The Needs Analysis as a prerequisite for designing an English for specific purposes course

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1. INTRODUCTION

1.1   Background

For many years Prof. C.J.H. Schutte, who was made Dean of the Faculty of Science at Unisa in January 1985, often contemplated the idea of introducing an ESP course for Science students. He discussed this with Prof. G. McGillivray, the Head of the Chemistry Department; with other members of the Faculty of Science; the Executive of the Faculty of Science; members of the English Department and late in 1986 the introduction of the course was approved by the Senate of the University of South Africa. A number[1] of ESP courses for Science and Technology are commercially available as well as the course designed by Proctor and Botha (1984) and were considered for Unisa students, but the nature of the University - a distance-teaching institution - made most of the available courses unsuitable because of the roles required of teacher and student in a classroom situation. Alternative approaches to the design of the Unisa course had to be carefully considered and when it was decided that such a module was becoming a reality, the following announcement appeared in *Unisa Bulletin* vol. 13 no. 5, June 1988, p. 2:

116

SCIENTIFIC LANGUAGE MORE ACCESSIBLE

The Practical English section of the Department of English is at present confronting the challenge of helping Chemistry students to pass Chemistry. Bizarre as this may sound - the worlds of scientists and English lecturers being so alien to each other - lecturers in both departments have found the possibilities very promising. Content is conveyed through language, and if the language is opaque to students, they will never be able to see through it to the meaning beneath.

Margaret van Zyl and Laurel Becker of the Practical English team are working with the Chemistry Department on a teaching module aimed at making the scientific language of their textbooks more accessible, so that form and content can be seen as indivisible and intelligible. The module (ENS101-3) will be introduced at the beginning of 1989, and will be compulsory for newly-registered Chemistry students.

This course could be the precursor of many exciting developments in the field of English for specific purposes.
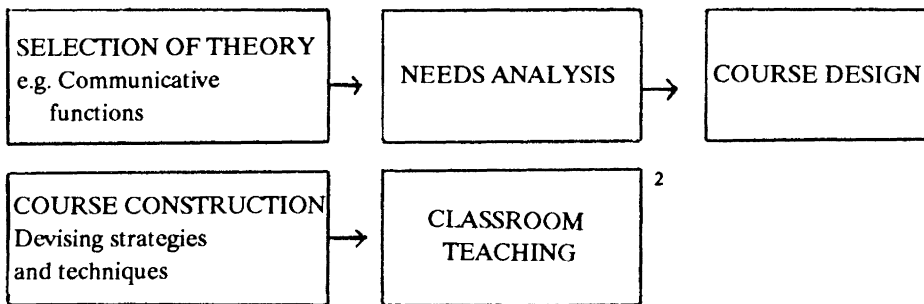
This announcement however, does not mention the work that had to be done as an essential step in developing and ESP course: The Needs Analysis.

1.2 The first step towards designing the English for Science Students (ENS101-3) module was to do a needs analysis because ESP can be defined 'as an approach to course design which starts with the question "Why do these learners need to learn English?"' (Hutchinson and Waters 1987:53). 'Many questions follow this question, some of which relate to the learners themselves, some to the nature of the language the learners will need to operate, some to the given learning context.' (Hutchinson and Waters 1987:19.) Holec (1980:26) describes the needs analysis as 'the classical procedure by which a close link can be established between learners and curricula. Whereas in content-centred approaches, learning objectives are defined in terms of quantitative subsets of the total communicative competence of a native language user, in learner-centred second

language instructional systems, the selection of objectives is based on the particular communicative needs of groups of, or individual learners.'

1.3 The Needs-Analysis as a theoretical base for ESP syllabus design

Coffey (1985:80) states that before a course can be designed, items and features from the corpus of the language must be selected, bearing in mind the designer's intention and the students' needs. Coffey described selection which takes place as a result of Register Analysis, Discourse Analysis and Needs Analysis and summarizes ESP as:

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┌─────────────────────┐      ┌─────────────────────┐      ┌─────────────────────┐
│ SELECTION OF THEORY │      │                     │      │                     │
│ e.g. Communicative  │ ───▶ │  NEEDS ANALYSIS     │ ───▶ │  COURSE DESIGN      │
│      functions      │      │                     │      │                     │
└─────────────────────┘      └─────────────────────┘      └─────────────────────┘

┌─────────────────────┐      ┌─────────────────────┐ 2
│ COURSE CONSTRUCTION │      │                     │
│ Devising strategies │ ───▶ │     CLASSROOM       │
│ and techniques      │      │     TEACHING        │
└─────────────────────┘      └─────────────────────┘
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(1985:84)

Coffey (1980:83) states that Needs Analysis is dealt with as a subheading of theoretical bases because of the far-reaching effects of John Munby's *Communicative Syllabus Design* (1978). Munby analyses English into communicative functions and directs the user into setting up a complete course design by creating profiles of student needs. He 'telescopes' needs analysis and course design into one operation so that the needs analysis is essential to the course

118

design. Munby's work helped identify problems in theory and practice and the Munby 'doctrine' has been applied in actual cases and there are a number of commentaries on the consequences.[3] (Coffey, 1985:83.)

2. DIFFERENT APPROACHES TO NEEDS ANALYSIS

Before making a needs analysis as a preparatory step towards designing the ENS101-3 course, different approaches to needs analysis were considered.

2.1 *Munby* (1978) describes a complicated process to determine the needs of the student. He takes account of the variables that affect communication needs 'by organising them as parameters in a dynamic relationship to each other.' [Figure 1 (Munby 1978:33).] He classifies the parameters as a priori (purpose domain, setting, interaction, and instrumentality) and a posteriori (dialect, target level, communicative event and communicative key).[4]

2.2 *Richterich*, according to Yalden (1983:103), fathered the classical conception of needs analysis and offers a more flexible approach to needs analysis than Munby. Richterich and Chancerel (1977:49) outline methods for identifying language needs before the course is designed and during the course. The needs are identified by the learner, by the teaching establishment and by the user-institution: Each in relation to resources, objectives, methods of assessment before and during the course in relation to the learner's curricula, the teaching establishment's syllabuses and the user-institution's programmes (1977:v). Richterich (1977:53-61) suggests that information be collected by surveys and questionnaires which may be completed individually or as part of an interview (1977:78).

Figure 2 summarizes how the data passes from one stratum to another (1977:53).
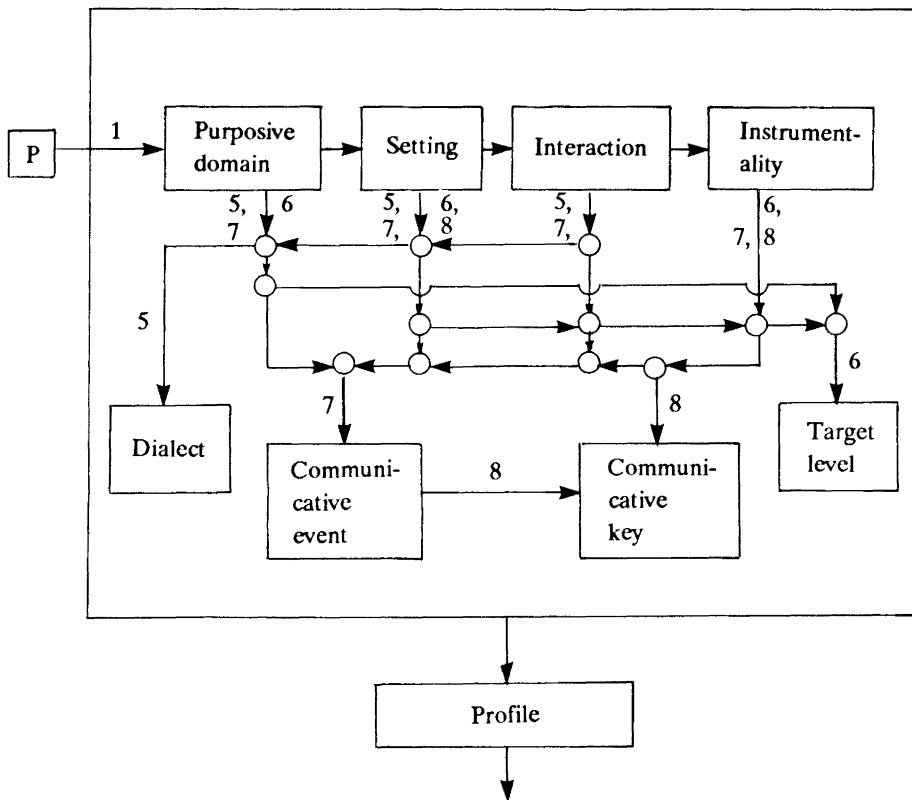
119

Figure 1: Communication Needs Processor

2.3   *Holec* (1980) is of the opinion that the needs analysis must be as learner-centered as possible. He maintains that what is usually taught is 'not what the students need, but what is considered good for them' (1980:27). The thrust of Holec's approach to needs analysis is that we should gather information about the learners'achievement expectations i.e. what they want to do with the language they are learning, and that the needs analysis can only be carried out by the learner and that the institution, or teacher, should no longer attempt to keep entire control over the curricula (1980: 32).
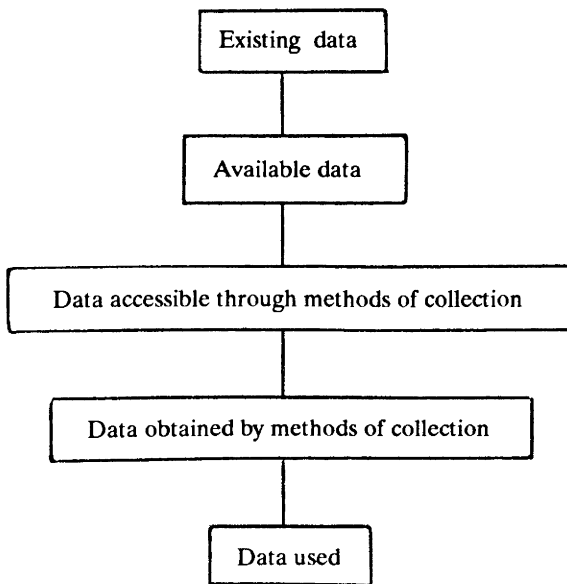
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│ Data obtained by methods of collection│
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│    Data used    │
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Figure 2

To maintain the link between learner and curricula, Holec (1980:31) suggests that the curriculum be a loose framework so that the learner can adjust it to his own needs.

2.4 *Yalden* (1981:101) gives an extended definition of needs analysis which includes communication requirements, personal needs and motivations, and relevant characteristics of learners. For an ESP course, Yalden says that a needs analysis should be detailed and survey questions should be 'well-placed' (1983:92). She summarizes Richterich's approach by saying 'the initial needs survey should normally cover two broad categories: Who the learners are (what they bring with them) and what their purposes, needs and

121

wishes are in learning the language (where they are going).' She suggests that 'check-lists' be used as they reduce a potentially enormous and exhaustive list of information that one might amass (1983:104).

2.5 *Kaufman and English* (1979) have produced a very useful and thorough description (345 pages) of the concept and application of needs analysis; the central theme is that 'each community is different and unique and (that) each needs assessment should be designed "from scratch" '(1971:189).

2.6 *Dickens et al.* (1980) provide an approach to needs analysis that can be implemented as an ongoing, comprehensive assessment. Their message (1980:ix) is that 'needs assessment is vital to the institution, yet not necessarily a burdensome process.' Five categories of approaches to needs analysis are described and can be used as components of a needs analysis programme or independently. The following three approaches may be used for a needs analysis in language course design.

2.6.1 The key informant approach

Key informants include personnel who are aware of the student needs; this method utilizes data obtained from these individuals. All of the participating key informants can be assembled in a meeting or series of meetings to discuss varied aspects of the target group i.e. the group of students for whom the course is being designed (1980:3).

2.6.2 The community forum approach

This approach is based on the input from individual perception. Brainstorming is a useful technique used to enhance the creative process of the forum. Nickens *et al.* (1980:13) describe the creative process as one in which two known ideas combine in the human mind to produce a third and new idea.

2.6.3 The survey approach

This method is characterized by the collection of data from a sample of an entire population or body of students. The most common methods used are questionnaires, interviews, and the telephone (1980: 5).

3. THE UNISA SITUATION AND AN ASSESSMENT OF THE DIFFERENT APPROACHES TO NEEDS ANALYSIS

3.1 The Unisa situation

At Unisa course designers and those who analyse the needs of the students work very closely with the Department of Teaching Development and the Bureau for Management Information. Questionnaires are also dispatched to students or issued at Group Visit lectures and Vacation School lectures. The most reliable information is usually obtained by analysing information obtained from the Bureau of Management Information. The reason for this is that it is very difficult to assemble a real cross-section of the student body at group visits or at vacation schools. This is so because the students who attend lectures are usually only representative of the students in that particular area and are not representative of the heterogeneous nature of the Unisa student population. For example, in East London[5] in a group of 87 students attending group visit lectures only one student was English speaking while the rest were all Xhosas.

3.2 Some general problems which have to be overcome

* The difficulties in conducting personal surveys (see above).
* The limited personal contact between teaching staff and students.
* The slackness with which many students respond to questionnaires dispatched to them.
* The vast student numbers - there are 3 490 first year students (in 1988) in the Faculty of Science.

* The fact that students do not always read all the study guides and tutorial letters sent to them.
* Once it has been decided that a course should be introduced or changed, time is of the essence as deadlines have to be met within the structure of the University.[6]

3.3 An assessment of the different approaches to needs analysis

3.3.1 Munby

Coffey (1985:83) summarizes the most important objections to Munby's approach. These are that the process is so complicated that there is usually no time to put it into practice and that Munby makes no allowance for the process to be amended as time goes on.

3.3.2 Richterich and Chancerel

This approach is realistic within the Unisa context as the learner, the teaching establishment and the user-institution (i.e. the Faculty of Science) contribute to the identification of the needs of the students. The on-going nature of this approach is also favoured in the Unisa situation.

3.3.3 Holec

This approach is almost completely learner-centred and the large number of students and the lack of personal contact make this approach very difficult to implement.

3.3.4 Yalden

This approach is very similar to that of Richterich, but the suggestion of a 'check-list' is too personal an approach to be used in the Unisa situation.

3.3.5 Kaufman and English

These writers do not advocate any specific approach, but all their comments concerning the uniqueness of each situation and the desirability of a unique needs analysis to be used in each situation are most encouraging in the Unisa situation.

3.3.6 Nickens et al.

Aspects of the key informant, community forum and survey approaches can be used most successfully in the Unisa situation. The community forum approach, however, was found to be rather time-consuming but as an ice-breaker at our first meeting[7] with members of the Chemistry Department, 'brain-storming' worked very well.

4. THE KEY INFORMANT AND SURVEY APPROACHES ADOPTED IN THE UNISA SITUATION

By adopting these approaches to needs analysis it is possible to utilize principles described by Richterich and Chancerel, Nickens *et al.*, and Yalden who emphasise that a needs analysis should be an ongoing part of the course.

4.1 Key informants

Mackay and Palmer (1981:48) summarize a needs analysis as being aimed at determining to what extent there is a genuine need or even a 'defensible want' for the programme being considered. They (1981:49-59) also state that there should be three main considerations in the needs analysis, namely:

* identification of 'clients' (i.e. all those who will be affected by the programme including teachers, students, administrators and interested parties in the university)
* the objectives of the course should be stated in terms of outcomes or performance objectives
* the objectives should be evaluated.

To deal with these three considerations, a series of meetings of key informants was held. The key informants in our situation are the Dean of the Faculty of Science, the head of the Chemistry Department and lecturers in the Faculty of Science, two lecturers in the English Department, two syllabus designers and the head of the Bureau of Teaching Development. Not all key informants met at each meeting; various combinations[8] of key informants resulted in different aspects of objectives and resources being discussed. The programme designers were able to prepare a set of objectives after all aspects of objectives and resources had been carefully considered. This approach has limitations in terms of the range of the objectives and biases of the designer (Mackay and Palmer 1981:49), but it was a practical way of getting the needs analysis initiated. A major advantage of this approach was that communication channels were opened and vitalized between all the participating key informants. The ideal would have been to have also elicited objectives from students but this was logistically impossible. As far as possible, the key informants in the Faculty of Science voiced the needs of the students as perceived by the science lecturers and tutors.

4.2 Surveys

4.2.1 A *profile* of the first year BSc. students was compiled in conjunction with the Bureau for Management Information at Unisa. This profile was intended to provide us with the identifying particulars concerning some of the demographic variables of the students, namely home-language, language of correspondence, level of education and magisterial districts (whether they are urban or rural dwellers). These particulars provided us with a good idea of the students' resources and what they bring with them to the course (Yalden 1983:92).

4.2.2 An *English competency exercise* was constructed by Ms M. van Zyl of the English Department, the Bureau of Teaching Development, and the Dean of the Faculty of Science. This exercise was designed to test the following skills: reading comprehension, vocabulary skills, language usage, logical thinking and verbal reason

126

ing. 'Surveys can often be the least expensive per response as well as afford a means for communicating with vast numbers of individuals' (Nickens *et al.* 1980:5), however, within the Unisa context there were logistical problems and reservations concerning the length of the test and the expense involved in dispatching a test to 3 490 students. For these reasons the test was not dispatched in its present form.

4.2.3 A questionnaire similar to the one used for students doing the general Practical English Course was sent to ENS101-3[9] students as part of an ongoing needs analysis. The assignments set for 1989 were also set in such a way that the students' needs could be assessed at regular intervals during the academic year.

5. CONCLUSION

After the findings of the needs analysis had been established, the ENS101-3 module was designed for implementation in 1989. The needs assessment was, from the earliest stages, seen as an ongoing process and the course which has been devised is open to change as more insight is gained into the needs of the students. When establishing the needs of the students and setting our goals, we aimed to keep our approach as realistic as possible (Dubin and Olshtain 1986:28), so that within the framework of the ENS101-3 module our goals could be achieved (cf. paragraph 5.1.3) and the student needs could be met. Although one is often tempted to rush ahead and design a syllabus without making a needs analysis, our experience has proved that 'needs assessment is a humanizing process to help make sure that we are using our time and the learner's time in the most effective and efficient manner possible' (Kaufman and English 1979:31).

NOTES

1. Pauline Robinson (1980:57-63) refers to thirty-one EST courses, e.g. Ewer, J. R. and Latorre G. (1969). *A Course in Basic Scientific English*. Longman.

Swales, John (1971). *Writing Scientific English*. Nelson.

2. In the Unisa situation the course designer has to bear in mind all aspects of distance-teaching.

3. Coffey refers to the following comments and reports: The Dunford House Seminar of 1978 (British Council, 1978); later papers by Patrick Early (1979) and Chris-Ramsden (1979); a paper by David Willis (1979); Brumfit (1978).

4. The a posteriori constraints depend upon input from another set of constraints (a priori) before they can become operational (Munby 1978:32).

5. Based on information gathered at the group visit to East London 22-24 August, 1988.

6. Deadlines are not only set within the teaching departments, but the major deadlines are set by Production, that department which produces all the study guides, and other teaching material for the following year. Production's deadlines are inflexible because of the volume and the diversity of the work and the nature of the processes involved. The academic departments and Production have an interdependence which relies on their synchronising their tasks.

7. On 19 March 1987 three members of the English Department met with three members of the Chemistry Department to discuss the designing of an English Comprehension module for. Chemistry Students. (See Appendix 1. Suggested module code: CEN100- .) Later during 1987, when the outline of this module was discussed by the Executive Committee of the Faculty of Science, English for Chemistry Students was changed to English for Science Students.

8. A series of meetings was held where members of the Science Faculty met alone to discuss the needs of the students and the objectives of the proposed ESP course; members of the English Department met and discussions were held; the Science and English lecturers met and their views were exchanged, compared and conclusions were arrived at.

9. ENS101-3 is the course code for the English for Science Students module.

10. Prof. C. Schutte wishes to make use of the test as it is or with some modifications, to test a control group of students as well as those who will enroll for the course next year.

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