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A MODEL ENGLISH SYLLABUS DESIGN FOR THE STUDENTS OF SCIENCE AND TECHNOLOGY

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Abstract

The students of Science and Technology need mastery in English Language for academic needs as well as their employability skills. ESP is an approach to language teaching and content and method are based on the learner's reason for learning. Course design is the process by which the raw data about a learning need is interpreted in order to produce an integrated series of teaching-learning experiences. A material design model consists of four elements: input, content focus, language focus, tasks. The theories of language or the nature of language have been viewed as falling into three main dimensions: structural, functional and interactional views. Course designers have to create or find out some innovative activities or tasks for the learners to acquire the competency levels. The EST Course should be planned and designed to meet the needs and competencies of the students.

Keywords: Academic Needs, Course Design, EST, ESP, Language Focus, Methodology

Introduction

English is the widely spoken and promoted language in the majority countries of the world. Presently, it is the language of authority, especially in the domain of international communication and also known as the established language of business and science. Engineering students need mastery in English Language for academic needs and for their employability skills. So, the students of science and technology should learn English so that the teachers of EST (English for science and technology) ought to design and develop the EST course/syllabus in order to meet the needs of engineering students.

Hutchinson and Waters (1987:65) have defined a course as "An integrated series of teaching-learning experiences, whose ultimate aim is to lead the learners to a particular state of knowledge." According to Munby (1978:2), "ESP courses are those where the syllabus and the materials are determined by the prior analysis of the communication needs of the learner."

So, it is not an easy task to design an ESP syllabus/course as it is significantly complex role. The designers of ESP syllabus should be aware of the different functions in order to meet the needs of the students.

Background Study

According to Hutchinson and Waters (1987:19), ESP is an approach to language teaching and content and method are based on the learner's reason for learning. Course designers ought to give importance to learners' needs. Holliday (1995) presented the scope and approach of an ESP course as needs analysis, curriculum design and implementation design, where needs analysis came first.

Learners' needs could be categorized as target needs and learning needs (Hutchinson & Waters, 1987: 55-63). These needs could be further identified as objective needs and subjective needs (Chen, 2006) which include necessities (organizational and personal target requirements), wants (learners' personal perceived needs) and lacks identified from present situation analysis (Hutchinson & Waters, 1987; Shaaban, 2005).

Dudley-Evans and Johns (1998:121) maintain that "The key stages in ESP are needs analysis, course (and syllabus) design, materials selection (and production), teaching and learning, and evaluation." ESP course design is the product of a dynamic interaction between these elements which"… are not separated, linearly-related activities, rather, they represent phases which overlap and are interdependent".

Approaches to Course Design in ESP

English for Specific Purposes involves teaching and learning of specific skills and language needed by particular learners for a particular purpose. ESP makes use of the methodology and activities of the disciplines it serves. It is centered on the language (grammar, lexis, register), skills, discourse and genres appropriate to these activities.

Course design is the process by which the raw data about a learning need is interpreted in order to produce an integrated series of teaching-learning experiences, whose ultimate aim is to lead the learners to a particular state of knowledge. There are three approaches to ESP course design:

- **Language-Centered Approach:** It aims to draw as direct a connection as possible between the analysis of the target situation and the content of the ESP course. It concentrates on performance.

- **Skills-Centered Approach:** It is for helping learners for developing skills and strategies which continue after the ESP course by making learners better processors of information. This approach, concentrating on competence, is based on two fundamental principles: Theoretical and Pragmatic.

- **Learning-Centered Approach:** This approach is based on the principle that learning is totally determined by the learner. Learning is seen as a process in which the learners use what knowledge or skills they have in order to make sense of the flow of new information. It concentrates on how to get competence.

Components of Model ESP Course

- Objectives of the Course
- Syllabus and Course Material
- Teaching Methodology
- Classroom Activities
- Materials and Equipment in the English Language Lab

Objectives of EST Course

The Objectives of EST Course ought to be planned and designed to meet the needs and competencies of the students, considering the demands and expectations of the target environment and needs analysis.

- To improve the English language proficiency among the students with emphasis on LSRW Skills.
- To provide the students with the essential strategies to develop day-to-day communication.

- To make the students of Engineering and Technology understand the importance of Technical Communication.
- To improve students' listening skills to understand the listening process by giving training in listening.
- To train the students Professional speaking skills with the knowledge of the various situations of speeches/presentations.
- To train them with the professional writing skills and tasks like writing reports, writing projects, writing business memos/e-mails, writing user manuals etc.

Syllabus and Course Material

A material design model consists of four elements: input, content focus, language focus, tasks (Hutchinson and Waters).

- *Input: This may be a text, dialogue, video recording, diagram or any place of communication data, depending on the needs you have defined in your analysis.*
- *Content focus: Language is not an end in itself, but a means of conveying information and feelings about something. Non linguistic content should be exploited to generate meaningful communication in the classroom.*
- *Language focus: our aim is to enable learners to use language, but it is unfair to give learners communicative tasks and activities for which they do not have enough for necessary language knowledge.*
- *Task: The ultimate purpose of language learning is language use. Materials should be designed to lead towards a communicative task in which learners use the content and language knowledge they have built up through the units.*

It is the duty of the teacher to create a good and healthy environment for students in order to learn and practice. As the EST course is to be particularly designed for a specific group of students, an analysis of needs will be conducted to ascertain the learners' requirement on which the material has to be selected and tasks be planned.

Then the course outline has to be devised including a programme framework and an EST course syllabus. Therefore it is assumed that the EST course should be intended for students to learn

English in view of acquiring good knowledge of science and technology as well as interacting with scientific and technological texts.

Teaching Methodology

The theories of language or the nature of language have been viewed as falling into three main dimensions: structural, functional and interactional views. Teaching methods such as Grammar Translation, Oral Approach (Direct Method), Situational Approach and Audio-lingual Approach were derived from the belief in "language as a system of structurally related elements.

To learn a language, learners require not only grammatical rules, but they also need to understand words and be able to use both in real communication. On the other hand, the teaching methods such as Content-based instruction, Task-based language teaching and Competency-based instruction, are characterized as interactive language.

Communicative competence or the ability is considered to use the language correctly and appropriately to achieve communication goals. This well-known model encompasses four types of language competence: linguistic (grammatical competence or accuracy), sociolinguistic (the extent to which utterances can be appropriately used or understood), discourse (ability to combine ideas to achieve cohesion and coherence) and strategic (ability to use strategies to handle language knowledge limitations).

Classroom Activities/Tasks

A task as a piece of classroom work that involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is focused on mobilizing their grammatical knowledge in order to express meaning, and in which the intention is to convey meaning rather than to manipulate form (Nunan, 2006). For the competency development of the students, course designers have to create or find out some innovative activities or tasks for the learners to acquire the competency levels.

For listening and speaking, the following activities are conducted in the classroom:

- Seminars and group discussions
- Simulation and role-play

- Listening to short and long conversations
- Identifying the topic of the lecture and taking notes
- Describing, explaining, defining or classifying objects, etc.

For reading students are given assignments on the following:

- Reading-comprehension tasks on Scientific and technical texts
- Skimming for main ideas and Scanning for specifics
- Predicting, inferring and guessing the meaning, etc
- Intensive reading to understand the exact meaning of the text
- Extensive reading for a general understanding of the content

In case of writing, students should be given assignments to write on the following:

- Definition of technical terms,
- Narration of stories or events
- Description of some objects or situations
- Enumeration of the items in a collection
- Process of something or some work
- Comparison and contrast, Cause and effect of some project work
- Writing of Technical Reports, formal and informal letters, and Resumes

For grammar and vocabulary, students should be encouraged, in the meanwhile of LSRW activities, to pay attention on the rubrics of grammar, such as:

- expansion of nominal compounds, the impersonal passives
- use of modal auxiliaries in technical English, conditional sentences
- use of connectives in technical communication, usage of parts of speech, use of articles
- word order for the expression of complex tenses, aspect and mood
- passive constructions, conditional sentences, interrogatives

Vocabulary knowledge is an important area of language proficiency concerned to all four language skills. For enhancement of vocabulary it is inevitable to learn the word-power such as:

- Word Roots, Word Formation, Prefixes and Suffixes, Synonyms and Antonyms

- Homonyms, Homophones, Homographs, Study of Word Origin, One-Word Substitutes
- Idioms and Phrases, Collocations, analogy, Words Often Confused/Misused
- Business Vocabulary, Technical Vocabulary

Materials

Generally, teaching materials should be provided by a language teacher or institution to fit the specific subject areas of particular learners according to the needs for academic purposes.

Materials play a vital role in ESP with significant attention in the text of the subject, depending on the methodologies adopted. The materials should encourage students to be active in the classroom. Lots of practice in the classroom could develop the skills needed for communication in English in an occupational situation in the classroom/language laboratory.

Materials that are used to stimulate and support language instruction are typically texts or Web-based information, dictionaries, encyclopedias, examples of relevant grammatical, stylistic and rhetorical forms. The materials should be taken from real life situations.

English Language Lab and Equipment

In the present scenario, computer-aided and well advanced technology with software supported equipment should be used to teach English in the Language Lab that enables the learners to pay individual attention, hear his/her own voice and take their time and progress at the pace that's comfortable for them. Here are some of the language lab useful aids and equipment:

- The Computer aided multimedia systems
- A Spacious room with movable chairs and audio-visual aids with a Public Address System
- T. V. or LCD, a digital stereo –audio and video system and camcorder etc.

Conclusion

Language is a means of communication which involves an integration of the four skills namely, listening, speaking, reading and writing. Effective language teaching and learning can only be accomplished as teachers are aware of the needs of learners.

The EST Course should be planned and designed to meet the needs and competencies of the students. A material design model consists of four elements: input, content focus, language focus and tasks. The course designers have to create or find out some innovative activities or tasks for the learners to acquire the competency levels.

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