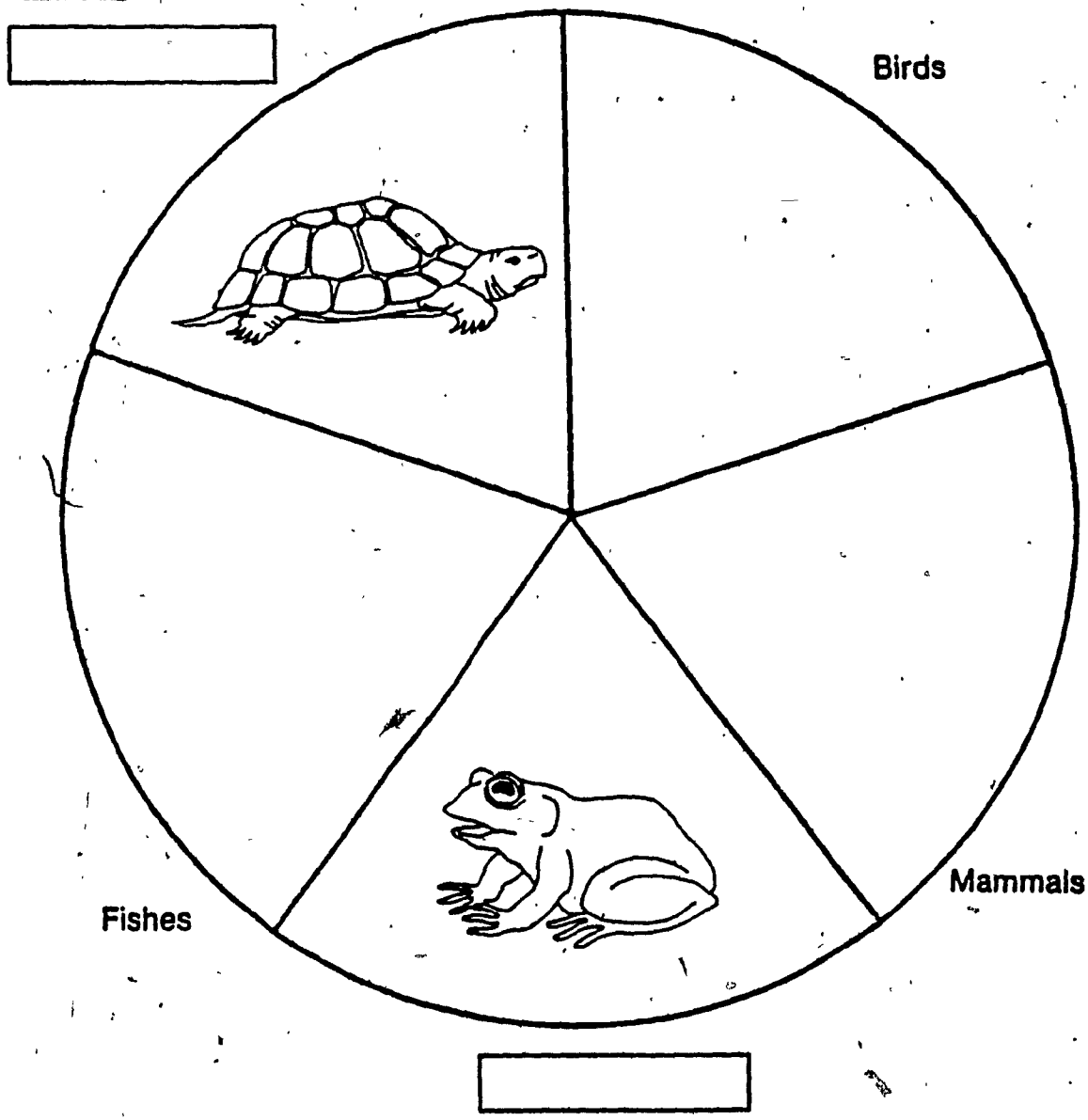
Most young mammals grow inside their mothers' bodies for a period of time that varies with different mammals. Once they are born the mothers feed them with milk from the mammary glands. There are three types of mammals: placental; marsupials and monotremes. Placental mammals are the most developed and common of the three groups.

As their bodies developed, so did their brains and their capacity to store and use information received from their environment. Mammals developed the ability to use this sensory information, and were able to adapt to such things as changes in the weather and in their habitats. This is part of the process of natural selection whereby animals that are not fit and not strong do not survive. It is these animals that survive and reproduce. Only the strong survive.

Mammals began major adaptations about 26 million years ago in the Miocene epoch. The major mammalian groups evolved and began to look as they do today. As the climate began to grow colder certain groups could not adapt and they became extinct. Even-toed ungulates were one group that were able to adapt to the growing area of grasslands. Ruminants, part of this group, were quite numerous and one of its members, pecorans, developed multi-chambered stomachs to digest the tough grasses. Members of this group were ancestors of the modern caribou and, during the Pleistocene epoch, crossed to North America from Siberia via a land bridge. They found their way to the arctic tundra and began to live there.

Mammals -2

A Finish the diagram of vertebrate animals. Draw the missing animals and write in the missing words.



Mammals -2

Finish these sentences. Choose your answers from the box.

1. All the animals in the diagram are

   _ _ _ _ _ _ _ _ _ _ _ _ .

2. Mammals are different from the rest because they are

   _ _ _ _ _ _ _ _ _ _ _ _ _ _ .

3. Most _ _ _ _ _ _ _ _ _ grow inside their mothers' bodies.

4. After they are born they feed from their mother's

   _ _ _ _ .

5. The _ _ _ _ _ _ _ _ glands produce milk.

milk	mammary	mammals
vertebrates	warm blooded	

Which of these animals is the odd one out?

man	wolf	seal	walrus
caribou	ptarmigan	bear	

The _____ is the odd one out. All the others are _____ .

APPENDIX E

Barren Ground Caribou Schools Program
Unit 1

Information Digest - Mammals Page 1

Summary

Mammals first appeared on the earth approximately 60 million years ago during the Palaeocene epoch and are the dominant animal group in the world today. They live in a variety of habitats and climates.

There are certain characteristics which set mammals apart from other animal groups. They are warm-blooded and maintain a stable internal temperature. Most mammals have a protective layer of fur or skin to insulate their bodies against heat loss, and sweat glands that excrete fluid to the outside to keep their body cool. Mammals also have special mammary glands that secrete a nourishing liquid to feed their young. Their bodies also developed special structures to adapt to changes in the environment.

Most young mammals grow inside their mothers' bodies for a period of time that varies with different mammals. Once they are born the mothers feed them with milk from the mammary glands. There are three types of mammals: placentals; marsupials and monotremes. Placental mammals are the most developed and common of the three groups.

As their bodies developed, so did their brains and their capacity to store and use information received from their environment. Mammals developed the ability to use this sensory information, and were able to adapt to such things as changes in the weather and in their habitats. This is part of the process of natural selection whereby animals survive and reproduce. Only the strongest and fittest animals are able to survive.

Mammals began major adaptations about 26 million years ago in the Miocene epoch. The major mammalian groups evolved and began to look as they do today. As the climate began to grow colder certain groups could not adapt and they became extinct. Even-toed ungulates were one group that were able to adapt to the growing area of grasslands. Ruminants, part of this group, were quite numerous and one of its members,

pecorans, developed multi-chambered stomachs to digest the tough grasses. Members of this group were ancestors of the modern caribou and, during the Pleistocene epoch, crossed to North America from Siberia via a land bridge. They found their way to the arctic tundra and began to live there.

Description

Mammals are the dominant species on earth although insects and reptiles are more numerous. They live in different areas of the world and in different habitats. They include animals which eat other animals (carnivores), animals which eat grass and vegetation (herbivores) and animals which eat many kinds of food (omnivores).

Mammals are warm-blooded and maintain a stable temperature within their bodies so they can adapt to temperatures in different climates. They keep their temperature at one level by eating food which they use as fuel. This stable internal temperature gives mammals a higher tolerance to temperature changes and they can continue their activities even when it is hot or cold. In contrast, reptiles (for example) cannot control their own temperature and must seek shade when it is hot; if it is very cold they become torpid. In either case, reptiles must find protection against severe temperatures or they will die.

Most mammals have a protective layer of fur or skin to help keep their bodies warm. Some animals, like the caribou, have a thick layer of fat and hair to protect them against harsh arctic conditions. Man has only a thin layer of skin and uses other materials (clothing) such as caribou skins or bird feathers to keep him warm. At one time this clothing was made from animal skins or feathers. Animals usually shed their coats twice a year or they may shed throughout the year.

When it is very hot, mammals sweat and pant to cool themselves. Water is secreted to the outside of the skin and, as it evaporates, it cools the body. The development of these sweat glands, which produces the water,

was important because it led to the development of special suckling glands called mammaries which produce milk for feeding young animals.

Mammals need a constant supply of food and air to maintain their internal temperature and their bodies have adapted to meet this need. In their mouths there is a secondary palate that separates the air passage from the food passage, allowing them to eat and breathe at the same time. Mammals use their teeth to chew their food and have three sets of teeth for different purposes:

Incisors:	to pluck and pull off pieces of food
Canines:	for tearing and stabbing
Cuspids:	for chewing food.

Mammals have other body structures and senses which allow their populations to adapt and survive in a changing environment. Early mammal populations followed a nocturnal existence and they developed some of the vital senses (such as hearing, smell and touch) to a high degree. For example, the bones which form the ear are more complex than they are in reptiles; the mammal's three-bone structure in the ear amplifies most sounds. The sense of touch is also well-developed and many mammals have special hairs (whiskers) that are sensitive to vibrations.

The mammal's brain is a complex and highly-organized structure. Memory (the capacity for learning from other animals and the environment, and the ability to absorb a mass of information and use it) has enabled mammal populations to adapt to different environments. Some mammals, such as chimpanzees, have shown an ability to solve problems through deductive reasoning. Mammals have also demonstrated their superior intelligence in the wild. For example, animals such as wolves co-operate while hunting and have developed complex social structures within their own society.

When young mammals are born they go through a learning stage where they interact with their parents, brothers and sisters. In this period they

learn the skills needed to survive. The mother cares for her young until they are ready to live on their own. After a certain length of time the mother may force her young to live by themselves as she prepares for the birth of another animal. This learning stage is another characteristic of the mammals.

The reproductive cycle is the main characteristic which sets them apart from other types of animals. In most mammals the fertilized egg remains and grows within the mother for a certain period of time. The young animal is called an embryo and it is fed by the placenta while in the mother's womb. The placenta links the young animal with the mother. It receives its food and gets rid of its waste products via the placenta. In this way the mother can provide her young with food and it is able to grow in a protected environment during a vulnerable time of its life. The gestation period varies from one mammal to another as does the degree of development after birth. Caribou calves are ready to run within a short time after birth but a human child may be a year or older before it starts to walk. Animals which bear their young in this way are called placental mammals but there are two other kinds of mammals, marsupials and monotremes, which are not as common.

Marsupials have a special structure called a pouch for their young. Their young are born alive but shortly after birth they make their way to this pouch where they attach themselves to a nipple to receive food from the mother. They stay in the pouch until they are old enough to fend for themselves. Some well-known marsupials are kangaroos and koala bears that are found in Australia.

Monotremes are the most primitive group of mammals. Although they may have some mammal characteristics (such as having fur and feeding their young on milk) the mothers lay eggs and the adults have no teeth. When the young are born they feed on milk which oozes from special milk glands on the mother's belly. Monotremes are not common in the world. Two examples are spiny anteaters found in South America and the duck-billed platypus found in Australia and Tasmania.

Development of Mammals

1. Palaeocene epoch - 60 million years

Dinosaurs ruled the world for 200 million years but became extinct, perhaps because their populations could not tolerate the radical changes in the climate. Mammals flourished in the vacuum created by the death of the dinosaurs. By the end of this epoch several important lines of mammals had begun to evolve. One of these was the condylarths, the ancestors of the major plant eaters. Not much is known about the first true mammals but the majority of them were probably no bigger than rats and mice. Some of them hunted insects and other kinds took to the trees to live. They avoided direct competition with the reptiles.

2. Eocene epoch - 54 million years

Mammals were firmly established as the dominant species on the earth and had adapted to land, sea and air. Geographical changes had occurred in the earth's structure. North America and Europe were connected and there was a land link between Eastern Asia and North America. The climate was not as varied as today. Most mammals were still nocturnal and lived in trees.

During this time period even-toed ungulates, the group to which caribou belong, first appeared as a separate group. Both the odd- and even-toed ungulates probably first descended from the condylarths. Even-toed ungulates have an even number of toes on each foot and their leg structure is different from the odd-toed ungulates. Their teeth are well adapted for crushing and grinding their food.

3. Oligocene Epoch - 38 to 26 million years

According to theory the Earth tilted slightly on its axis and an ice cap formed at the South Pole. The sea levels fell and the

climate and vegetation changed. There was more open woodland with clumps of trees and clearings. The even-toed ungulates began to expand and divide into two groups, pigs and ruminants. Pigs were root eaters and ate anything they could find. They developed many of the characteristics of the modern pig, they grew in size and adapted to different environments. The ruminants were one of the most widespread of the mammal group. Ancestors of camels, giraffes and deer evolved but they did not look like their modern counterparts.

4. Miocene & Pliocene Epochs - 26 to 2 million years

These two periods showed an increase in the number and variety of mammals. The climate was cooler and drier, and huge areas became grasslands. Mammals became more specialized in their feeding habits as more kinds of vegetation were available as food. The digestive systems became more complex as the mammals adapted to their changing food supply. All the major groups of hooved animals evolved and began to look very much like they do today.

As the climate grew colder many types of mammals could not adapt and by the beginning of the Miocene epoch only four groups of the odd-toed ungulates were left: horses, rhinoceroses, chalicotheres and tapirs. They lived in densely-wooded areas and lived on trees and bushes. Even-toed ungulates were more successful and grew in number and variety. The ruminants were the most important animals of this group and these included deer, antelope and camels. This group was successful because it adapted to the growing area of grassland. Grazing became the main way of feeding and the ruminants developed a highly specialized digestive system which broke down cellulose and extracted the proteins from the tough grasses found on the plains.

Pecorans were a group of ruminants which had multi-chambered stomachs and were suited to eating grass. The bovoids (for examples, cows) were in this group, as were:

Cervoids deer and giraffe evolved from this group which did not have horns. They were browsers and all had four-chambered

stomachs. In the next epoch, the Pleistocene, deer from Eurasia made their way across the land bridge and reached North America. More familiar forms evolved such as the moose and elk. One genus (Rangifer) which includes the caribou, adapted to life on the tundra and severe winter conditions. Even at this early time the caribou were migrating to the south in the winter to find food.

5. Pleistocene Epoch - 1 million years

Known as the Ice Age, this period was marked by rigorous climate changes. Severe arctic conditions prevailed even in the more temperate zones of the world. Mammals and some animal groups were able to adapt to these conditions but some groups did not survive.

Ungulates

Ungulates are one of the largest groups of mammals and can be subdivided into smaller groups. Many of them are large and are capable of moving quickly over grassy plains or the arctic tundra. Certain physical characteristics set them apart from other mammal groups. Their legs are long and their toes are covered with solid hooves. The animals walk on these toes and the rest of the foot does not touch the ground. Their teeth have adapted to grinding and crushing the herbivorous material which they eat. Ungulates are found in all parts of the world. Caribou belong to this group.

Even-toed ungulates can be divided into ruminants and non-ruminants. Ruminants are usually large animals which have adapted to feeding on plant material. Their molars have enamel ridges which helps them grind and crush their food. The intestines are long and the stomach is divided into three or four chambers, depending on the animal. Food is passed through each section and prepared for digestion by the animal. Caribou, camels, llamas and other deer are some of the members of this group.

Definitions

adapt	change (physical characteristics) to suit the environment
dominant	succeed or survive where others fail; more capable of adapting
gestation period	period of time in mother's womb
habitat	natural home of animal or plant
mammals	class of animals who have mammary glands for nourishment of young
nocturnal existence	animals who are active at night
ruminant	animal that brings back food from the stomach to chew again -- chewing the cud
ungulates	large mammal with hooves
vertebrate animals	animals with spinal column (backbone)
warm blooded	able to maintain a constant or even body temperature

Scientists Know Caribou -1

Some of the words are missing. Choose the correct ones from the box and write them in. Watch out! You do not need them all.

biologist	oral tradition
estimated number	record
verify	scientific data

1. Scientists _ _ _ _ _ _ _ what they learn about caribou. They write it down or take photographs.

2. Native people learn about caribou from their elders. They talk about it. This is called the _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ .

3. Scientists have to see something many times to _ _ _ _ _ _ _ that it is true.

4. A scientist who studies caribou or other animals and plants is called a _ _ _ _ _ _ _ _ _ _ .

What do the extra words mean?

Animals for People -1

A Here are some words and phrases you may have heard or read. Match them with the correct meaning. The first one has been done for you.

5	domestic animals
	subsistence resource
	harvest
	grazing animals
	herdsman

1. Animals who eat grass and other plants.

2. To kill wild animals for food.

3. Animals that we live on.

4. A man who looks after a herd of animals. Often he travels with it.

5. Animals which are raised and kept by farmers for food.

B Draw and colour one animal that people eat.

This is a(n) _____

It is used for

_____

Caribou Biology -1

Cover up the words on the left. Read the sentences. Try to fill in the missing words. Check your answers as you go along.

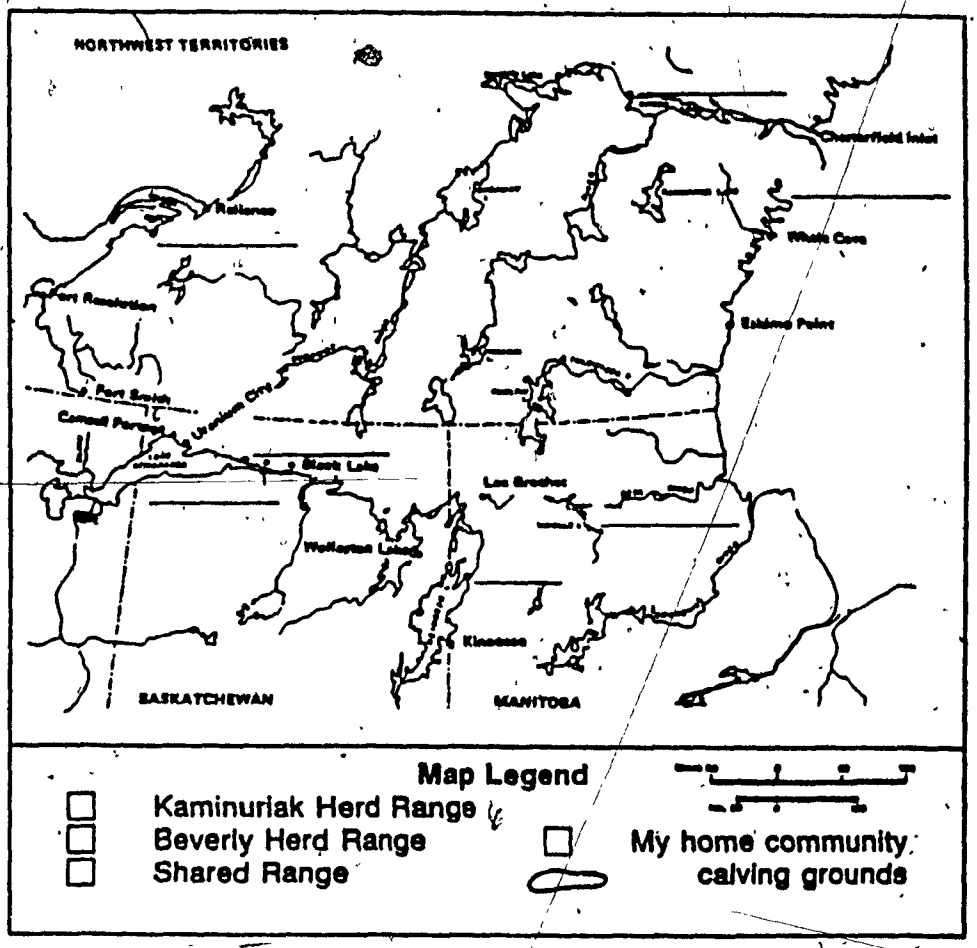
science	1. Caribou biology is a _ _ _ _ _ _ _ _ .
university	2. Biologists study science at _ _ _ _ _ _ _ _ _ _ .
history	3. Biologists learn about the _ _ _ _ _ _ _ _ of caribou.
land caribou	4. Biologists learn about the _ _ _ _ _ where _ _ _ _ _ _ _ _ live.
observing	5. Biologists learn about caribou by _ _ _ _ _ _ _ _ _ them.
follow	6. They _ _ _ _ _ _ _ caribou to see where they go.
body	7. Biologists examine the caribou's _ _ _ _ to see how it works.

APPENDIX G

Where Caribou Live -3

A

Check with the wall map and complete your map.



1. Some of the communities are missing. Write in their names next to the black dots: **Rankin Inlet** **Tadoule Lake** **Stony Rapids** **Fond du Lac** **Brochet** **Baker Lake** **Snowdrift**
2. Draw a line around the two herd ranges. Colour them in different colours.
3. Draw a line around the two calving grounds. Colour them both the same colour.
4. Draw a square around your home community and colour it in.
5. Write the seasons on your map to show herd distribution at different times of the year.

Where Caribou Live -3

B

Use your map and the wall map and answer these questions.

1. How many communities are there on the Beverly Herd range? [ ]

2. How many communities are there on the Kaminuriak Herd range? [2]

3. When do you usually have caribou near your community? In _____ . Where do you live? _____ .

4. Can you name two communities that would have caribou near them in winter?

   1. _____

   2. _____

5. If you travelled in a straight line from Fond du Lac to Beverly Lake, how many kilometres would you go? [ ]

6. If the Kaminuriak Herd travelled in a straight line from its calving grounds to Tadoule Lake, how many kilometres would the animals travel? [ ]

7. When would people in Snowdrift have caribou near their community? _____

8. What is the name of the herd? _____

9. What other communities share that herd? _____

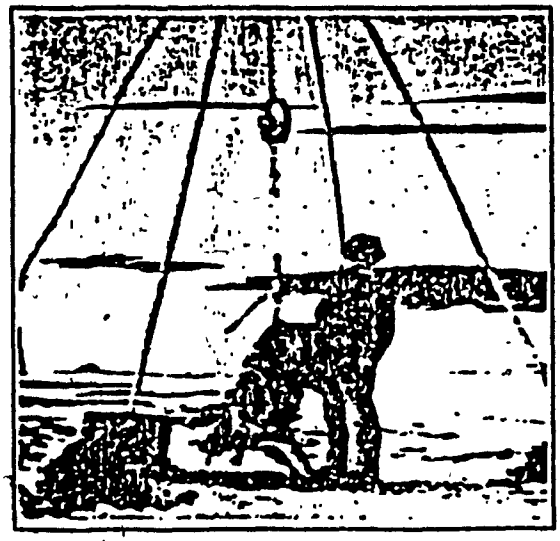
APPENDIX H

Documentation Sheet
Scientists Know Caribou

Scientists use **notebooks** and write down what they see. They take **specimens** from dead caribou. They **examine** them in **laboratories.**

You can see they do not learn about caribou in the same way as hunters do.

The first man to report caribou in a **scientific** way was Samuel Hearne. He travelled from Fort Churchill to Coppermine with Chipewyans as his guides. He left Fort Churchill in 1770 and it took him two years to finish his journey. He wrote about what he had learned and **published** it in a book.



One of the next scientists to report about the caribou was Ernest Thompson Seton. He travelled across the Barrenlands in a canoe in 1907. He **estimated** that there were 30 million caribou then. But this estimate was never **tested** or **confirmed**. Now, scientists do not believe his estimate.

Scientists began to use aircraft to study the caribou in 1948. They do **population surveys** every few years. They also fly to where the caribou are grazing to learn about how they behave and what they eat. All the things they **confirm** are published so that other scientists will know about them.

Most of the scientists who travel to study the caribou are **biologists.**

Documentation Sheet

Scientists Know Caribou

Hunters watch caribou with great care. This way they know how they act. Knowing how caribou act makes them better hunters. When they get back to camp, they tell their friends about what they saw. In that way, other hunters learn also.

Doug Heard is the Chief Biologist in the Northwest Territories.

These things are passed down from father to son. They are not written down. Scientists who study people call it the **oral tradition.**

Scientists learn about caribou in a different way. They watch the caribou and write down what they see. They make drawings or take photographs so they will remember what they saw. They do not believe something if they see it only once. They have to see it many times to **verify** that it is true. Then they hope some other scientist will see the same thing and **record** it in his **notes.** That will **confirm** that it is true.

Scientists also like to **test** what they have learned. They do **experiments** to make sure the same thing will happen again.

Documentation Sheet
What Caribou Eat

Lichen and young sedges that grow on the **calving grounds** are important to the caribou. They give good **nutrition** to the cows who have new calves.

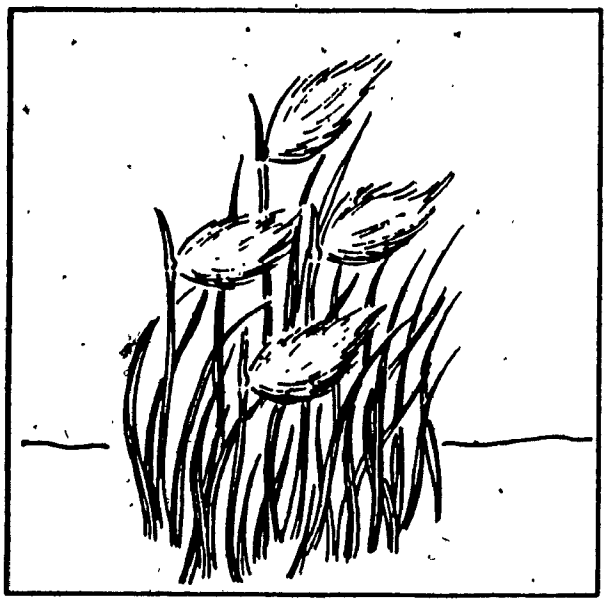
In the winter, the caribou **metabolism** slows down and they live mostly on lichens. But caribou must have a balanced winter diet. Lichens do not give enough **protein**, so they also chew sedges, small shrubs and other small plants.

Lichen

Caribou do not drink much water. They get **moisture** from the plants they eat, and from the snow they take in with their food in the winter. But sometimes they drink water from rivers or lakes. In the winter, they sometimes drink from cracks in the ice or water that has overflowed on frozen rivers or streams.

Documentation Sheet
What Caribou Eat

Caribou can eat over three kilograms of **vegetation** each day. When they travel they are often **distributed** over a large area as they **forage**. In that way they do not strip an area of all plants. If they did it would take many years for the vegetation to grow again.



This is a sedge

In deep snow, caribou dig **feeding craters** to reach their food. Many of the plants on the caribou range grow together in clumps. Caribou are good at digging craters where the clumps can be found. Sometimes there is ice on top of the vegetation or in the snow. Then, the caribou find it difficult to dig down to their food.

For their spring and summer **diet**, caribou eat **lichens, sedges** and leaves of shrubs. If there is not enough, they eat other plants.

What Caribou Eat -1

A Here are some words and phrases you have heard or read. Match them with the correct meaning. The first one has been done for you.

2	ruminate
	vegetation
	feeding crater
	lichen and sedges
	foraging

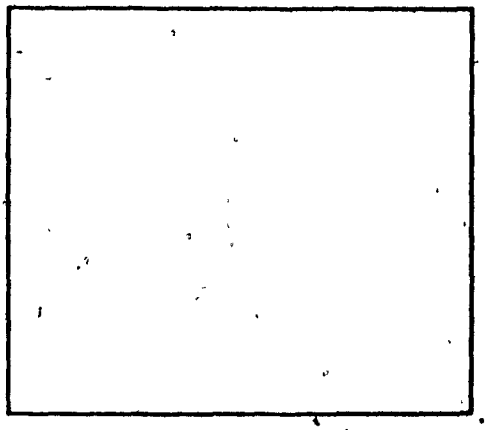
1. hole in the snow, dug by caribou to uncover food
2. bring back food from stomach, to chew again
3. looking for plants and eating them
4. all kinds of plants
5. some plants eaten by caribou

B Draw and colour one plant that caribou eat.

This is _____ .

In my language it is

_____ .



What Caribou Eat -1

C Fill in the missing words in these sentences. Choose your words from the box.

In winter caribou _ _ _ g feeding craters in the _ _ _ _ _ . They find their food by _ _ _ e _ _ . They use their _ _ _ _ v _ _ _ to break and dig through the snow. Sometimes caribou _ _ i _ _ _ _ for the best _ _ _ _ d _ _ _ _ places. Usually animals with _ _ _ t _ _ _ _ _ _ win.
When cows arrive at the _ _ _ _ _ _ _ _ _ g _ _ _ _ _ _ _ _ new _ _ e _ _ _ _ _ _ _ _ o _ _ is beginning to grow. They will need a good _ _ _ _ t when they are feeding their c _ _ _ _ _ _ _ . In _ _ m _ _ _ _ and _ _ _ l _ _ there is plenty of food. Caribou eat a lot then and build up fat _ _ _ p _ _ _ _ _ _ _ for the winter.

calves	smell	feeding
deposits	dig	fight
summer	diet	fall
hooves	calving grounds	snow
antlers	vegetation	