CHAPTER II

Development and Description of the Tools
CHAPTER II

DEVELOPMENT & DESCRIPTION OF THE TOOLS

The preceding chapter dealt with the theoretical basis of the problem, review of related studies & significance of the study along-with objectives and the hypotheses of the study. The present chapter is devoted to the development and description of the tools required for collection of the data.

The tools used in the study have been enlisted below:

- **INSTRUCTIONAL MODULES FOR LEARNING THROUGH LANGUAGE LABORATORY**
  (Developed by the investigator)

- **CRITERION TESTS : SUMMATIVE AND FORMATIVE**
  (Developed and validated by the investigator)

- **ENGLISH SELF-EFFICACY SCALE**
  (Developed and validated by Ahuja and Vibha 2000)

- **THE REVISED TWO-FACTOR STUDY PROCESS QUESTIONNAIRE (Learning Approaches)(R-SPQ-2F)**
  (Developed by Biggs, J., Kember, D. & Leung, D.Y.P. (2001)
Technological aids in language teaching are the major force today. Among these aids, the Language Laboratory occupies the most prominent and unique place for providing much time for oral and auditory experience. It offers opportunity for the students to hear language spoken by a native and to practise speaking the language themselves. It helps the students to teach pronunciation, self-correction and self-examination. A learner can make progress at his own pace, receive and select the material sequence and level of instructions independently. Since each learner’s performance can be fed back to the teacher and can be evaluated. The teacher can be relieved from the daily routine and monotonous drilling activities. Hence, the investigator designed Instructional Packages for this study to be particularly used in language laboratory in respect of English pronunciation.

The Instructional Package was prepared at three stages;

- Planning the Instructional Module
- Designing the Instructional Module
- Validating the Instructional Module

**SPECIFY THE TERMINAL PERFORMANCE: OBJECTIVE**

The Terminal Performance; Objectives specifies the final performance requirement and is therefore, the highest level of intellectual development in the module. The Terminal Performance was based on Students knowledge, understanding and skills in Pronunciation emphasizing **stress on words, rhythm in words and intonation on words.**
TOPIC SELECTION

- For the content, it was thought to select a topic from English Language. As English was investigator’s on field of study and interest.
- Selection of the topic from English pronunciations was done because it becomes appropriate skill to practice in Language Laboratory and necessary requirement to be fulfilled for learning spoken English.
- Five English teachers of different technical colleges were consulted to know their views, about topics taken from vocational curriculum in diploma level.

Their views have been recorded in the following table 2.1

Table 2.1
POPULARITY & DIFFICULTY OF TOPICS

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Topic</th>
<th>Most Popular</th>
<th>Most Difficult</th>
<th>Most interesting</th>
<th>Most boring</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stress</td>
<td>II</td>
<td>-</td>
<td>II</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Rhythm</td>
<td>-</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>3</td>
<td>Intonation</td>
<td>-</td>
<td>III</td>
<td>I</td>
<td>-</td>
</tr>
</tbody>
</table>

After identifying the above stated deficiencies, the content of the topic was selected in 10 lessons. ‘Listening Comprehension’ was analyzed in order to accomplish the instructional goals; to enable student to get accustomed to the accent of the speaker, understand what the speaker said and answer the question.

DECIDING INSTRUCTIONAL PROCESS

Audiolingual Approach expected for students learning through Language Laboratory group and traditional method for control group were chosen for teaching. Strategies based on the types of responses called for in the performance objectives. In the light of this study, Language Laboratory Teaching process was selected including:

- Initiation exercises
- Comprehensive exercise
- Structural drills
- Creative exercises
The following figure presents the Language Laboratory Teaching process:

- **USE OF LANGUAGE LABORATORY**
  - **Model of Speech**: Language laboratory can provide good models of the speech for the target language. The students initiate and practise these models.
  - **Power to the teacher**: It gives additional power to the teacher who can enable the students to hear a variety of speech models.
  - **Selection of exercises**: Language laboratory allows individual selection of exercises. Thus, it provides for individual differences.

- **CONDITIONS OF ADMINISTRATION**
  - **Student**: For student category, it was planned to include:
    - Performance as cognitive entry characteristics.
    - Factors, such as students' age, gender, socio-economic status.
  - **Teacher**: Role of the Investigator was defined in terms of developing instructional modules for learning through Language Laboratory, and administering the treatment in Language Laboratory.
    - Role of the English teachers of technical students in diploma level was to teach the control group.
  - **Class**
    - Class size in different technical colleges varied from 35 to 40 students.
    - Language Laboratory in technical colleges basically has the same size and the same number of the seat were available.
Development & Description of the Tools

- Colleges
  - It was planned to take four technical colleges under the Department of Vocational Education, Ministry of Education, Thailand, infrastructure & facilities of language laboratory.

- College district and community
  - Bangkok and Sattahip, in the urban and industrial area were selected as area for conducting investigation.

DESIGNING OF INSTRUCTIONAL MODULE

The designing of instructional modules was based on the following steps:

- Assessment of Pre-requisite Skills (Entry behaviour).
- Specifying the terminal behaviour.
- Content-Outline.
- Developing tests for Entry Behaviour and terminal behaviour.

ASSESSMENT OF PREREQUISITE SKILLS

Entry Behaviour is the knowledge and skills with which a learner enters into instructional programme. It is one of the important determinants of success of teaching-learning process, in general, and for implementing instructional programme through Language Laboratory. The assessment of Entry Behaviour consists of two main operations:

- specifying Assumptions about the learners and.
- determine the prerequisite skills acquired by the learners.
• **Assumptions about the learners:**

The learners selected for the experiment were studied for their general Characteristics, to assess whether the subsample groups do not differ markedly from each other.

- It was observed that sample consisted of Technical College Students of diploma level, boys and girls both.
- Average age of the students was between 15-18.
- The students were studying in technical colleges under the Department of Vocational Education, Ministry of Education, Thailand, infrastructure & facilities of language laboratory.
- Majority of the students belonged to educated middle class families.
- The students belonged to urban and industrial area.

• **Prerequisite skills**

The prerequisite skills of Technical College Students of Diploma level were identified with the help of three specialists in the subject area. These have been specified under major heads of:

• **Content Outline For Prerequisite Skills:**

- Concept of Types of Sounds, Syllables and facts
- Parts of Speech e.g. noun, pronoun verb, adjective concept of number & person, affirmation & negation
- Sentence, its parts and Types

• **Behavioural Specifications of Prerequisite Skills**

Before going through the instructional treatments, the students were expected to have acquired the following behaviours:

- Classify a given list of alphabets into consonants and vowels
- Give the number of syllables in each of five words listed and underline the stressed syllable
- State the meaning of noun in their own words
- Define pronoun in their own words
Development & Description of the Tools

- Give pronoun for a list of four different subjects
- Pick out the subjects from a given list of five sentences and specify the numbers and persons of each subject picked out
- Give the words used for affirmation and negation
- Pick out the verbs from the given sentences
- Pick out subjects, verb and complements from the given sentences
- Label the types of given sentences

TEST OF PREREQUISITE SKILLS

The assessment of present status of learner's capabilities helps teacher in finding out whether or not the student has acquired the prerequisites necessary for a particular instructional objective. This knowledge is best obtained through a test of Entry Behaviour also known as Prerequisites Skills Test. In contrast to a Pre-Test, which measures terminal performance before instruction begins, a test of Entry Behaviour measures previous learning. It helps to classify students into different entry levels. This assessment data is very useful in making instructional decisions for effective teaching (Dececco & Crawford, 1988).

♦ Purpose of the Prerequisites Skills Test

Before administering the instructional material, a judgement of students' Entry Behaviour levels was required. Furthermore, the purpose of this study was to find differences, if any, in the pattern of Prerequisites Skills of the students. For this purpose, the investigator designed a Prerequisites Skills Test. It is to be note that, pre-assessment is an important component of the Instructional Strategies. This assessment data identifies each student's capacity relative to the outcomes he/she is expected to reach by the end of the programme.

♦ Planning of the Prerequisites Skills Test

In order to list the items that might be required to test the prerequisites of the topics chosen for the learning packages, a survey of related literature was conducted. A list of such concepts and the related items was prepared by the investigator and then it was edited after conducting interviews with technical college students and their
English teachers. The discussion led to listing of concepts required to understand topics to be covered in the learning module.

♦ Writing of the items for the First Draft Prerequisite Skills Test

On the basis of discussions held with teachers, and students the investigator listed items and sub items that formed a part of prerequisites of a student in the present context. As the purpose of the test was to collect information about students’ Prerequisite Skills, the items and sub items were very carefully listed and worded for the students in technical colleges. The items were arranged to ensure systematic collection of information in minimum possible time without any ambiguity. Distribution of the items has been given in the following table 2.2.

Table 2.2

DISTRIBUTION OF ITEMS OF PREREQUISITE SKILLS TEST ON DIFFERENT DIMENSIONS

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Item Numbers</th>
<th>Number of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concepts and Types of Sounds and Syllables</td>
<td>1a, 1b, 2ai, 2aii, 2bi, 2bii, 2ci, 2cii, 2di, 2dii, 2ei, 2eii</td>
<td>12</td>
</tr>
<tr>
<td>Parts of speech e.g. noun, pronoun, verb, adjective, concept of number &amp; person</td>
<td>3, 4, 5a, 5b, 5c, 5d, 6aiii, 6bi, 6bi, 6bi, 6ciii, 6di, 6dii, 6eii, 6ei, 6ei, 6fii, 6fii, 6gii, 6gii, 6hii, 6hii, 6hii, 7, 8a, 8b, 8c, 8d, 8e</td>
<td>28</td>
</tr>
<tr>
<td>Sentence, its parts and types</td>
<td>6ai, 6bi, 6ci, 6dii, 6ei, 6fii, 6gi, 6hi, 6hii, 9, 10ai, 10aii, 10aiii, 10bi, 10bii, 10biii, 10ci, 10cii, 10ciii, 10di, 10dii, 10diii, 11a, 11b, 11c, 11d, 12a, 12b, 12c, 12d, 13</td>
<td>30</td>
</tr>
</tbody>
</table>
♦ Administration of the Prerequisite Skills Test

The set of items was tested for its comprehensibility with a group of thirty students. The tests were given and the purpose was explained. Instructions on how to answer the given items were made clear. Students were told to be honest and they were informed that the scores were not to be used for any grading purpose. Students had to write answers in the blanks provided against each item. It was found that the items in the Prerequisite Skills Test were comprehensive enough to test the full range of prerequisites. It was confirmed by students’ reports and also by the experts’ opinions. The test was administered on a small group of students (N=30). The scores obtained were used to analyse items and their modifications thereafter.

♦ Item Analysis and Modification of the Prerequisite Skills Test

For this purpose an item analysis was carried out and Difficult Values and Discriminative Powers were calculated for each item. For calculating Difficult Values and Discriminative Powers, Kelly’s procedure (1939) was adopted and top 27 percent and bottom 27 percent scorers were identified. The criteria of taking 27 percent cases in the upper and lower groups is in accordance with Kelly’s remarks that the best discrimination is obtained if one takes this percentage in the two groups.

Item difficulty is the mean item score, which stands for empirical probability that the target population will pass the item (Libert, 1977; Lewis-Beck, 1993). For each item correct responses in upper and lower groups were tally marked and thus Difficult Values and Discriminative Powers were calculated by using the following formula; and have been reported in the following table 2.3.
Table 2.3
Difficulty Values and Discriminative Power of items on Prerequisite Skills Test

<table>
<thead>
<tr>
<th>ItemNo</th>
<th>D.V.</th>
<th>D.P.</th>
<th>ItemNo</th>
<th>D.V.</th>
<th>D.P.</th>
<th>ItemNo</th>
<th>D.V.</th>
<th>D.P.</th>
<th>ItemNo</th>
<th>D.V.</th>
<th>D.P.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>0.43</td>
<td>0.62</td>
<td>6aiii</td>
<td>0.75</td>
<td>0.50</td>
<td>6hii</td>
<td>0.56</td>
<td>0.62</td>
<td>10dii</td>
<td>0.56</td>
<td>0.87</td>
</tr>
<tr>
<td>1b</td>
<td>0.43</td>
<td>0.62</td>
<td>6bi</td>
<td>0.68</td>
<td>0.37</td>
<td>6hiii</td>
<td>0.56</td>
<td>0.37</td>
<td>11a</td>
<td>0.56</td>
<td>0.62</td>
</tr>
<tr>
<td>2ai</td>
<td>0.62</td>
<td>0.75</td>
<td>6bii</td>
<td>0.62</td>
<td>0.50</td>
<td>7</td>
<td>0.75</td>
<td>0.50</td>
<td>11b</td>
<td>0.50</td>
<td>0.75</td>
</tr>
<tr>
<td>2a1i</td>
<td>0.56</td>
<td>0.62</td>
<td>6biii</td>
<td>0.68</td>
<td>0.62</td>
<td>8a</td>
<td>0.68</td>
<td>0.62</td>
<td>11c</td>
<td>0.62</td>
<td>0.50</td>
</tr>
<tr>
<td>2b1i</td>
<td>0.62</td>
<td>0.50</td>
<td>6ci</td>
<td>0.56</td>
<td>0.62</td>
<td>8b</td>
<td>0.68</td>
<td>0.37</td>
<td>11d</td>
<td>0.68</td>
<td>0.37</td>
</tr>
<tr>
<td>2b1i</td>
<td>0.68</td>
<td>0.37</td>
<td>6cii</td>
<td>0.43</td>
<td>0.62</td>
<td>8c</td>
<td>0.56</td>
<td>0.37</td>
<td>12a</td>
<td>0.62</td>
<td>0.50</td>
</tr>
<tr>
<td>2ci</td>
<td>0.56</td>
<td>0.37</td>
<td>6ciii</td>
<td>0.37</td>
<td>0.50</td>
<td>8d</td>
<td>0.62</td>
<td>0.50</td>
<td>12b</td>
<td>0.56</td>
<td>0.62</td>
</tr>
<tr>
<td>2c1i</td>
<td>0.37</td>
<td>0.50</td>
<td>6dii</td>
<td>0.56</td>
<td>0.37</td>
<td>8e</td>
<td>0.62</td>
<td>0.75</td>
<td>12c</td>
<td>0.50</td>
<td>0.75</td>
</tr>
<tr>
<td>2d1i</td>
<td>0.81</td>
<td>0.12</td>
<td>6diii</td>
<td>0.43</td>
<td>0.62</td>
<td>9</td>
<td>0.43</td>
<td>0.37</td>
<td>12d</td>
<td>0.68</td>
<td>0.62</td>
</tr>
<tr>
<td>2d1i</td>
<td>0.87</td>
<td>0.25</td>
<td>6diii</td>
<td>0.37</td>
<td>0.50</td>
<td>10ai</td>
<td>0.56</td>
<td>0.87</td>
<td>13</td>
<td>0.62</td>
<td>0.50</td>
</tr>
<tr>
<td>2ei</td>
<td>0.43</td>
<td>0.12</td>
<td>6e1</td>
<td>0.50</td>
<td>0.50</td>
<td>10a1i</td>
<td>0.62</td>
<td>0.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2ei1</td>
<td>0.56</td>
<td>0.12</td>
<td>6e1i</td>
<td>0.56</td>
<td>0.62</td>
<td>10a1ii</td>
<td>0.56</td>
<td>0.37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.75</td>
<td>0.50</td>
<td>6e1ii</td>
<td>0.62</td>
<td>0.75</td>
<td>10b1i</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.68</td>
<td>0.37</td>
<td>6f1</td>
<td>0.62</td>
<td>0.50</td>
<td>10b1ii</td>
<td>0.43</td>
<td>0.62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5a</td>
<td>0.43</td>
<td>0.62</td>
<td>6f1i</td>
<td>0.68</td>
<td>0.37</td>
<td>10b1ii</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5b</td>
<td>0.56</td>
<td>0.62</td>
<td>6f1ii</td>
<td>0.43</td>
<td>0.62</td>
<td>10c1i</td>
<td>0.56</td>
<td>0.37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5c</td>
<td>0.62</td>
<td>0.75</td>
<td>6g1</td>
<td>0.62</td>
<td>0.50</td>
<td>10c1ii</td>
<td>0.37</td>
<td>0.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5d</td>
<td>0.68</td>
<td>0.37</td>
<td>6g1i</td>
<td>0.62</td>
<td>0.50</td>
<td>10c1ii</td>
<td>0.75</td>
<td>0.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6ai1</td>
<td>0.62</td>
<td>0.50</td>
<td>6g1ii</td>
<td>0.50</td>
<td>0.75</td>
<td>10d1i</td>
<td>0.62</td>
<td>0.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6a1i</td>
<td>0.43</td>
<td>0.37</td>
<td>6h1</td>
<td>0.56</td>
<td>0.62</td>
<td>10d1i</td>
<td>0.62</td>
<td>0.75</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Selection of items was done according to Ebel's criteria (1966). The Table 2.3 shows the distribution of Prerequisite Skills Test as per Ebel's Discriminating Power Criterion.
Table 2.4
Table Showing the Distribution of Items of Prerequisite Skills Test as per Ebel’s Discriminating Power Criterion.

<table>
<thead>
<tr>
<th>Discriminating Power</th>
<th>Frequency</th>
<th>No. of items</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>.40 and above</td>
<td>51</td>
<td>1a, 1b, 2a, 2ai, 2bi, 2cii, 3, 5a, 5b, 5c, 6ai, 6aiii, 6bii, 6iii, 6ci, 6cii, 6ciii, 6dii, 6diii, 6ei, 6eii, 6eiii, 6fii, 6fiii, 6gii, 6giii, 6hii, 6hiii, 7, 8a, 8d, 8c, 10aii, 10aiii, 10bii, 10biii, 10cii, 10ciii, 10dii, 10diii, 10diiii, 11a, 11b, 11c, 12a, 12b, 12c, 12d, 13</td>
<td>Very good</td>
</tr>
<tr>
<td>Between .30 and .39</td>
<td>15</td>
<td>2bii, 2ci, 4, 5d, 6aii, 6bii, 6dii, 6fii, 6hiii, 8b, 8c, 9, 10aiii, 10ci, 11d</td>
<td>Reasonably good</td>
</tr>
<tr>
<td>Between .20 and .29</td>
<td>4</td>
<td>2di, 2dii, 2ei, 2eii</td>
<td>Need improvement</td>
</tr>
<tr>
<td>Below .20</td>
<td>-</td>
<td>Nil</td>
<td>Poor items</td>
</tr>
</tbody>
</table>

According to this criterion items with Discriminating Power less than 0.20 or below were rejected. No item was found to be having Discriminating Power below 0.20. So, none of the items was rejected. Items having Discriminating Power within 0.20 and 0.29 were modified in term of difficulty (item numbers 2di, 3dii, 2ei, 2eii.) All other items had Discriminating Power = 0.30 & above, so they were retained as such.

- SECOND DRAFT OF THE PREREQUISITE SKILLS TEST

The second draft of the Prerequisite Skills Test consisted of 70 items. All the items and their distribution over different dimensions of Prerequisite Skills was the same as for the first draft. The number, sequence, type for different items was exactly
the same as the first draft. Only item number 2 (2di, 2dii, 2ei, 2eii) was in modified form.

- **Administration of second draft of the Prerequisite Skills Test**

  The Prerequisite Skills Test was personally administered to 30 students by the investigator. The purpose of the test was explained and instructions were detailed. Students were told that the scores on the test would not be used for any grading purpose. Students had to supply the answers in the blanks provided against each item. Students were guided as per their requirement. The Discriminative Powers of the modified items i.e. Item numbers 2di, 2dii, 2ei, 2eii were found to be above 0.5, hence these items were retained as for the final draft. So all the items were retained as such in the final draft. The second try out resulted in the acceptance of the modified form as the final form.

- **SCORING KEY**

  The scoring procedure adopted for the Prerequisite Skills Test had marked different magnitudes depending on the type of the item. Maximum for the test were 40. The weightage for item numbers 3, 4, 7, 9 and 13 was one mark each. All of the other items were scored as half mark each. The division of marks for different questions has been given with the test in the Appendix 2 (i).

- **RELIABILITY**

  Reliability of the final draft of the tool was computed on the basis of data obtained from the scores of 30 students. Split-half reliability co-efficient of items of the scale was computed by scoring the items of the tool separately in two parallel forms of even and odd items. The split half reliability co-efficient of the scale was found to be 0.69. It indicates that the data obtained with the help of the tool was reliable enough for the group.

- **VALIDITY**

  The question of validity concerns the accuracy with which the item generated measures what it proposes to measure (Davis, 1964; Klevin and Kosecoff, 1976; Ebel, 1979). To estimate validity of the Prerequisite Skills Test, content validity was established. It was determined by substantially comparing test items to the postulated content domain. The validation process was logical and rational, involving the
development & description of the tools

judgement of correspondence between the test and underlying domains. For estimation of content validity, two university teachers from the Department of English and two postgraduate English teachers from the technical colleges were consulted. The experts were given the test along with details about domains and attributes under which different sections & items of the test were designed. The experts certified that the Prerequisite Skills Test was a valid tool. A copy of the Prerequisite Test has been given in Appendix 2 (i).

**DESIGNING INSTRUCTIONAL MODULE: SPECIFY THE TERMINAL PERFORMANCE/OBJECTIVE**

The Terminal Performance Objectives specifies the final performance requirement and is therefore, the highest level of intellectual development in the module. The Terminal Performance Objective was based on Students knowledge, understanding and skills in Pronunciation emphasizing stress on words, rhythm in words and intonation on words.

Unitwise objectives were derived from the statements of goals and have been paced in the tables below:

<table>
<thead>
<tr>
<th>TOPIC No.</th>
<th>INSTRUCTIONAL OBJECTIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>After the instructions are over, learner will be able to:</td>
<td></td>
</tr>
<tr>
<td><strong>Unit-1</strong></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>describe the importance of word accent.</td>
</tr>
<tr>
<td>1.2</td>
<td>classify words into one syllable or two syllables.</td>
</tr>
<tr>
<td>1.3</td>
<td>In language lab setting practice stressing the words with the accent on the first syllable.</td>
</tr>
<tr>
<td>1.4</td>
<td>identify the weak vowel in unaccented syllable</td>
</tr>
<tr>
<td>1.5</td>
<td>specify the weak vowels occurring in both accent and unaccented syllable</td>
</tr>
<tr>
<td>1.6</td>
<td>select unaccented word ending</td>
</tr>
<tr>
<td>1.7</td>
<td>list unstressed prefixes from disyllable words</td>
</tr>
<tr>
<td>1.8</td>
<td>Practice stressing the words with the accent on the second syllable</td>
</tr>
</tbody>
</table>
Unit-II

2. 2.1 list the words containing the same pairs of words with different accented syllable.
2.2 identify the words in respect of their grammatical function.
2.3 In language lab setting practice stressing the disyllable words used as noun and adjective on the first syllable.
2.4 practice stressing the disyllable words used as verb on the second syllable, in the language lab.
2.5 mark the stress on a correct syllable according to the grammatical function of the words.
2.6 select the correct stress on a syllable deal with the morphological structure of words.

Unit-III

3 3.1 In the language laboratory, do supervised practice using the correct symbols for primary accent and secondary accent.
3.2 practice stressing the three-syllables words with the primary accent on the first syllable.
3.3 practice stressing the three-syllables words with the primary accent on the second syllable.
3.4 practice stressing the three-syllables words with the primary accent on the third syllable.
3.5 practice stressing the four-syllables words with the primary accent on the first syllable.
3.6 practice stressing the four-syllables words with the primary accent on the second syllable.
3.7 practice stressing the four-syllables words with the primary accent on the third syllable.
3.8 practice stressing the longer words with the primary accent on the different syllable.
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Unit-IV

4. 4.1 describe the rules related to suffixes.
    4.2 identify the function of inflexional suffixes.
    4.3 using language lab, practice stressing the words with inflexional suffixes.
    4.4 describe the function of derivational suffixes.
    4.5 distinguish between inflexional suffixes and derivational suffixes.
    4.6 practice stressing the words with derivational suffixes, under supervised language lab conditions.

Unit-V

5. 5.1 list the suffixes which stressed on the syllable containing the suffixes.
    5.2 In language lab, practice stressing the words containing suffixes:-aire, -eer, -ier, -ee and -ate on the syllable containing the suffix.
    5.3 list the suffixes which stressed on the syllable preceding the suffixes.
    5.5 practice stressing the words containing the suffixes:-ion, -ic, -ics, -ical, -ically, -ity, -ial, -ially and -ian on the syllable the suffix, in a language laboratory setting.

Unit-VI

6. 6.1 distinguish between content words and grammatical words.
    6.2 Through language laboratory, learn to practice stressing on the meaning-content words and unstressing on the grammatical words.
    6.3 mark stressed symbols on the accented syllable.
    6.4 list the rhythmic patterns of the sentences in the lesson.
    6.5 In supervised language laboratory setting, practice using the rhythmic patterns for the given sentences.

Unit-VII

7. 7.1 describe a rising tone, a falling tone and the falling-rising tone.
    7.2 practice using a falling tone and the falling-rising tone in a language lab.
7.3 list the other rhythmic patterns different from the previous lesson.
7.4 practice in language lab using the different rhythmic patterns according to the sentences.

**Unit-VIII**

8. 8.1 describe the function of intonation.
8.2 specify the nucleus of the word group.
8.3 explain the patterns of tune movements
8.4 Through a model language lab lesson, practice using tune Movement
8.5 practice listening the dialogue for details and intonation.
8.6 given a description and answer the questions.
8.7 In a language lab, practice uttering some sentences from the dialogue.

**Unit-IX**

9. 9.1 Under supervised language lab conditions, practice using tune movements of intonation.
9.2 practice listening the dialogue for details and intonation
9.3 answer the questions from a given passage
9.4 practice uttering some sentences from the dialogue

**Unit-X**

10. 10.1 In a language lab, practice listening comprehension and intonation
10.2 answer the questions after reading a passage given to them.
10.3 practice uttering some sentences from the passage
DESIGNING INSTRUCTIONAL MODULES:

CONTENT-SEQUENCE

The content selected to be taught and the emphasis given to specific aspects of the content are two significant variables affecting student learning and the educative process (Walker and Schaffarzick, 1974). Before preparing the lesson plans, selected subject matter was analyzed and sequenced which has been placed in the table below:

Table 2.6

<table>
<thead>
<tr>
<th>LESSONS FOR LANGUAGE LABORATORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOPIC WORD ACCENT</td>
</tr>
<tr>
<td>LESSON 1 TWO-SYLLABLE WORDS</td>
</tr>
</tbody>
</table>

Introduction

Word accent is an essential part of word shape. Every word in English, for example, has certain characteristics accentual patterns shared by the speaker and the listener alike. To learn the pronunciation of an English word, it is absolutely necessary to learn its accentual pattern, apart from the vowel and consonant sounds constituting it. Wrong accentuation may deform a word beyond recognition and impair its intelligibility in a very serious way.

In words of more than one syllable, one syllable or occasionally two syllables stand out from the remainder. The syllable or syllables which stand out, or are prominent, are said to be accented, or to receive the accent. For instance, in the English words pro-mi-nent and per-ceive, the first and second syllables respectively are accented.

- Words with the accent on the 1st syllable

Each of the following words has two syllables. The first syllable in each word is more prominent than the second. Hence the accent is said to be on the first syllable. The second syllable is said to be unaccented.
Words for practice:
1. 'action 11. 'follow 21. 'offer
2. 'answer 12. 'garden 22. 'people
3. 'better 13. 'golden 23. 'question
4. 'body 14. 'human 24. 'reason
5. 'common 15. 'insect 25. 'system
6. 'country 16. 'journey 26. 'ticket
7. 'different 17. 'knowledge 27. 'useful
8. 'doctor 18. 'letter 28. 'very
9. 'every 19. 'moment 29. 'welcome
10. 'English 20. 'nature 30. 'yellow

Note: You may have noticed that the words in the above lists contain all the vowels except /ə/.

In the first syllable /ə/ never occurs in an accented syllable. Note also that the second syllable of all these words has a weak vowel. The weak vowel are /æ/, /ʌ/ and /ə/. Of these /ʌ/ and /U/ are found to occur in both accented and unaccented syllables. But /ə/ always occurs only in unaccented syllables.

Unaccented Word Endings.
-Words ending in -er, the vowel in the last syllable is pronounced /ə/ which occurs in unaccented syllables.
   'better  'weather  'worker
-Words ending in -ar are also pronounced with /ə/ and never accented.
   'sugar  'circular  'popular
-Words ending in -ur, -or, -our, -re are also pronounced /ə/.
   'humour  'colour  'motor
   'error  'centre  'theater
• **Words with the accent on the 2\textsuperscript{nd} syllables**

• **Unstressed Prefixes**

- Prefix a- is pronounced as /æ/ and is invariably unaccented.
  
  a\'bout \hspace{1mm} a\'cross \hspace{1mm} a\'dress
  a\'fraid \hspace{1mm} a\'gain \hspace{1mm} a\'ply
  a\'round \hspace{1mm} a\'void \hspace{1mm} a\'way

- Words which begin with unstressed prefixes be-, de-, pre-, re-, se-, are pronounced with /l/ or /\overline{\alpha}/.
  
  be\'cause \hspace{1mm} be\'tween \hspace{1mm} de\'cide
  de\'lay \hspace{1mm} pre\'pare \hspace{1mm} pre\'vent
  re\'port \hspace{1mm} re\'peat \hspace{1mm} se\'cret

- Prefixes e-, em-, en-, ex- are pronounced with /l/ when these are unaccented. These prefixes pronounced with a weak vowel are never stressed.
  
  e\'lect \hspace{1mm} e\'vent \hspace{1mm} e\'ffect
  em\'ploy \hspace{1mm} en\'joy \hspace{1mm} ex\'plain

- Unstressed prefixes pro-, co-, com-, con-, cor- and su- are pronounced with the weak vowel /\overline{\alpha}/.
  
  pro\'tect \hspace{1mm} pro\'vide \hspace{1mm} col\'lect
  com\'bine \hspace{1mm} con\'cern \hspace{1mm} con\'nect
  cor\'rect \hspace{1mm} suc\'ceed \hspace{1mm} sup\'port

**Word for practice**

1. a\'bove \hspace{4mm} 11. en\'gage \hspace{4mm} 21. o\'bey
2. a\'go \hspace{4mm} 12. e\'nough \hspace{4mm} 22. ob\'ject
3. be\'come \hspace{4mm} 13. es\'cape \hspace{4mm} 23. per\'mit
4. be\'lieve \hspace{4mm} 14. ex\'press \hspace{4mm} 24. pos\'ses
5. com\'pare \hspace{4mm} 15. for\'get \hspace{4mm} 25. pre\'serve
6. com\'mand \hspace{4mm} 16. ho\'tel \hspace{4mm} 26. re\'mind
7. con\'trol \hspace{4mm} 17. im\'prove \hspace{4mm} 27. to\'day
8. de\'pend \hspace{4mm} 18. in\'clude \hspace{4mm} 28. un\'less
9. des\'troy \hspace{4mm} 19. ma\'chine \hspace{4mm} 29. u\'pon
10. dis\'cuss \hspace{4mm} 20. mis\'take \hspace{4mm} 30. wi\'thin

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Note: the unaccented prefixes in the above lists of words have the weak vowels /ə/ or /ɜ/.

**Ear Training**

The students listen to each word twice and the students have to say whether the accent is on the first or second syllable.

1. always
2. around
3. believe
4. city
5. contain
6. declare
7. enough
8. follow
9. govern
10. human

11. increase
12. judgement
13. neglect
14. observe
15. offer
16. perhaps
17. rather
18. something
19. support
20. water

**Production Test**

This is a test of the production of correct accentual pattern. Students have to make the stress and say these words with the correct accentuation.

1. about
2. arrange
3. business
4. certain
5. complete
6. defence
7. explain
8. forget
9. hotel
10. husband

11. instead
12. machine
13. mistake
14. object(v)
15. prepare
16. propose
17. reduce
18. succeed
19. suggest
20. wisdom
LESSON 2
FUNCTIONAL ACCENT IN WORDS

The accentual pattern of a number of English disyllabic words depends upon their grammatical function. If these words are used as nouns or adjectives, the accent is on the first syllable and if these are used as verbs, the accent is on the second syllable.

It is to be remembered, however, that not all disyllable words can be used as nouns and verbs undergo such a shift in the accented syllable. There are words like 'limit, 'order, re'mark, 'visit, ad'dress, ac'count, 'answer, 'copy, 'telephone, etc. which are accented on the same syllable whether they are used as nouns or as verbs.

<table>
<thead>
<tr>
<th>Noun/Adjective</th>
<th>Verb</th>
<th>Noun/Adjective</th>
<th>Verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>'absent</td>
<td>ab'sent</td>
<td>'object</td>
<td>ob'ject</td>
</tr>
<tr>
<td>'accent</td>
<td>ac'cent</td>
<td>'perfect</td>
<td>per'fect</td>
</tr>
<tr>
<td>addict</td>
<td>ad'dict</td>
<td>'permit</td>
<td>per'mit</td>
</tr>
<tr>
<td>'compound</td>
<td>com'pound</td>
<td>'produce</td>
<td>pro'duce</td>
</tr>
<tr>
<td>'concert</td>
<td>con'cert</td>
<td>'present</td>
<td>pro'sent</td>
</tr>
<tr>
<td>'conflict</td>
<td>con'flict</td>
<td>'progress</td>
<td>pro'gress</td>
</tr>
<tr>
<td>'contract</td>
<td>con'tract</td>
<td>'project</td>
<td>pro'ject</td>
</tr>
<tr>
<td>'contrast</td>
<td>con'trast</td>
<td>'protest</td>
<td>pro'test</td>
</tr>
<tr>
<td>'decrease</td>
<td>de'crease</td>
<td>'rebel</td>
<td>re'bel</td>
</tr>
<tr>
<td>'desert</td>
<td>de'sert</td>
<td>'record</td>
<td>re'cord</td>
</tr>
<tr>
<td>'export</td>
<td>ex'port</td>
<td>'subject</td>
<td>sub'ject</td>
</tr>
<tr>
<td>'frequent</td>
<td>fre'quent</td>
<td>'survey</td>
<td>sur'vey</td>
</tr>
<tr>
<td>'increase</td>
<td>in'crease</td>
<td>'transfer</td>
<td>trans'fer</td>
</tr>
</tbody>
</table>

Sometimes variations in word accent in English are associated with the morphological structure of words (i.e. the way words are constituted from their stems, prefixes, and suffixes). Accent shifts from the first syllable to the second, the third, or the fourth syllable as longer words are derived from smaller words, or as, to put it differently, words change their grammatical forms. Given below is a list of grammatically related words with the primary accent marked on each word:

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Primary Accent on

<table>
<thead>
<tr>
<th>First syllable</th>
<th>Second syllable</th>
<th>Third syllable</th>
<th>Fourth syllable</th>
</tr>
</thead>
<tbody>
<tr>
<td>'democrat</td>
<td>de'mocracy</td>
<td>demo'cratic</td>
<td></td>
</tr>
<tr>
<td>'diplomat</td>
<td>di'plomacy</td>
<td>diplo'matic</td>
<td></td>
</tr>
<tr>
<td>'politics</td>
<td>po'litcal</td>
<td>polit'ician</td>
<td></td>
</tr>
<tr>
<td>'photograph</td>
<td>pho'tographer</td>
<td>photo'graphic/al</td>
<td></td>
</tr>
<tr>
<td>'mechanism</td>
<td>me'chanical</td>
<td>mecha'nician</td>
<td>mechani'zation</td>
</tr>
<tr>
<td>'family</td>
<td>fa'miliar</td>
<td>famili'arity</td>
<td></td>
</tr>
<tr>
<td>'telephone</td>
<td>te'lephony</td>
<td>tele'phonic</td>
<td></td>
</tr>
</tbody>
</table>

Exercise-1

In this exercise, practice is given in using ten of the above words according to their function in sentences. In each sentence, the student will find some accent marks ( ’ ) and the teacher plays the tape for each sentence in turn. Students repeat, taking special care to put the accent on the correct syllable of the word and to make the tonic syllable clearly more prominent than all the other syllables in the sentences.

A. Present (v) - pre'sent (accented on second syllable)
   1. 'Please pre'sent your `case.
   2. The `Dean will pre'sent the 'graduates to the `Chancellor.
   3. 'Please pre'sent your self at 'nine o' `clock.
   4. We'll pre'sent 'vase to the 'outgoing 'Principal.

B. Present (adj) - present (accented on the first syllable)
   5. 'What is the 'present po'sition?
   6. 'Who is the 'present di'rector?
   7. He was 'present at the 'lecture.

C. Present (n) - present (accented on the first syllable)
   8. He's 'busy at 'present.
   9. I have 'no sug'estion to 'make for the 'present
   10. I 'sent him a 'birthday 'present.
Exercise-2

Note the stress pattern in the following sentences and repeat these sentences in which they are used by labeling the grammatical function of the underlined words.

1. 'Make sure our 'sales don't de'crease.
2. Our 'sales have 'shown a 'decrease recently.
3. 'Why did you de'cide to de'sert your `family?
4. The Sa'hara is the 'world's 'largest 'desert.
5. He's 'trying to in'crease his `wealth.
6. The 'increase in `food pro'duction is en'couraging.
7. 'Why did you in'sult me ?
8. I 'take that as an `insult.
9. I re'fuse to 'go to the `party.
10. You have 'turned the 'street into a 'refuse dump.
11. Don' sub'ject yourself to bad `influences.
12. 'What is the 'subject for 'next week's de'bate?
13. We are 'no longer 'subject to 'foreign `rule.
14. We 'ought to pro'duce more `food.
15. Agri'cultural 'produce is 'brought here from `village.
16. The 'patient didn't pro'gress as we ex'pected.
17. Our 'pro'gress on the 'journey was very 'slow.
18. We should 'like to re'cord this `programme.
19. There's a 'record of it in the `library.
20. I must ob'ject to this pro'posal.
21. 'Look at that 'distant `object.

ProductionTest

Place the stress on the appropriate syllables of the words underlined while reading them.

1. We want to in'crease the size of this library.
2. He was not pres'ent at the meeting.
3. We pro'duce a lot of tea in this country.
4. We have placed on re'cord our appreciation of his services.
5. There has been a rapid in'crease of population in this country.
6. What sub'jects have you taken for B.A.?
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7. What shall we present him on his retirement?
8. The prices of agricultural produce should be kept stable.
9. We're going to record your speech.
10. Don't subject yourself to this kind of pressure.
11. His conduct was satisfactory.
12. He's a frequent visitor to our hostel.
13. I object to your remark.
14. He speaks English with a good accent.
15. We don't need to import foodgrains.

LESSON 3
POLYSYLLABIC WORDS

Which syllable(s) of a polysyllabic word is/are to be pronounced with greater prominent? This is a difficult question to answer because in English words the accent is both free and fixed. It is free in the sense that it is not associated with a particular syllable of a word. And the accent in English words is fixed in the sense that the main accent always falls on a particular syllable so the students have to learn this very important aspect of spoken English with great care.

This lesson deals with the accentuation of words more than two syllables and one of the accented syllables has the main or primary accent, and the other, the secondary accent in some words. The symbols used for marking the primary accent and secondary accent are the vertical strokes (') and (,) respectively, put in front of the syllable concerned.

Words Practice

Exercise 1 Words of three syllables, with the primary accent on the first syllable.

1. 'accident 10. 'educate 19. 'operate
2. 'advertise 11. 'excellent 20. 'popular
3. 'agency 12. 'family 21. 'quality
4. 'beautiful 13. 'glorious 22. 'recognize
5. 'bicycle 14. 'holiday 23. 'satisfy
6. 'calculate 15. 'industry 24. 'terrible
7. 'company 16. 'library 25. 'yesterday
8. 'dangerous 17. 'memory
9. 'difficult 18. 'numerous
Exercise 2 Words of three syllables, with the primary accent on the second syllable:

1. ac'custom  6. di'rection  11. fa'miliar
2. be'haviour  7. dis'cussion  12. im'portant
3. com'mittee  8. en'courage  13. pro'duction
4. con'dition  9. es'sential  14. re'lation
5. de'cision  10. ex'ample  15. to'gether

Exercise 3 Words of three syllables, with the primary accent on the third syllable:

1. rec'olect  6. ad'dres'see  11. Pana'ma
2. recom'mend  7. ciga'rette  12. per'son'nel
3. bri'ga'dier  8. em'ploy'ee  13. de'vo'ee
4. com'man'dant  9. coin'cide  14. engi'neer
5. ques'tion'nair'ee  10. guaran'tee

Four - syllables Words

-Accent on the first syllable

1. 'comf'ortable  3. 'honorary  5. 'honourable
2. 'ordi'nary  4. 'ap'plicable  6. 'ac'curate

-Accent on the second syllable

1. com'munity  6. a'ri'metic  11. ri'diculous
2. il'lit'erate  7. ac'celerate  12. con'servative
3. ad'vertisement  8. pho'tography  13. as'sociate
4. de'vel'opment  9. par'ticipate  14. a'nalogy
5. e'xaggerate  10. ap'preciate

-Accent on the third syllable

1. ma'gerial  6. ma'the'matics
2. pan'o'rama  7. acc'i'dential
3. indi'vidual  8. appl'i'cation
4. inde'pendent  9. app'a'rus
5. ex'hi'bition  10. elec'trician

-Accent on the fourth syllable

1. dedi'cate  2. e.xaminee
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Longer words

The following words with more than four syllables:

1. arbitrarily
2. itinerary
3. enthusiasm
4. irresponsible
5. electricity
6. popularity
7. appreciation
8. civilization

Production test

In the case of words having two accented syllables- one primary and one secondary-mark both the syllables with ' and ..

1. comfortable
2. condition
3. example
4. family
5. personnel
6. development
7. accident
8. quality
9. library
10. operate
11. dangerous
12. industry
13. mechanism
14. telephone
15. photograph
16. engineer
17. questionnaire
18. decision
19. electrician
20. application

LESSON 4

RULES RELATED TO SUFFIXES

1.1. Inflectional Suffixes

The inflectional suffixes are those which when attached to words do not change their part of speech. Such suffixes -ed, -er, -est, -es and -ing do not affect the accent of the word.

'simple
'simpler
'theavy
'theaviest
'recognize
'recognizes, 'recognizing, recognized
'acc'ompany
'acc'ompanies, acc'ompanying, acc'ompanied
's'tudent
's'tudents
1.2 Derivational Suffixes

The derivational suffixes are those which when attached to words change their part of speech. The following derivational suffixes do not normally affect the accent. (The pronunciation of each suffix is given immediately after its spelling.)

- **-age** /ɒdʒ / : *person* → *personage*

- **-ance** /əns / : *appear* → *appearance*

- **-ant** /ænt / : *resist* → *resistant*

- **-ence** /əns / : *differ* → *difference*

Note except the words *refer* → *reference*  

-prefer* → *preference*

- **-ent** /ænt / : *deter* → *deterrent*

- **-en** /en / : *lighten* → *lighten*

- **-er/-or** : *advise* → *adviser*

- **-ess** /es / : *tigress* → *tigress*

- **-ful** /fl / : *beauty* → *beautiful*

- **-fy** /fai / : *beautify* → *beautify*

- **-hood** /hʊd / : *womanhood* → *womanhood*

- **-ice** /is / : *cowardice* → *cowardice*

- **-ish** : *yellow* → *yellowish*

- **-ism** /ɪz / : *Indianism* → *Indianism*

- **-ive** /ɪv / : *attract* → *attractive*

- **-less** /lɪs / : *meaning* → *meaningless*

- **-ly** /lɪ / : *foolish* → *foolishly*

- **-ment** /mɑnt / : *government* → *government*

- **-ness** /nɪs / : *happiness* → *happiness*

- **-ship** /ʃɪp / : *fellowship* → *fellowship*

- **-ter** /tə / : *laugh* → *laughter*

- **-ure** /ə / : *enclose* → *enclosure*
Production Test

Mark the accent with a vertical bar.

1. tables
2. simplest
3. certainly
4. conclusive
5. brighten
6. carriage
7. management
8. loveliness
9. feverish
10. actress
11. colourful
12. beginner
13. supervisor
14. reasoning
15. submitted

LESSON 5

RULES RELATED TO SUFFIXES (CONTINUED)

On the other hand, the following suffixes do affect the words accent. The rule of accentuation is given in each case. It relates to the placement of the primary accent.

1. Words containing the suffixes -aire, -eer/-ier, -ee and -ate (in verbs consisting of two syllables) are accented on the syllable containing the suffix:
   - millio'naire
   - question'naire
   - engineer
   - translate
   - re'late
   - dic'tate

2. Words containing the following suffixes are accented on the syllable preceding the suffix:
   - appli'cation,
   - edu'cation
   - produc'tion
   - conver'sation
   - infor'mation
   - recog'nition
   - di'vision
   - oc'casion
   - situ'ation
-ic, -ics, -ical, -ically:

academic phonetics practical
electric physics geographically
scientific mechanical economically
linguistics musical scientifically

-ity

tivity necessity quality
curiosity opportunity responsibility
electricity possibility

-ial, -ially, -ian

artificial commercially electrician
confidential confidentially musician
industrial essentially politician
official magician physician

Production test

Mark the primary accent on the following words and say them correctly.

1. provision 6. systematically 11. fundamental
2. industrial 7. delicious 12. ethics
3. population 8. university 13. economy
4. opportunity 9. billionaire 14. create
5. librarian 10. guarantee 15. educate

LESSON 6

ACCENT AND RHYTHM IN SENTENCES

Connected speech in English has its own patterns of accent words that are important for meaning-content words like nouns, adjectives, principal verbs and adverbs—are generally accented. Grammatical words like articles, personal and relative pronouns, auxiliary verbs, prepositions and conjunctions are generally not accented for example, in the sentence,

He’s 'lost his 'pen.

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The words 'lost and 'pen are accented, but he's which is short and the word his are not accented. When a word of more than one syllable is accented in connected speech, the accent falls on the syllable that is normally accented when the word is said in isolation. For example in the sentence.

'Raj has ne'glected his 'studies. The words: Raj, neglected and studies are accented. The word neglected is accented on the second syllable that is neglected and the word studies, which has the tonic accent, is accented on the first syllable stu-. In English, the stressed or accented syllables, which are pronounced with greater force than the other syllables from a succession of beats coming at regular intervals of time. The other syllables, which are unaccented are fitted into the intervals of time available between the accented syllables. If there are several unaccented syllables in succession they must be said quickly to fit into time available. For example (accented syllables are marked ('),( ) as earlier.

1. 'Raj ne'glected his 'studies.
2. 'Raj has ne'glected his 'studies.
3. 'Raj has been ne'glecting his 'studies.

In example 1. There is one unaccented syllable ne- between accented syllable Raj and glect.

In example 2, there are two unaccented syllables: has and ne-. They must be said in the same interval of time as that taken for the single unaccented syllable in example 1.

In example 3, there are three unaccented syllables in successions has been ne-. They must be said in the same interval of time as that taken for the single unaccented syllable in example 1. You will, therefore, appreciate that they must be said quickly. It will not be right to say.

'Raj has been ne'glecting his 'studies giving equal prominence to every syllable and producing all the syllables at equal intervals of time. This lesson is designed to give students practice in acquiring the characteristic rhythm of English speech by accenting only the relevant syllables.
NONSENSE SYLLABLES:

It will help students to appreciate the rhythmic patterns in the following exercises, if teachers call out for each set of examples a succession of non-syllables using ‘Turn’ for accented syllables, and ‘Ti’ for unaccented syllables. It will also help if he taps on a desk or table at each accented syllables she says it. Students should also be encouraged to do this. This pattern for the three examples given / cited earlier will be:

1. ‘turn ti’turn ti ti ti ‘Raj neglected his studies.
2. ‘turn ti ti ti’turn ti ‘Raj has neglected his studies.
3. ‘turn ti ti ti ti ti’turn ti ‘Raj has been neglecting his studies.

Contracted form

Note the frequent occurrence of contracted forms in the following exercises like I’m, it’s there. The rhythmic patterns given cannot be produced correctly if the full forms used here by mistake.

Repetition Practice

   1. I ‘turned it ‘off.
   2. She’s ‘gone to ‘bed.
   3. It’s ‘made of’ ‘wood.
   4. I ‘can’t a’gree.

b. Rhythmic pattern- ti ‘turn ti ti ‘turn.
   1. I ‘promise to ‘come.
   2. I ‘want him to ‘go.
   3. It ‘started to ‘rain.
   4. I ‘ll ‘try to im’prove.

   1. We ‘went to the ‘market.
   2. I ‘saw him on ‘Monday.
   3. He ‘lifted the ‘cover.
   4. Se’lect all the ‘good ones.

d. Rhythmic pattern- ‘turn ti ti ti ‘turn.
   1. ‘Follow the ‘crowd.
   2. ‘Leave it be’hind.
Development & Description of the tools

3. 'What have you 'done?
4. 'Ram was at 'home.

e. Rhythmic pattern-ti 'turn ti 'turn ti 'turn.
   1. I 'want to 'buy a 'pen.
   2. He 'practiced 'every'day.
   3. I 'can't re'member 'how.
   4. It 'happens 'all the 'time.

f. Rhythmic pattern- 'turn ti ti ti 'turn ti.
   1. 'When are you re'turning?
   2. 'Thank you for the 'money.
   3. 'Call again to'morrow.
   4. 'Take me to your 'leader.

g. Rhythmic pattern-ti ti 'turn ti ti ti 'turn.
   1. He 'was 'sitting at his 'desk.
   2. She’ll be 'sending them to'day.
   3. I'm co'lecting it my'self.
   4. There are 'certainly e'nough.

h. Rhythmic pattern-ti 'turn ti ti ti 'turn.
   1. He's 'offering you a 'sweet.
   2. The 'questions are on the 'board.
   3. I'm 'taking another call.
   4. It's 'difficult to be'lieve.

i. Vary rhythmic patterns.
   1. You 'ought to 'have your 'lunch.
   2. 'Don't be a 'fool.
   3. I'm 'going on a 'journey.
   4. 'What are you dis'cussing?
   5. It 'can't su'ceed.
   6. We're pre'paring to de'part.
   7. The 'books are in'side.
   8. The 'Government re'signed.
   9. The 'teacher was 'angry.
  10. The 'factory has been 'closed.
Exercise

Ear Training

The teacher plays the tape for each of the following sentences twice with the correct accentuation as indicated in the marked texts. Students underline the accented syllables in pencil.

Note: Students must underline only single syllables, not whole words if they contain more than one syllable.

1. A show has been arranged.
2. He invited us to say.
3. Everyone agreed.
4. He drank a glass of milk.
5. Don’t offend the judge.
6. I’m accepting your proposal.
7. I think I’ve lost the address.
8. I can’t remember him.
9. Leave her alone.
10. I’ve completely forgotten the name.

Production Test

Students must read the sentences given below with the correct accentual and rhythmic patterns. The teacher should check students reading by referring to the marked texts.

1. We think he’s right.
2. I’m looking for stamps.
3. He injured his shoulder.
4. Turn off the right.
5. We couldn’t find the ball.
6. Thank you for the money.
7. He admitted he was wrong.
8. It's difficult to believe.
9. Don’t be a fool.
10. The factory has been closed.
LESSON 7
ACCENT AND RHYTHM

In the previous chapter we referred to 'content words' such as nouns, adjectives, principal verbs and adverbs- which are generally accented and grammatical words-such as articles, personal and relative pronouns, auxiliary verbs, prepositions and conjunctions-which are generally not accented. Some students have the tendency to accent grammatical words when they come to the end of a sentence, but these words should not be accented unless they have some particular significance attached to them.

1. You 'ought to 'help me. (pronoun)
2. 'When are you 'going to 'send for it? (Prep.+ pron)

In these examples, and in many more like them which follows. The pitch of the voice falls on the tonic syllable, and the remaining syllables are pronounced without accentuation on a low pitch. Teachers must take sure that students give a sufficiently strong emphasis to the tonic syllable if they do so, they will be less likely to emphasize any unmarked syllables which may follow.

Repetition Practice:

a) Rhythmic pattern - 'tum ti
   1. 'Help me.
   2. 'Ask me.
   3. 'Buy some.
   4. 'Tell her.
   5. 'Mend it.

b) Rhythmic pattern- ti 'tum ti 'tum ti
   1. You 'ought to 'help me.
   2. She 'didn't 'ask.
   3. I 'want to 'buy them.
   4. Per'haps he'll 'tell her.
   5. The 'man can 'mend it.

c) Rhythmic pattern- 'tum ti ti
   1. 'Send for it.
   2. 'Look at them.
   3. 'Talk to him.
   4. 'Give her some.
d) Rhythmic pattern- 'tum ti ti'tum ti ti'tum ti ti ti
1. 'When are you 'going to 'send for it?
2. 'Try to per'suade him to 'look at them.
3. 'Nobody 'wanted to 'talk to him.
4. 'Why did you 'ask me to 'give her some.
5. 'Ask the di'rector to 'show me it.

e) Rhythmic pattern- 'tum ti ti ti.
1. 'Hide it from them.
2. 'Hold it for me.
3. 'Show it to her.
4. 'Take me to him.
5. 'Buy some for them.

f) Rhythmic pattern- ti 'tum ti ti ti.'tum ti ti'tum ti ti ti ti
1. The 'teacher are 'trying to 'hide it from them.
2. I 'told them to 'stand there and 'hold it for me.
3. Re'mind the at'tendant to 'show it to her.
4. He's 'gone to the 'market to 'buy some for them.
5. I 'wonder if 'Mary could 'throw it to me.

Repetition Practice
Varying rhythmic patterns
1. Col'lect a 'new one.
2. 'Don't interfer'e with the 'rest of them.
3. I 'wouldn't have 'bothered to 'mark it.
4. He 'wants us to 'go and 'look at them.
5. My 'father 'bought me them.
6. He 'didn't 'want to 'spoil it for you.
7. You'll 'have to put 'up with it.

Exercise
Ear training
The teacher broadcasts the tape of each sentence twice from the marked text. Students underline the accented syllables:
1. He's gone to the bazaar.
2. I simply forgot to remind him.
3. I hope you weren't expecting me.
4. Colour the picture at the bottom of it.
5. Apparently John had held on to it.
6. Mary decided to give it to her.
7. We've been discussing the examinations.

Production Test
Students read the sentences with the correct accentual and rhythmic patterns.
The teacher checks it with marked text.
1. Which is the way to do it?
2. Tomorrow's the day for it.
3. Don't let him take it from you.
4. Remember to send me one.
5. I was attracted to her.
6. Try to explain it to him.
7. I'm reserving a seat for you.
8. The attendant will get some for us.
9. I am afraid of you'll have to put up with it.
10. Tell him to hold on to them.

LESSON 8
THE TONES AND LISTENING DIALOG ‘LEAVING A MESSAGE’

1) Level (Static)

* On the basis of the level the tone is classified under two heads: a high level tone and a low level tone. A high level tone is marked with a symbol (') above and in front of the syllable to which it refers:

'Men
'Have

* A low level tone is marked with a symbol (' ) below and in front of the syllable to which it refers:

'Now
'Then
This mark is also used to indicate stressed syllables after a rising nucleus.

2) Moving (Kinetic) Tones

- A falling tone is marked with a symbol '[' in front of the syllable to which it refers. The symbol will be above the line for a high falling tone and below the line for a low falling tone:
  - /Yes \l do /
  - \Do\ tell.

- A rising tone is marked with a symbol ']' in front of the syllable to which it refers. The symbol is above the line for a high rising tone and a low rising tone
  - 'Can you come?
  - 'Three

- The falling-rising tone is marked with a symbol [v] above and in front of the syllable to which it refers.
  - v Try
  - v Sleep

3) THE USE OF TONES

A falling tone is used in ordinary statements, questions, command:

a) In ordinary statements made without emotional implications:
   - I \m /writing a \book

b) In questions beginning with a question words such as: what, why or how. These are the questions which are said in a natural and sometimes unfriendly way:
  - 'Who \did it?
  - 'What \happened?
  - 'How will you \go there?

c) In command:
  - 'Don't \eat it
  - 'Finish your \work
In British R.P., a falling tone occurs in a typical intonation contour. The first syllable of the group is said on a high level note. Thereafter each successive accented syllable is said on a slightly lower note until the fall on the last accented syllable, which has a nuclear tone. Unaccented syllables before the first accented syllable and after a falling nuclear tone are normally said on a low note. Whether the nuclear tone takes a high or a low fall usually depends on the degree of intensity which the speaker imparts to his utterance.

A rising tone is used:

a) In complete utterance, often the first clause of a sentence e.g.
   'When I went there, /it was /dark. Luckily, /the snake didn't /bite me.

b) In questions which demand an answer 'yes' or 'no', e.g.
   'Can you help me?
   Is John at home?
   'Are you listening to me?

c) In 'Wh' questions which are said in a warm, friendly way, for example,
   'What's the time?
   'How's your father?
   'When are you coming?

d) In polite requests or encouraging invitations, e.g.
   'Come here, please.
   Do come to our house.

The falling-rising tone

The use of this tone involves a moderately high to low fall, followed by rise in pitch from low to medium. This tone is used for special implications not verbally expressed. The term 'Special implications' can include insinuations, veiled insult, apology, unpleasant news, happiness, reassurance, or doubt or the part of the speaker as to the validity of his remark. For example:

'She's clever (she's clever but not dependable.)
Your essay is good (Though your essay is good, it is not interesting).

She’s very beautiful (but she isn't cultured).

• Conversation
• Objectives

1. To give students practice in taking telephone messages.
2. To give students practice in reading notices and writing messages

Script
Fiona: Hello.
Stuart: Hello.
Fiona: Oh, is that Stuart?
Stuart: Yes.
Fiona: Hello Stuart, it's Fiona.
Stuart: Oh. Hi Fiona.
Fiona: Hi. Erin... is Judy there by chance?
Stuart: No I'm sorry she's just popped out to the shops.
Fiona: Oh dear. Erm... could you possibly leave a message?
Stuart: Yes. Yes. Just a second, let me get a piece... bit of paper.
Fiona: Thank you.
Stuart: O.K.
Fiona: Er... The thing is we've arranged to play tennis this afternoon (Mm-mm) at 3 o'clock (Yes) ... erm... but I've got a problem because the string on my racquet's broken (Mm-mm) but I think that Judy's got an extra racquet (Yes I think she has) and so I was wondering if you could ask her to bring the extra one along.
Stuart: Yes. OK. I'll do that.
Fiona: OK. And ... er... oh yes one other thing. She borrowed a book from me (Mm.) and I think she's probably forgotten all about it. I wonder if you could possibly remind her to bring that along well.
Stuart: She knows what it is, does she?
Fiona: Yes, yes. It's a novel.
Stuart: Yes. OK. So bring extra racquet and ... er... the book that she borrowed.
Fiona: That's right. (OK) 3 o'clock.
Stuart: I’ll tell her.
Fiona: Thank you very much, Stu.
Stuart: OK. Cheerio
Fiona: Bye
Stuart: Bye

Exercise
Each sentence will be read twice. Put the appropriate intonation mark before the nucleus.
1. Sorry to keep you waiting.
2. Pass the salt please.
3. May I ask a question?
4. Is this the one you told me about?
5. I suppose it’ll be all right.
6. That’s the end of play for today.
7. What a terrible thing to happen.
8. When do you expect to finish it?

Production Test
Answer these questions
1. Who did Fiona want to speak to?
2. Who answered the phone?
3. Did Judy talk with Fiona? Where had she gone?
4. Why did Fiona need extra racquet?
5. How does Fiona propose to solve the problem?
6. What was the program at 3 o’clock?
7. What had Judy borrowed from Fiona?
8. What point in the conversation shows that Stuart noted down the message?
9. Do you think Judy will receive the message?
10. List the requests for Judy to do.
LESSON 9
FIND OUT THE HOUSE RULES.

Objectives
1. To help students understand and follow a landlady outlining the house rules.
2. To give the students practice in pronunciation and reading the kinds of rules found in the hotels.

SCRIPT
Judy: Well it's a lovely room. It's quite a nice size.
Landlady: Oh yes. It's a good-sized room and it's well-furnished.
Judy: Yes. Yes I can see that. Erm ... is there anything that I should know?
Landlady: Well, I don't allow the cat to go upstairs at all.
Judy: Oh? Not at all.
Landlady: No, absolutely not. I don't like cats upstairs (Oh right). And I don't allow people to smoke in bedroom.
Judy: Oh no, no I agree with that. I don't smoke anyway.
Landlady: And ...erm... I don't allow people to stick pictures up on the walls with sellotape. (Oh?) Well you see, when you take the picture down the sellotape leaves ...erm... a mark on the paper.
Judy: Oh I see. Can I use blu-tack or something?
Landlady: Oh yes. Something like that (Oh right) is quite acceptable. (Lovely) and there are just two more things (Oh) if you don't mind. (Yes) If you go out would you please remember to close the window.
Judy: Right. I'll do that.
Landlady: And there's the kettle here, as you can see (Yes) but when you boil the kettle could you please put it on the floor and not on the chest of drawers?
Judy: Oh I see. Does it make a mark or something?
Landlady: Yes it would be probably leave a mark.
Judy: Oh right, I'll do that then.
Landlady: Is ...is that all right?
Judy: Well it sounds very fair. Thank you very much.
Landlady: Yes all right. (OK) Good.
Production Test

Answer these question.

1. Did Judy like the room?
2. What did she like about it?
3. List the good things about the room.
4. Which animal is not allowed upstairs?
5. Smoking is not allowed in -------.
   a. bed room
   b. kitchen
   c. the lawn
   d. anywhere
6. What instructions are given by the land lady about sticking the picture?
7. Where should the kettle be kept while it doesn't use? Why?
8. What should Judy do before going out of the room?
9. What does she think about the conditions laid down by the land lady?
10. Will she take the room on rent?

LESSON 10

A GUEST SPEAKER HAS BEEN INVITED TO TALK ABOUT ADULT EDUCATION. LISTEN TO THE BEGINNING OF THE TALK.

One of the most successful educational program for adults is the Elderhostel designed for students over the age of sixty. Initiated in 1975 by five colleges in New Hampshire, Elderhostel was originally a one-week summer program for senior citizens combining travel and college residence with enrichment courses. The concept has been so popular that it has grown rapidly to include a network of more than three hundred colleges and universities in all fifty states. Host institutions have expanded to include museums, parks, and other outdoor centres as well as traditional college campuses, and one, two, or three-week programs are now available year round. Although courses are not offered for credit, and no exams are required, the classes are taught by highly qualified faculty at the host college.

Let me write Elderhostel on the board for you. Elderhostel.

To date, hundreds of thousands of students from sixty to one hundred years old have participated in Elderhostel. Students usually live in dormitories, eat in cafeterias,
and attend social, recreational, and cultural functions. All services available to students during the academic year are offered to Elderhostel students. Registration fees vary from as little as twenty dollars to as much as three hundred dollars, excluding books and transportation to the campus or community site. For many senior citizens, Elderhostel offers the opportunity for lifelong learning, companionship, and fun.

If you know someone sixty years older and you think they might enjoy learning, call your local college. There is probably an Elderhostel program right in your community.

Production Test

Answer these questions.

1. What is Elderhostel?
   a. A college program taught by retired professors.
   b. A summer program for senior citizens.
   c. An educational program for older adult students.
   d. A travel program that includes inexpensive dormitory accommodations.

2. Which of these statements is true of Elderhostel?
   a. The courses are offered for credit.
   b. There are no final exams.
   c. Anyone may participate.
   d. College faculty teach the classes.

3. Which of the people would most probably be enrolled in an Elderhostel program?
   a. There is a teenager in the picture.
   b. There is an international student in the picture.
   c. There is a senior citizen in the picture.
   d. There is a preschooler in the picture.

4. What should you do if you are interested in finding out more about Elderhostel?
   a. Write the national office.
   b. Call your local college.
   c. Listen to the radio station.
   d. Attend an Elderhostel meeting.

5. When did the original Elderhostel program initiate? How long did the original one take?

6. In which area have the host institutions expanded in regards to Elderhostel?
Development & Description of the tools

7. What are the distinguishing points of Elderhostel?
8. What activities do the student usually do in this program?
9. What is the rate of registration fees of Elderhostel? Do the registration fees include books and transportation?
10. What is the advantage of the students from Elderhostel?

**DESIGNING INSTRUCTIONAL MODULE:**

**INSTRUCTIONAL SEQUENCE**

The ten lessons developed by the investigator, consists of a variety of instructional events with a prominent feature of use Language Laboratory. The student-teacher participation was given due emphasis while organizing events of lessons. The sequence of steps followed for instructional plans was as follows:

**AIMS AND CONTENT OF THE LESSON**

- **Informing Aim of the lesson**—clarify objectives of the lesson in a simple language to the students for each lesson.
- **Recalling** previously learned capabilities by identifying part of speech, examples, or asking questions.
- **Presenting** for the learning of rules required the use of a variety examples orally through microphone from the console before using audio-cassette for practice.
- **Language**—It is important to know exactly what language will be taught in the lesson. Most of the lessons’ content introduce new vocabulary not focus in structure so not all new words in a lesson are equally important. As part of the preparation for the lesson, the teacher should decide which words need to be practised, and which only need to be briefly mentioned.
- **Skills**—The two main skills; listening and speaking needed to be developed and practice in these ten lessons.
SEQUENCE OF EVENTS IN THE LESSONS:

Each lesson was presented through language laboratory in the following sequence:

♦ **Presentation:** Present new words or structures, give examples. For this purpose, model lessons on audio-cassettes were used. Through instructor’s central panel, the teacher can broadcast a content material and instruction to individuals. The teacher broadcast the same taped material to each booth, or sometimes had different students or group of students work with different materials. The instructor also used the chalkboard, or visual stimuli to supplement audio inputs. Sometimes

♦ **Listening:** Get the students to listen to audio-cassettes. The student heard vocabulary and speech patterns repeatedly through their headphones. In addition, the students also listened to what they themselves said into microphone which is attached to their headset.

♦ **Practice:** Oral practice in word stress, rhythm and intonation was used after listening to the audio-cassettes. The students practised in listening and speaking the dialogues and text in some lessons. The students sometimes answered the questions from the texts or dialogue. The exercises were carefully sequenced and were followed by new combinations of varying complexity. The students sometimes worked on their own, or were paired or grouped with other students or with the teacher.

♦ **Production:** The students were asked to express themselves by oral responses through microphones and also by writing in the post-test. The students interacted through their headphones and microphones on a one-to-one basis with the teacher.

♦ **Assessment and feedback:** The teacher checked the individual responses and gave direct feedback for their deficiency. The teacher also collected and analysed their deficiency in order to prepare feedback or the remedial programs for their corrective adjustment.

♦ **Review:** To refresh students’ memories, or as a preparation for a new presentation, the teacher reviewed the earlier lessons.

However, the stages are not in this fixed order. Usually teachers presented new language, then do some practices, then get the students to use language more freely. Each stage could occur several times in a single lesson, and the sequence of these events varied in presentation and in time.
PROVIDING FEEDBACK

The feedback concerning the correctness and degree of correctness of the learners' performance was provided immediately through the headphones. Formative evaluation instrument provides information about students' grasp of each unit objectives. The teacher prepares a set of alternatives learning materials to provide remediation. However, in this case a few parallel words were used for the learners who committed errors.

The capacity of the language laboratory for the students in each class is about 40 booths and the number of the students to study in language laboratory in each period is about 40 students. The research investigator herself was monitoring from the central panel (Console) and was providing guidance and remediation to all the booths. It was a difficult exercise of monitoring. However after every group response, an individual pronunciation was sought from all the learners one by one. Those who required keep, and, who were heard as ‘wrong respondents’ were individually given repetitive exercises. The booths from where wrong responses were received, which were remediated have been presented in the following table 2.7

<table>
<thead>
<tr>
<th>Unit</th>
<th>Number of students</th>
<th>Booth number needed for remediation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson 1</td>
<td>8</td>
<td>3,6,7,15,19,22,28,31</td>
</tr>
<tr>
<td>Lesson 2</td>
<td>7</td>
<td>5,9,12,18,22,30,35</td>
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<tr>
<td>Lesson 3</td>
<td>7</td>
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<td>Lesson 4</td>
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</tr>
<tr>
<td>Lesson 7</td>
<td>7</td>
<td>4,10,18,21,24,28,32,37</td>
</tr>
<tr>
<td>Lesson 8</td>
<td>7</td>
<td>1,6,11,23,25,33,36</td>
</tr>
<tr>
<td>Lesson 10</td>
<td>9</td>
<td>3,7,15,17,20,22,26,30,34</td>
</tr>
</tbody>
</table>
ASSESSING THE PERFORMANCE

Teacher certifies the progress of those students who are achieving a desired and requires those students who are not, to use the instructional correctives to complete their learning of unmastered objectives.

In organizing instructional events for teaching instructional packages, the above mentioned events were incorporated in all the ten lesson plans. These events did not invariably occur exactly in the same order but with a little bit of variation here and there.

•Description of Instructional Plan

Formats of Instructional Plans have been written under same heads and follow a similar sequence: Topic, Aims of the lesson, Content Outline and Media, Instructional Events, Formative Test and Summative Criterion Test.

The main theme of unit’s content was taken as the topic of the lesson. Instructional Objectives pertaining to a unit were specified and made a part of the lesson. Objectives were orally presented to the students to give them guidelines or direction.

Instructional Events were organized by linking content, events of instruction and evaluation. Media used for teaching was audio-cassettes. Unit Formative Test were prepared for each unit.

•VALIDATION OF THE INSTRUCTIONAL MODULE

The stage in development of Instructional Module is testing and evaluation testing the in different phases plays crucial role in improving the content activities and organisation of the teaching plans for effective instruction. Try-out of the Instructional Module revealed its inadequacies and weak points that which needed revision and modification. The modifications were incorporated and thus the tool was ready.
While the instruction is in progress diagnostic assessment component provides information concerning how well the instructional programme is working. This assessment procedure measures what each student has learnt and what he has failed to learn at regular intervals throughout the instructional programme (Levine, 1985; Kulik; Kulik and Bangert, 1990; Tessmer, 1993). The information got is used to pace the students' learning and ameliorate those segments of the instructions that have not been quite effective.

Two types of criterion reference tests were developed, one was developed on the content of each unit for the purpose of formative evaluation. The other was developed on the entire content of ten units used for the purpose of summative evaluation.

Summative evaluation is done at the end of the instruction, so, it does not help to guide the teaching-learning process. For this purpose some kind of evaluation which can provide immediate and continuous information regarding a student's progress during instruction is required. Here formative evaluation has been found to be most useful (Airasian, 1969). Regarding the importance of formative evaluation it was said, Unless you know where you are going, you may end up somewhere else (Tessmer, 1993). Since, a formative instrument is administered at the close of a unit, therefore, provides an in-dept picture of what skills each student has or has not mastered (Block, 1971). Consequently, it suggests in what ways his original instruction must be supplemented if he is to complete his learning before proceeding to a new instructional unit.

Two criterion tests were developed:
• Summative Test (Post Test)
• Unit Formative Test

Summative evaluation is 'Final' and grade assigned on their basis are likely to follow the students throughout their scholastic career (Block, 1971).
A criterion-referenced test is used to ascertain an individual’s status with respect to a well-defined behaviour domain (Popham, 1975). Here a person’s performance is referred to as a criterion i.e. a well-defined class of objectives. So, the essence of criterion referenced measurement is that:

- a well explicated domain of behaviour be delineated and
- an individual’s performance in relationship to this behaviour domain be ascertained.

Following steps were followed in the construction of the criterion test (Popham, 1975).

Step I Planning the Test:
- Domain Definitions
- Specifying learning outcomes
- Outlining the subject matter
- Preparing table of specification

Step II Generating Items

Step III Improving Items

Step IV Reliability and Validity.

PLANNING THE TEST:

♦ DOMAIN DEFINITIONS

It is the most difficult but important step in the construction of a criterion test. Here, the limits of behaviour that the test items would measure and to which all individual performances be referenced were determined. The domain definitions were kept brief and at the same time sufficiently circumscribing the class of behaviour under consideration so that they, in fact, measure the behaviour descriptions. Two guiding factors were given due consideration viz.

- economy of description and
- ambiguity reduction.

While working on a domain a middle position was taken between the two extremes of:

- sufficient detail for complete stimulus homogeneity of resulting test items and
- economy of resource investment.
Although a domain did not delimit all possible test items, it markedly reduced ambiguity associated with the class of learner behaviours under consideration. After identification and definition of the learning outcomes from the selected content i.e. English Pronunciation, the content was divided into ten units. The objectives on the entire content were formulated in behavioural terms as already presented in table 2.1, while describing development of instructional package.

* **Outlining the subject matter for the test**

The criterion test is constructed to obtain essential information in the concerned context. Hence, the content of the selected units should always be allocated beforehand. It becomes easy to construct the test judiciously for course designer as well as the test designer. The content of the test was focussed around the following concepts.

* **Stress or word accent** through which students are required to produce correct accentual sound. These involve some patterns of voices. The use of language lab to impart these lessons was important aspect of the experiment. Stress is a suprasegmental feature; it belongs to the syllable rather than segments. In English, if a word has more than one syllable, one of the syllable is always stronger and more prominent than others; it is aid to be accented A reinforced chest-pulse produces a stressed syllable. The accentuation is achieved by stress, by which we mean great breath force, or by a combination of stress and pitch patterns. For example, literature is accented on the first syllable, and de'gree is accented on the second syllable.

* **Rhythm and accent in sentences** which are also important feature of correct and effective communication. The students should be familiar to the idea that in English, the stressed or accented syllables, which are pronounced with greater force than the other, syllables, form a succession of beats coming at regular intervals of time. The other syllables, which are unaccented, are fitted into the intervals according to time available between the accented syllables.

* **Intonation** which plays a very important role in conveying meaning is the significant variation in pitch from one part of an utterance to another. Emotional degrees of the speaker affect his intonation. The more a speaker is involved with what he is saying, by the way of anger, grief, excitement, self-important etc., the greater will be the range of pitch and the amount of pitch change he uses.
It is significant that the students develop the ability to recognize the various tones correctly. The rising and the falling tones should be used appropriately at the right place and the right time otherwise they can make the sentences and situations awkward and hilarious. Some how the system of intonation pattern in every language is difficult and is naturally learnt by the native speakers of that language. A foreign learner of the language would need years of study and practice to learn the intonation patterns of language. The subject matter was outlined according to the behavioural specifications of reports in table 2.5 of this chapter.

**Preparing the table of specification**

After the subject matter was selected and outlined the next step involved the preparing of the table of specifications. The purpose of this table was to relate outcomes to the content and indicate relative weightage to be given to each of these areas. The importance of relative weightage given to each item depends on:

- Importance of each area in the total learning experience
- Time devoted to each area during instruction
- Retention and transfer value of each outcomes
- Importance of each area to curriculum specialists

A table of specifications thus developed has been given below as table 2.8

<table>
<thead>
<tr>
<th>Objectives Contents</th>
<th>Knowledge &amp; Skill</th>
<th>Application</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Single Sentence</td>
<td>Use word single sentences using rising+ falling tones</td>
<td>Pronounce The words correctly</td>
</tr>
<tr>
<td>1. Stress</td>
<td>10</td>
<td>-</td>
<td>50</td>
</tr>
<tr>
<td>2. Rhythm</td>
<td>20</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3. Intonation</td>
<td>-</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>5</td>
<td>60</td>
</tr>
</tbody>
</table>
Using the table of specifications in the test preparation

The table of specifications serves as the basis for the test construction. This table helps in deciding:

- Types of test items
- Number of test items
- Length of test items

Types of test items: At this stage the type of test items to be used are also decided. To fill a table of specification, the test maker may choose from a variety of test types, i.e. objective type test which is further classified into multiple choice, fill in the blanks, true false, short answers listing and give general rule, matching type supply type etc. The other type can be essay type but for criterion tests basically objective type test is used as they can:

- adapt more easily to the specific learning outcomes to be measured.
- provide for more adequate sampling of students behavior.
- can be scored quickly and objectively. The scoring does not depend on checkers mood thus objectivity

For the criterion test in the present investigation, the students are to be checked for their ability to pronounce i.e. the spoken skills thus

- single word or single sentence items were given for them to pronounce.
- to enable them to learn stress, rhythm and intonation etc. the test included
  - uttering the words and writing stress marks.
  - single sentence items
  - using words into sentences,
  - using rising and falling tones
  - short answers (for demonstrating proficiency in rhythm, intonation, and stress). The tests were individually administered in language laboratory as well as in writing.
GENERATING TEST ITEM:

• Writing Test items:

A number of items might be constructed for any given objective, even a highly specific objective could have a potential item pool of well over several thousand items (Bormuth, 1970; Hively, 1970, 1973). In terms of feasibility, a survey of the current measures revealed that the usual practice is to use about 3-5 items per objective. This practice, however, does not have any sound foundation in psychometric theory of technology (Klevin and Kosecoff, 1976).

A large number of items (about 200) were generated. After generating items, they were edited with respect to clarity of language, relevance with objectives and ambiguity. It was verified whether the items generated displayed stimulus homogeneity. Some colleagues were asked to review the items and were asked to comment whether the items generated by the investigation were congruent with domain definitions. A liberal scrutiny of the items/words used for this purpose left the test with about 130 items for the initial draft. Thus, each type of items were grouped together, appropriate instructions for the subjects to attempt these items were written and finally the scoring key was developed.

♦ Item Analysis: Criterion Test

For conducting item analysis, items were administered to a group of learners from the intended target population to see how they answer the items. The test was administered to 50 technical college students who had already mastered the selected content in their previous class. No time limit was imposed on the students. Majority of the students completed it in about two hour time.

Sensitive Index, a measure of item effectiveness, based on instructional effects of the criterion test has been suggested. An index of sensitivity to instructional effect (s) was computed by using Krypsin and Feldhusen (1974) formulaviz:

$$ S = \frac{RA-RB}{N} $$

Where

RA = Number of Students answering the items correctly after instruction

RU = Number of Students answering the items correctly before instruction

T = Total Number of Students answering the items both the times.
Despite a number of limitations, the sensitivity index is a useful means of evaluating the effectiveness of items in a criterion test. Items are of little value in measuring the intended outcomes of instruction unless they are sensitive to instructional effects. Sensitivity index for each item of the criterion test was calculated using the above stated formula. Randomly 30 tests were chosen with a coverage of overall class intervals of frequency distribution prepared with scores of 50 tryout students, and indices were calculated. The values of sensitivity indices for each item have been placed in Table 2.9.
Table 2.9

TABLE SHOWING SENSITIVITY INDICES (S.I) OF CRITERION TEST ITEMS

<table>
<thead>
<tr>
<th>No.</th>
<th>Index</th>
<th>No.</th>
<th>Index</th>
<th>No.</th>
<th>Index</th>
<th>No.</th>
<th>Index</th>
<th>No.</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.5</td>
<td>23</td>
<td>0.62</td>
<td>45</td>
<td>0.31</td>
<td>67</td>
<td>0.43</td>
<td>89</td>
<td>0.43</td>
</tr>
<tr>
<td>2</td>
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<td>24</td>
<td>0.62</td>
<td>46</td>
<td>0.31</td>
<td>68</td>
<td>0.43</td>
<td>90</td>
<td>0.75</td>
</tr>
<tr>
<td>3</td>
<td>0.43</td>
<td>25</td>
<td>0.5</td>
<td>47</td>
<td>0.62</td>
<td>69</td>
<td>0.81</td>
<td>91</td>
<td>0.56</td>
</tr>
<tr>
<td>4</td>
<td>0.68</td>
<td>26</td>
<td>0.43</td>
<td>48</td>
<td>0.31</td>
<td>70</td>
<td>0.43</td>
<td>92</td>
<td>0.62</td>
</tr>
<tr>
<td>5</td>
<td>0.5</td>
<td>27</td>
<td>0.5</td>
<td>49</td>
<td>0.43</td>
<td>71</td>
<td>0.62</td>
<td>93</td>
<td>0.68</td>
</tr>
<tr>
<td>6</td>
<td>0.56</td>
<td>28</td>
<td>0.62</td>
<td>50</td>
<td>0.5</td>
<td>72</td>
<td>0.62</td>
<td>94</td>
<td>0.5</td>
</tr>
<tr>
<td>7</td>
<td>0.87</td>
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<td>51</td>
<td>0.43</td>
<td>73</td>
<td>0.68</td>
<td>95</td>
<td>0.43</td>
</tr>
<tr>
<td>8</td>
<td>0.43</td>
<td>30</td>
<td>0.56</td>
<td>52</td>
<td>0.56</td>
<td>74</td>
<td>0.5</td>
<td>96</td>
<td>0.5</td>
</tr>
<tr>
<td>9</td>
<td>0.75</td>
<td>31</td>
<td>0.62</td>
<td>53</td>
<td>0.43</td>
<td>75</td>
<td>0.56</td>
<td>97</td>
<td>0.62</td>
</tr>
<tr>
<td>10</td>
<td>0.31</td>
<td>32</td>
<td>0.43</td>
<td>54</td>
<td>0.62</td>
<td>76</td>
<td>0.43</td>
<td>98</td>
<td>0.5</td>
</tr>
<tr>
<td>11</td>
<td>0.62</td>
<td>33</td>
<td>0.5</td>
<td>55</td>
<td>0.62</td>
<td>77</td>
<td>0.43</td>
<td>99</td>
<td>0.43</td>
</tr>
<tr>
<td>12</td>
<td>0.43</td>
<td>34</td>
<td>0.56</td>
<td>56</td>
<td>0.56</td>
<td>78</td>
<td>0.62</td>
<td>101</td>
<td>0.43</td>
</tr>
<tr>
<td>13</td>
<td>0.5</td>
<td>35</td>
<td>0.68</td>
<td>57</td>
<td>0.43</td>
<td>79</td>
<td>0.43</td>
<td>102</td>
<td>0.56</td>
</tr>
<tr>
<td>14</td>
<td>0.56</td>
<td>36</td>
<td>0.62</td>
<td>58</td>
<td>0.43</td>
<td>80</td>
<td>0.5</td>
<td>103</td>
<td>0.5</td>
</tr>
<tr>
<td>15</td>
<td>0.43</td>
<td>37</td>
<td>0.43</td>
<td>59</td>
<td>0.68</td>
<td>81</td>
<td>0.82</td>
<td>104</td>
<td>0.62</td>
</tr>
<tr>
<td>16</td>
<td>0.56</td>
<td>38</td>
<td>0.62</td>
<td>60</td>
<td>0.62</td>
<td>82</td>
<td>0.43</td>
<td>105</td>
<td>0.43</td>
</tr>
<tr>
<td>17</td>
<td>0.43</td>
<td>39</td>
<td>0.56</td>
<td>61</td>
<td>0.56</td>
<td>83</td>
<td>0.68</td>
<td>106</td>
<td>0.56</td>
</tr>
<tr>
<td>18</td>
<td>0.43</td>
<td>40</td>
<td>0.43</td>
<td>62</td>
<td>0.68</td>
<td>84</td>
<td>0.43</td>
<td>107</td>
<td>0.68</td>
</tr>
<tr>
<td>19</td>
<td>0.5</td>
<td>41</td>
<td>0.43</td>
<td>63</td>
<td>0.43</td>
<td>85</td>
<td>0.56</td>
<td>108</td>
<td>0.43</td>
</tr>
<tr>
<td>20</td>
<td>0.81</td>
<td>42</td>
<td>0.43</td>
<td>64</td>
<td>0.43</td>
<td>86</td>
<td>0.43</td>
<td>109</td>
<td>0.5</td>
</tr>
<tr>
<td>21</td>
<td>0.75</td>
<td>43</td>
<td>0.37</td>
<td>65</td>
<td>0.5</td>
<td>87</td>
<td>0.43</td>
<td>110</td>
<td>0.93</td>
</tr>
<tr>
<td>22</td>
<td>0.5</td>
<td>44</td>
<td>0.43</td>
<td>66</td>
<td>0.62</td>
<td>88</td>
<td>0.56</td>
<td>111</td>
<td>0.56</td>
</tr>
</tbody>
</table>
The table 2.9 reveals that the Sensitivity Indices of the items were well within acceptable zones. Five items (10, 45, 46, 48, and 123) were deleted and item Number 13 was modified and the rest were retained as such. Table 2.10 shows the rejected, modified, and retained items.

Table 2.10

<table>
<thead>
<tr>
<th>Items</th>
<th>S.No. of Items</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rejected</td>
<td>10,45,46,48,123</td>
<td>5</td>
</tr>
<tr>
<td>Modified</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>Retained as such</td>
<td></td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>1,2,3,4,5,6,7,8,9,11,12,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,47,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100,101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,120,121,122,124,125,126,127,128,129,130</td>
<td></td>
</tr>
<tr>
<td>Total No. of items</td>
<td></td>
<td>130</td>
</tr>
</tbody>
</table>

The table 2.10 reveals that out of 130 test items that were generated to measure instructional objectives, 5 were rejected i.e 10, 45, 46, 48, 123, one was modified (Item No. 13) and the rest were retained as such. Few changes were also made on the wordings to make the items measure the intended instructional objectives.

The final version of the criterion test contained 90 items in application level, 30 items for single sentence responses and 5 items for using words were planned on the basis of the table of specifications and in the light of operational words specified in learning outcomes.

♦ **Scoring Procedure of Criterion Test**: The Scoring Procedure followed for final draft has been given as follow:

- Weightage of different items was different.
- Maximum marks for the test were 100.
RELIABILITY AND VALIDITY OF THE CRITERION TEST

♦ Reliability

Reliability concerns the extent to which measurements are repeated (Nunnally, 1959; 1964; Guilford, 1956; 1965). Measurements are intended to be stable over a variety of conditions in which essentially the same results would be obtained (Nunnally, 1982). The idea of reliability is as crucial for the criterion test as for all other tests. For determining reliability, the criterion test was administered to 30 students of Donmuang Technical College, Bangkok. Scoring was done and the Reliability Coefficient was computed with the help of Kuder Richardson Formula 21.

\[ R_{21} = 1 - \frac{M(K-M)}{K(S^2)} \]

Where

- \( K \) = Number of items in test,
- \( M \) = Mean of the test scores, and
- \( S \) = Standard Deviations of the Test Scores

The Reliability Coefficient was found to be 0.91. Hence, this criterion test may be considered reliable for measuring performance of students for which it has been prepared (The frequency distribution and reliability Co-efficient has been presented in appendix 2(vi)).

♦ Validity:

Validity of the test refers to the degree to which it measures what it intends to measure (Edward, 1968; Morley, 1970; Wolf, 1982; Edgilton, 1987). In the context of validity, each question must be related to the topic covering the overall topic (Popham, 1975). The process of validity involves checking the agreement between the responses elicited by each question item against the criterion. But in some cases, it is possible to validate questionnaire responses against the actual behaviour of the respondents (Guilford, 1956).

The content validity of the test was determined by relating the tasks to the instructional objectives. The correspondence between the two was also determined by
Development & Description of the tools

The test was found to be valid. The criterion test, thus prepared and validated has been appended vide Appendix 2(iii).

UNIT FORMATIVE TESTS

For each of the ten units, ten formative tests were prepared, which were of 25-30 minutes duration each. The items of the tests were reviewed for the language, content and its relationship with instructional strategy. The initial set consisted of 10 separate Unit Formative Test for each of the 10 instructional plans. These were used after the first instruction. After writing down the items, a close scrutiny was done by the investigator followed by the preparation of preliminary drafts. The drafts were then given to the English teachers to elicit their views on the following points:

- To critically analyse the test from the content and the language point of view.
- To suggest any other questions.
- To add any other area of relevance.
- To examine the relationship between objectives of the study and the test items.

After incorporating the suggestions of English teachers, the preliminary drafts were modified. The distribution of items in the Unit Formative Tests and the number of objectives has been shown in the Table 2.11.
### Table 2.11
Distribution of Items in the Unit Formative Tests and the Number of Objectives of the Instructional Plans

<table>
<thead>
<tr>
<th>Topic</th>
<th>Number of objectives of the Lesson</th>
<th>Number of Items of Formative Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Disyllable words</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>2 Functional Accent in words</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>3 Polysyllabic Words</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>4 Rules Related to Suffixes I</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>5 Rules Related to Suffixes II</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>6 Accent and Rhythm in the sentences</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>7 Accent and Rhythm</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>8 Leaving a Message</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>9 Find out the house rules</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>10 A guest speaker talked about Adult Education</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>58</td>
<td>135</td>
</tr>
</tbody>
</table>

**Validation of the Unit Formative Test**

The items on the formative tests were evaluated for their sensitivity by calculating their Sensitivity Indices. An index of sensitivity to instructional effect was computed by the formula given by Krispin and Feldhusen (1974) viz:

\[ S = \frac{RA - RB}{T} \]

Where

- **RA** = Number of Students answering the items correctly after instruction.
- **RB** = Number of Students answering the items correctly before instruction.
- **T** = Total Number of Students answering the items both the times.

Despite a number of limitations, the sensitivity index is a useful means of evaluating the effectiveness of items in a criterion test. Items are of little value in measuring the intended outcomes of instruction unless they are sensitive to instructional effects.
Thus sensitivity indices were calculated for all the items on the ten Unit Formative Tests and have been presented in table 2.12 below.

These indices of almost all the items fall in the range of acceptable sensitivity indices. A copy of each of the Formative Tests has been attached as appendix 2(ii).
# TABLE 2.12 SENSITIVITY INDICES OF THE UNIT FORMATIVE TESTS

<table>
<thead>
<tr>
<th>Unit Test No.</th>
<th>Unit Test 1 Index</th>
<th>Unit Test 2 Index</th>
<th>Unit Test 3 Index</th>
<th>Unit Test 4 Index</th>
<th>Unit Test 5 Index</th>
<th>Unit Test 6 Index</th>
<th>Unit Test 7 Index</th>
<th>Unit Test 8 Index</th>
<th>Unit Test 9 Index</th>
<th>Unit Test 10 Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.43</td>
<td>0.43</td>
<td>1</td>
<td>0.68</td>
<td>1</td>
<td>0.56</td>
<td>1</td>
<td>0.56</td>
<td>1</td>
<td>0.43</td>
</tr>
<tr>
<td>2</td>
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<td>0.5</td>
<td>2</td>
<td>0.5</td>
<td>2</td>
<td>0.81</td>
<td>2</td>
<td>0.31</td>
<td>2</td>
<td>0.62</td>
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<td>0.37</td>
<td>0.31</td>
<td>3</td>
<td>0.56</td>
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<td>0.43</td>
<td>3</td>
<td>0.43</td>
<td>3</td>
<td>0.43</td>
</tr>
<tr>
<td>4</td>
<td>0.43</td>
<td>0.75</td>
<td>4</td>
<td>0.87</td>
<td>4</td>
<td>0.62</td>
<td>4</td>
<td>0.25</td>
<td>4</td>
<td>0.51</td>
</tr>
<tr>
<td>5</td>
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<td>0.56</td>
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<td>0.43</td>
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<td>0.43</td>
<td>5</td>
<td>0.68</td>
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<td>0.43</td>
</tr>
<tr>
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<td>0.62</td>
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<td>0.75</td>
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<td>6</td>
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<tr>
<td>7</td>
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<td>7</td>
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<td>7</td>
<td>0.56</td>
<td>7</td>
<td>0.56</td>
</tr>
<tr>
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<td>8</td>
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<td>8</td>
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<td>8</td>
<td>0.62</td>
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<td>0.75</td>
<td>0.56</td>
<td>9</td>
<td>0.56</td>
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<td>0.37</td>
<td>9</td>
<td>0.37</td>
<td>9</td>
<td>0.56</td>
</tr>
<tr>
<td>10</td>
<td>0.5</td>
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<td>10</td>
<td>0.43</td>
<td>10</td>
<td>0.43</td>
<td>10</td>
<td>0.5</td>
<td>10</td>
<td>0.56</td>
</tr>
<tr>
<td>11</td>
<td>0.62</td>
<td>0.62</td>
<td>11</td>
<td>0.31</td>
<td>11</td>
<td>0.62</td>
<td>11</td>
<td>0.43</td>
<td>11</td>
<td>0.56</td>
</tr>
<tr>
<td>12</td>
<td>0.68</td>
<td>0.62</td>
<td>12</td>
<td>0.62</td>
<td>12</td>
<td>0.43</td>
<td>12</td>
<td>0.5</td>
<td>12</td>
<td>0.25</td>
</tr>
<tr>
<td>13</td>
<td>0.5</td>
<td>0.37</td>
<td>13</td>
<td>0.56</td>
<td>13</td>
<td>0.5</td>
<td>13</td>
<td>0.62</td>
<td>13</td>
<td>0.43</td>
</tr>
<tr>
<td>14</td>
<td>0.18</td>
<td>0.5</td>
<td>14</td>
<td>0.43</td>
<td>14</td>
<td>0.82</td>
<td>14</td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>0.56</td>
<td>0.56</td>
<td>15</td>
<td>0.37</td>
<td>15</td>
<td>0.43</td>
<td>15</td>
<td>0.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>0.56</td>
<td>0.5</td>
<td>16</td>
<td>0.68</td>
<td>16</td>
<td>0.68</td>
<td>16</td>
<td>0.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>0.43</td>
<td>0.43</td>
<td>17</td>
<td>0.62</td>
<td>17</td>
<td>0.18</td>
<td>17</td>
<td>0.43</td>
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<td></td>
</tr>
<tr>
<td>18</td>
<td>0.43</td>
<td>0.25</td>
<td>18</td>
<td>0.5</td>
<td>18</td>
<td>0.56</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>0.5</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>0.81</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>0.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>0.31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>0.62</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
• Reliability

Reliability concerns the extent to which measurements are repeated i.e. when different persons make the measurements on different occasions, with supposedly alternative instruments for measuring the same thing (Nunnally, 1982). In other words, measurements were intended to be stable over a variety of conditions in which essentially the same results would be obtained.

For determining reliability of the unit test, it was administered to 30 students of technical college in Bangkok. The reliability coefficient of the unit test was computed with the help of the KR-21 formula:

$$R_{21} = 1 - \frac{M(K-M)}{K(S)^2}$$

Where

- K = Number of items in test;
- M = Mean of the test scores, and
- S = Standard Deviations of the Test Scores

The Reliability Coefficient was found in each unit as follows:

<table>
<thead>
<tr>
<th>Unit No.</th>
<th>Reliability Coefficient</th>
<th>Unit No.</th>
<th>Reliability Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.79</td>
<td>6</td>
<td>0.71</td>
</tr>
<tr>
<td>2</td>
<td>0.76</td>
<td>7</td>
<td>0.75</td>
</tr>
<tr>
<td>3</td>
<td>0.78</td>
<td>8</td>
<td>0.8</td>
</tr>
<tr>
<td>4</td>
<td>0.8</td>
<td>9</td>
<td>0.74</td>
</tr>
<tr>
<td>5</td>
<td>0.82</td>
<td>10</td>
<td>0.74</td>
</tr>
</tbody>
</table>

Hence, each unit test may be considered reliable for measuring performance of students for which it has been prepared.
♦ **Validity**

Content validity is determined by showing that the behaviours demonstrated in testing constitute a representative sample of behaviours to be exhibited in a desired performance domain. The domain usually involves learned knowledge and skills. In the context of validity, each question must be related to the topic covering the overall topic (Popham, 1975). The process of validity involves checking the agreement between the responses elicited by each question item against the criterion.

The content validity of the unit test was determined by relating the tasks to the instructional objectives. The correspondence between the two was determined by five experts in this subject area. The unit tests were considered to be valid to be used for the purpose they were prepared. Unit tests thus prepared and validated have been appended vide Appendix 2 (ii).
Self-efficacy is the perception or judgement of one's ability to perform a certain action successfully. It based on social learning theory and is a construct that affects motivation and learning (Scott, 1996). Students' beliefs about their academic capabilities are referred to as Self-efficacy for learning. The present study intended to examine the effect of learning through language laboratory on Self-efficacy in English. So a tool to measure English Self-efficacy was required. Purpose of the scale was to measure English Self-efficacy of technical college students and to find differences, if any in English Self-efficacy of these students. A survey of literature and consultations with those experts who are working in this area, revealed that a scale of English Self-efficacy was available which fulfilled the requirements of the present investigation. A scale developed by Ahuja & Vibha 2000 was a validated English Self-efficacy Scale, the description of which has been given in the following paragraphs.

Research has demonstrated that the modification of learning context variables can enhance individual Self-efficacy perceptions, which in turn increases motivation and skill performance (Schunk, 1993; & Schunk & Swartz, 1991).

**PLANNING OF ENGLISH SELF-EFFICACY SCALE**

A survey of literature was conducted by the investigator to understand the nature of Self-efficacy beliefs. Bandura (1997), expert psychologist in the field of assessment of Self-efficacy, has cautioned that Self-efficacy beliefs should be measured in terms of particularized judgements of capability that might vary across realms of activity, different levels of task demands within a given activity domain, and under different situational circumstances. Additionally, efficacy beliefs should be assessed at the optimal level of specificity that corresponds to the criterial task being assessed and the domain of functioning being analyzed (Pajares, 1997).

For the planning of the scale, English self-efficacy was defined as the degree which the student thinks he or she has the capacity to cope with the challenges of learning English. On the basis of the survey of literature, study of existing tools and
discussions with experts, teachers and students, a list of factors that reflect a students' belief in his/her ability to learn English was collected. The list has been given below:

- Readiness for new task
- Belief in capability for handling difficulties faced during learning the language
- Readiness to work hard
- Readiness to persist
- Optimism about the results
- Comfortable with difficult tasks.

These factors, reflecting students' belief in their ability to learn English language were clustered and proposed to be studied under the following four domains:

- **Cognitive process domain** (personal goal setting, construction of anticipatory scenarios & Exercising control over predicted events)
- **Motivational process domain** (Choice, Effort, Persistence)
- **Affective processes** (anxiety arousal, depressive mood)
- **Selection processes** (selection of activities & environments)

♦ **WRITING OF THE ITEMS FOR ENGLISH SELF-EFFICACY SCALE**

To measure English Self-efficacy of students, fifty-five items in the four selected domains reflecting faith in ability to learn English were written. All the items were carefully worded for use with children aged 15-18 years. Items that seemed repetitive or ambiguous or about which there was disagreement, were eliminated after consultation with the supervisor, experts and teachers of senior secondary schools. The preliminary draft of English Self-efficacy scale for 15 to 18 years old age group of children with 55 items was thus prepared. The items were constructed as rating scale type in which students’ responses were to be marked on a three point scale as; ‘Yes’, ‘Uncertain’ and ‘No’. Distribution of items in the first draft on various domains reflecting faith in ability to learn English has been given in the following Table 2.13.
Table 2.13
Table Showing Distribution of Items into Four Domains of English
Self-efficacy Scale (First Draft)

<table>
<thead>
<tr>
<th>Dimension of Prerequisite Skills</th>
<th>Item Numbers</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cognitive</td>
<td>1, 2, 8, 9, 10, 11, 12, 17, 21, 24, 27, 30, 33, 34, 37, 38, 40, 41, 42, 43, 45, 46, 47, 48</td>
<td>24</td>
</tr>
<tr>
<td>2. Motivational</td>
<td>3, 4, 7, 14, 25, 36, 39, 50, 51, 52</td>
<td>10</td>
</tr>
<tr>
<td>3. Affective</td>
<td>15, 18, 19, 22, 26, 44, 49, 53, 54, 55</td>
<td>10</td>
</tr>
<tr>
<td>4. Selection</td>
<td>5, 6, 13, 16, 20, 23, 28, 29, 31, 32, 35</td>
<td>11</td>
</tr>
<tr>
<td>Total No. of Item</td>
<td></td>
<td>55</td>
</tr>
</tbody>
</table>

**ADMINISTRATION OF THE FIRST DRAFT OF THE ENGLISH SELF-EFFICACY SCALE**

The set of items in the first draft was tested for its comprehensibility with a group of thirty students. The scale was given to these students and the purpose was explained. Instructions on how to fill it were made clear. Opposite each statement there were three columns viz. ‘Yes (Y)’, ‘Uncertain (U)’ and ‘No (N)’. The respondents had to mark the responses with a tick depending upon ‘what they actually believed’ and not according to ‘what they should believe’. They were told that there were no right or wrong answers as such.

**SCORING OF THE FIRST DRAFT OF THE ENGLISH SELF-EFFICACY SCALE**

Since statements of some of the items were positive and some were negative, scoring for the items was different for the two types of items. Each item had three alternate responses viz. ‘Yes’ ‘Uncertain’ and ‘No’. Positive statements were scored in such a way that the most favourable response ‘Yes’ was scored ‘3’, ‘Uncertain’ was scored ‘2’ and the most unfavourable response ‘No’ was scored ‘1’. Negative statements were scored in an inverse manner such that ‘Yes’ was scored ‘1’, ‘Uncertain’ was scored ‘2’ and ‘No’ was scored ‘3’.
The item numbers along with their scoring weightages for English Self-efficacy Scale (first draft) have been given in the Table 2.14

Table 2.14
Scoring Pattern for English Self-efficacy Scale (First Draft)

<table>
<thead>
<tr>
<th>Types of Item</th>
<th>Item Numbers</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Items</td>
<td>1,3,6,8,9,10,11,13,14,16,18,19,21,23,25,27,30,33,37,38,40,41,43,46,48,50,51,52,53.</td>
<td>Yes 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Uncertain 2</td>
</tr>
<tr>
<td>Negative Items</td>
<td>2,4,5,7,12,15,17,20,22,24,26,28,29,31,32,34,35,36,39,44,45,47,49,54,55.</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**IMPRESSING ITEMS OF ENGLISH SELF-EFFICACY SCALE**

For the purpose of improving items through item analysis, the responses of each respondent were scored as per the three point scale detailed above and after arranging the total scores of the respondents in students in descending order, top 27% and bottom 27% were identified from each list. For each item t-ratio was computed.

The t-ratios computed for the items on the first draft have been given in the Table 2.15.
Table 2.15

Table Showing t-ratios of the Items on First Draft of English Self-efficacy Scale

<table>
<thead>
<tr>
<th>Item No.</th>
<th>t-ratio</th>
<th>Item No.</th>
<th>t-ratio</th>
<th>Item No.</th>
<th>t-ratio</th>
<th>Item No.</th>
<th>t-ratio</th>
<th>Item No.</th>
<th>t-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.78</td>
<td>12</td>
<td>2.95**</td>
<td>23</td>
<td>0.48</td>
<td>34</td>
<td>2.48*</td>
<td>45</td>
<td>4.02**</td>
</tr>
<tr>
<td>2</td>
<td>4.02**</td>
<td>13</td>
<td>2.98**</td>
<td>24</td>
<td>2.42*</td>
<td>35</td>
<td>2.46*</td>
<td>46</td>
<td>3.03**</td>
</tr>
<tr>
<td>3</td>
<td>3.32**</td>
<td>14</td>
<td>1.37</td>
<td>25</td>
<td>2.41*</td>
<td>36</td>
<td>2.41*</td>
<td>47</td>
<td>0.23</td>
</tr>
<tr>
<td>4</td>
<td>2.97**</td>
<td>15</td>
<td>2.91**</td>
<td>26</td>
<td>3.21**</td>
<td>37</td>
<td>1.12</td>
<td>48</td>
<td>0.14</td>
</tr>
<tr>
<td>5</td>
<td>3.43**</td>
<td>16</td>
<td>0.58</td>
<td>27</td>
<td>2.95**</td>
<td>38</td>
<td>3.12**</td>
<td>49</td>
<td>2.98**</td>
</tr>
<tr>
<td>6</td>
<td>0.67</td>
<td>17</td>
<td>2.92**</td>
<td>28</td>
<td>2.98**</td>
<td>39</td>
<td>2.45*</td>
<td>50</td>
<td>1.78</td>
</tr>
<tr>
<td>7</td>
<td>4.23**</td>
<td>18</td>
<td>1.67</td>
<td>29</td>
<td>4.56**</td>
<td>40</td>
<td>1.36</td>
<td>51</td>
<td>2.01</td>
</tr>
<tr>
<td>8</td>
<td>3.45**</td>
<td>19</td>
<td>1.47</td>
<td>30</td>
<td>0.24</td>
<td>41</td>
<td>0.67</td>
<td>52</td>
<td>2.98**</td>
</tr>
<tr>
<td>9</td>
<td>1.78</td>
<td>20</td>
<td>5.68**</td>
<td>31</td>
<td>2.43*</td>
<td>42</td>
<td>0.89</td>
<td>53</td>
<td>1.89</td>
</tr>
<tr>
<td>10</td>
<td>1.21</td>
<td>21</td>
<td>1.89</td>
<td>32</td>
<td>3.02**</td>
<td>43</td>
<td>1.56</td>
<td>54</td>
<td>2.56*</td>
</tr>
<tr>
<td>11</td>
<td>2.01</td>
<td>22</td>
<td>3.02**</td>
<td>33</td>
<td>2.89**</td>
<td>44</td>
<td>1.49</td>
<td>55</td>
<td>2.87*</td>
</tr>
</tbody>
</table>

** significant at the 0.01 level of confidence
*significant at the 0.05 level of confidence

It may be observed from the above table that the t-ratios for item numbers 2, 3, 4, 5, 7, 8, 12, 13, 15, 17, 20, 22, 26, 27, 28, 29, 32, 33, 38, 45, 46, 49 and 52 were found to be significant at 0.01 level of confidence. While the t-ratios for item numbers 24, 25, 31, 34, 35, 36, 39, 54 and 55 were significant at 0.05 level of confidence. The item numbers 1, 6, 9, 10, 11, 14, 16, 18, 19, 21, 23, 30, 37, 40, 41, 42, 43, 44, 47, 48, 50, 51 and 53 were not found significant at even 0.05 level of confidence.

The t-ratios for each item thus calculated were used as discrimination value of each item. On the basis of discrimination value, items: 1, 6, 9, 10, 11, 14, 16, 18, 19, 21, 23, 30, 37, 40, 41, 42, 43, 44, 47, 48, 50, 51 and 53 were dropped.

Numbers of items of the First Draft that were rejected, modified or accepted in the English Self-efficacy Scale have been presented in the following Table 2.16.
Table 2.16
Table Showing Number of Items that were Accepted, Rejected or Modified in the First Draft of English Self-efficacy Scale

<table>
<thead>
<tr>
<th>Items Rejected</th>
<th>Items Modified</th>
<th>Items Accepted as Such</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 6, 9, 10, 11, 14, 16, 18, 19, 21, 23, 30, 37, 40, 41, 42, 43, 44, 47, 48, 50, 51 and 53</td>
<td>---------------</td>
<td>2, 3, 4, 5, 7, 8, 12, 13, 15, 17, 20, 22, 26, 27, 28, 29, 32, 33, 38 (.01 level) and 44, 51, 52, 53, 55 (.05 level)</td>
</tr>
</tbody>
</table>

The final form of the scale was thus prepared using only the selected items, based on their significant t-values. Those with t-ratios not significant even at .05 level were rejected and deleted from the draft. No item was modified and used again.

**FINAL DRAFT OF ENGLISH SELF-EFFICACY SCALE**

The final form of the English Self-efficacy Scale had 32 items. The distribution of items along different domains reflecting faith in ability to learn English has been given in the Table 2.17.

Table 2.17
Table Showing Distribution of Items into Four Domains of English Self-efficacy (Final Draft)

<table>
<thead>
<tr>
<th>Domain</th>
<th>Item Numbers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cognitive</td>
<td>1, 6, 7, 10, 13, 16, 19, 21, 22, 25, 27, 28.</td>
<td>12</td>
</tr>
<tr>
<td>2. Motivational</td>
<td>2, 3, 4, 14, 24, 26, 30.</td>
<td>07</td>
</tr>
<tr>
<td>3. Affective</td>
<td>9, 12, 15, 29, 31, 32.</td>
<td>06</td>
</tr>
<tr>
<td>4. Selection</td>
<td>4, 8, 11, 17, 18, 20, 23.</td>
<td>07</td>
</tr>
<tr>
<td>Total number of Item</td>
<td></td>
<td>32</td>
</tr>
</tbody>
</table>
SCORING OF THE FINAL FORM OF ENGLISH SELF-EFFICACY SCALE

The basic rule for scoring for the final form of the scale was the same as it was for the first draft. Since some of the items were dropped from the initial draft and the remaining items were rearranged, the scoring pattern for the items in the Final Form was changed.

Each item has three response viz. ‘Yes’, ‘Uncertain’ and ‘No’. Positive statements were scored in such a way that the most favourable response ‘Yes’ was scored ‘3’, the most unfavourable response ‘No’ was scored ‘1’ and ‘Uncertain’ was scored ‘2’. Negative statements were scored in an inverse manner such that ‘Yes’ was scored ‘1’, ‘No’ was scored ‘3’ and ‘Uncertain’ was scored ‘2’.

The numbers of negative and positive items have been placed along with their scoring pattern in Table 2.18.

Table 2.18
Scoring Pattern for English Self-efficacy Scale (Final Form)

<table>
<thead>
<tr>
<th>Type of Items</th>
<th>Item Numbers</th>
<th>Response</th>
<th>Uncertain</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>2, 6, 8, 14, 16, 21, 25, 28, 30.</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Negative</td>
<td>1, 3, 4, 5, 7, 9, 10, 11, 12, 13, 15, 17, 18, 19, 20, 22, 23, 24, 26, 27, 29, 31, 32</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

RELIABILITY OF ENGLISH SELF-EFFICACY SCALE

Reliability of the tool was computed on the basis of data obtained from 30 students. Split half reliability co-efficient of items of the scale was computed by scoring the items of tool separately in two parallel forms of even and odd items. The split half reliability co-efficient of scale was found to be 0.86. It indicates that the data obtained with the help of the tool was reliable enough for the purpose and the group of students for whom it was prepared.
VALIDITY OF ENGLISH SELF-EFFICACY SCALE

To estimate validity of English Self-efficacy Scale content validity was established. Three university teachers from the Department of English, three university teachers from the Department of Education and three postgraduate English teachers from the schools were consulted for estimation of content validity. To determine the content validity, the test along with the details about domains and attributes under which different section & items of the test were designed, were given to the experts. The experts certified that the English Self-efficacy Scale was a valid tool.

A copy of the English Self-efficacy Scale has been given in Appendix 2(iv).

TOOL IV

LEARNING APPROACHES QUESTIONNAIRES

Developed & validated by Biggs, J.; Kember, D; & Leung, D.Y.P. (2001)

THE DEVELOPMENT OF THE STUDY PROCESS QUESTIONNAIRE

Many inventories addressing learning processes are derived top-down from cognitive psychology, particularly information processing theories (Moreno & DiVesta, 1991; Schmeck, Geisler-Brenstein Weinstein, Schulte, & Palmer, 1987), with the deliberate intention that they address universal and 'culture-fair' mechanisms (Moreno & DiVesta, 1991). Such a framework, however, seems particularly inappropriate for such a context-dependent issue as student learning, where student strategy use is dependent upon a host of factors, such as students' value and motives, their perceptions of task demands, teaching and assessment methods, classroom climate.

The Study Process Questionnaire (Biggs 1987) and its school-level companion, the Learning Process Questionnaire(LPQ) (Biggs, 1987) were developed in Australia in the late 1970s, originally with a 43 item self-report instrument which used a 5-point Likert scale and reported on Surface, Deep and Achieving Approaches to learning.
FACTOR STRUCTURE OF SPQ AND LPQ

In the LPQ and SPQ, Surface motive (SM) is a subscale of surface approach (Biggs, 1987). The surface motive subscale contains components referring to fear of failure and extrinsic motivation. Biggs (1993) recognised that the surface motive subscale had two components: the negative one of fearing failure and the positive reinforcement of obtaining a qualification. A typical item for the latter in the SPQ is ‘I chose my present courses largely with a view to the job situation when I graduate rather than out of intrinsic interest to me.’

Our previous study of the SPQ and LPQ (Kember & Leung, 1998) suggested further investigation of the motivational dimensions of approaches to learning. The above discussion questions whether career related motivation should be seen as a construct associated with undesirable learning approaches. To take this investigation further, we used structural equation modelling to see whether the SPQ had a factor structure more compatible with our qualitative data.

The SM subscale consists of seven items. The scale dimensionality of the seven items was re-examined by means of a factor analysis based on the data set used in Kember & Leung (1998) with a sample of size 4863. They used three common criteria to determine the number of factors to be retained in the factor analysis (Kim & Mueller, 1978). A factor was retained if its eigenvalue is greater than 1.0, if it accounted for a significant percentage of total variance and if the final solution was interpretable. The two-factor model was chosen as the first two factors had eigenvalues greater than 1. The two-factor model accounted for 59% of the total variance, while the one-factor model only explained 37%. The two-factor model was also consistent with our theoretical interpretation. The two factors had a factor correlation of 0.25.

Examination of the factor loadings after an oblimin rotation indicated that the first factor consists of three items (items 1, 3, and 7) that related to career motivation while the second factor was defined by two items (item 2 and 4) categorised as fear of failure. Thus, items 1, 3 and 7 were summed to give one measure, called career motive (CM). Its reliability was determined by Cronbach’s alpha, which was 0.59. Items 2 and 4 were combined into one scale, fear of failure (FF), with a reliability of 0.54.
Figure 2.1 Standardised parameter estimates of Model 1 and 2 for the structure of SPQ

SS = Surface strategy, DS = Deep strategy DM + Deep motive, AS = Achievement strategy, AM = Achievement motive, CM = Career motive, FF = Fear of failure, ME = Meaning approaches RP = Responsibility

The Study Process Questionnaire (SPQ) (Biggs 1987) was developed from an earlier 10-scale Study Behaviour Questionnaire (SBQ), conceived within an information-processing framework (Biggs, 1976). Higher order factor analysis suggested that the 10 scales could be interpreted in terms of three higher order factors. The most suitable interpretation of these factors, however, was in terms of the SAL conceptual framework, not the original IP theory, because the three factors were found to be comprised of two kinds of items, those relating to a motive, and those relating to a congruent strategy.

In this, the factor analysis recalled Marton and Saljo’s original point that a student handled a reading task according to his or her intentions prior to engaging the task. However, whereas those authors were concerned with two intentions or motives, to remember significant facts and details or to try to understand what the author was trying to say, here dealing with three such motives: to keep out of trouble with minimal
Development & Description of the tools

effort, to engage the task appropriately, and to maximise grades. Each such motive was associated with a congruent strategy: selective memorising, seeking for meaning, and optimal time and space management respectively. Given the differing methodologies and context, the similarity between the first two motives and strategies and the Swedish work on Surface and Deep approaches was remarkable, and to capture that similarity, the surface/deep terminology was adopted for the first two dimensions. Thus, the SPQ yielded three Approach scores, Surface, Deep, and Achieving respectively, and a component Motive and Strategy score for each Approach.

The correlations between motives and strategies are reproduced in Table 2.19. As can be seen, strong positive correlation exists between a motive and its congruent strategy (shaded) and negative for that motive and any other strategy. This confirms Biggs (1978) original second-order factor analysis.

<table>
<thead>
<tr>
<th></th>
<th>DM (r=)</th>
<th>Sig (2-tailed)</th>
<th>DS</th>
<th>Sig (2-tailed)</th>
<th>SM</th>
<th>Sig (2-tailed)</th>
<th>SS</th>
<th>Sig (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM</td>
<td>.840</td>
<td>.366</td>
<td>-1.000*</td>
<td>.000</td>
<td>-840</td>
<td>.366</td>
<td>.840</td>
<td>.366</td>
</tr>
<tr>
<td>DS</td>
<td>.366</td>
<td>.840</td>
<td>-.840</td>
<td>.366</td>
<td>-1.000*</td>
<td>.000</td>
<td>.840</td>
<td>.366</td>
</tr>
<tr>
<td>SM</td>
<td>-1.000*</td>
<td>.000</td>
<td>-.840</td>
<td>.366</td>
<td>.840</td>
<td>.366</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SS</td>
<td>-.840</td>
<td>.366</td>
<td>-1.000*</td>
<td>.000</td>
<td>.840</td>
<td>.366</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Correlation is significant at the .01 level

**REVISED TWO-FACTOR STUDY PROCESS QUESTIONNAIRES**

In 2001, Biggs and Kember decided that there was a need not only to update the instrument, but also to provide a shortened version dealing only with surface and deep approaches to be used principally for work on teaching effectiveness and staff development. The items on the SPQ are cycled so that every fourth item returns to the particular subscale in the order after the first item: Surface Motive (SM), Deep Motive (DM), Surface Strategy (SS), Deep Strategy (DS). Figure 1 shows the relationships between the scales and subscales.
Development & Description of the Tools

**TABLE 2.20 Motive and Strategy in approaches to learning and studying**

(modified)

<table>
<thead>
<tr>
<th>Approach</th>
<th>Motive:</th>
<th>Strategy:</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA: Surface</td>
<td>Surface Motive (SM) is instrumental. Main purpose is to meet requirements Minimally: a balance between working too hard and failing.</td>
<td>Surface Strategy (SS) is reproductive: limit target to bare essentials and reproduce through rote learning.</td>
</tr>
<tr>
<td>DA: Deep</td>
<td>Deep Motive (DM) is intrinsic: study to actualise interest and competence in particular academic subjects.</td>
<td>Deep Strategy (DS) is meaningful: read widely, inter-relate with previous relevant knowledge.</td>
</tr>
</tbody>
</table>

**THE DEVELOPMENT OF R-SPQ-2F**

The development process commenced with the testing of 43 items taken from the original SPQ, some taken from the SPQ in modified form, or new items. The process of drawing up the pool of items was guided by insights into approaches to learning established since the original version was devised.

**Rationale of developing revised version**

In using the SPQ as a means of monitoring teaching/learning environments, the role of the achieving-related scales is not as evident as those of Deep and Surface scales. In fact, the achieving motive and strategy had a different relationship with the Deep and Surface motives and strategies from the outset (Biggs, 1978). Whereas Deep and Surface strategies describe the way students engage the task itself, the achieving strategy refers to how the student organises when and where the task will be engaged.
and for how long. Higher order factor analyses usually associate the achieving motive and strategy with the deep approach (Biggs, 1978a), but depending on the subjects and teaching conditions, sometimes achieving-related scores load on the surface approach (Biggs & Kirby, 1984). Indeed, Kember and Leung (1998) have shown that, using confirmatory factor analysis, the SPQ can most conveniently be described in terms of two factors: Deep and Surface, with Achieving Motive and Strategy subscales aligning themselves on both factors. The confirmatory factor analysis of LPQ data by Wong, Lin, and Watkins (1996) could also be interpreted as consistent with the finding.

Thus there was a need for a shorter two-factor version of the SPQ, addressing Deep and Surface approaches only, that can administered quickly and easily by a regular teacher, for use in monitoring teaching contexts. Such uses might include:

- Teacher monitoring their teaching from class to class, or following some innovation in teaching or assessment in an action research design.
- An outcome measure of teaching in more formally structured research.
- Suggesting to staff developers where teachers or departments may help.
- Diagnosis of students with study problems, by comparing individuals’ deep and surface scores and comparing individuals to others in the same cohort.
- Examining the relationship of approaches to learning with other curriculum variables with a view to fine-tuning curricula based on the insights obtained.
- Quality assurance exercises in much the same way as the Course Experience Questionnaire is used in Australia to monitor students’ perceptions of courses.

In this last case institutions would keep their own norms but they would be used on a class or department basis, not on the basis of an individual student. The need for shorter instruments also seems to have influenced the development of ASI. The original version (Ramsden & Entwistle, 1981) had 64 items and 16 subscales. Various shortened forms have been produced, including an 18-item version measuring meaning, reproducing and achieving orientations (Gibbs, Habeshaw, & Habeshaw, 1989). A revised version (RASI) (Entwistle & Tait, 1994), though, has 38 items in 14 subscales, measuring five major dimension. Richardson’s review (2000) concluded that the 18-item version of the ASI was not adequate from a psychometric point of view and reported that the RASI does not appear to represent an improvement on earlier versions of the ASI, which have themselves been criticised.
Firstly, some items needed re-wording to update the terminology. Higher education has undergone a major transformation since the original Questionnaire was developed so it was inevitable that some items needed adapting.

The questionnaire was also developed before the insights into approaches to learn gained from the intensive study of the approaches of Asian students (Kember, 1996; Watkins & Biggs, 1996).

For the simple two-factor version of the SPQ the intention was not to develop scales which fully characterised the possible combinations of understanding and memorising. The work, though, was utilised to ensure that the deep and surface approach items were consistent with the clearer descriptions which had emerged from this body of work.

- **Reduction of items**

  The revision of existing items and the development of new ones ultimately resulted in 43 items for testing. These were combined in a random order into a single questionnaire. Students were asked to respond to the questions on a 5-points Likert scale range from ‘always true of me’ to ‘only rarely true of me’.

  The 5 points represented:
  - 5 = This item is always or almost always true of me;
  - 4 = this item is frequently true of me;
  - 3 = this item is true of me about half the time;
  - 2 = this item is sometimes true of me;
  - 1 = this item is never or only rarely true of me.

  A sample of health science students from a university in Hong Kong were asked to complete the questionnaire.

  Two statistical tests were used to determine which items to delete and which to retain. The Reliability procedure of SPSS (Norusis, 1986) produces useful statistics following a test of the reliability of items specified as forming a hypothesis scale. The procedure calculates a Cronbach alpha coefficient for the scale and, more importantly for the purposes, indicates the alpha for the scale if an item were deleted. The inter-item correlation matrix also provides useful information about degree to which an item can form part of a coherent scale. The more powerful test was through using the EQS program (Bentler, 1995) in a confirmatory factor analysis mode.
An encouraging indication of the robustness and appropriateness of these procedures was that there was board concurrence between the two quite different approaches. The process of trial and revision through reduction of items was repeated for two cycles. At each stage the questionnaire was further revised by the deleting items which did not contribute to a component. The outcome of this exercise in reducing items was two deep and surface factors each with 10 items. Within each of these two factors it was possible to distinguish strategy and motive subscales. Each of the subscales consisted of five items. The final version of the questionnaire therefore has two main scales, Deep Approach (DA) and Surface Approach, (SA) with four subscales, Deep Motive (DM), Deep Strategy (DS), Surface Motive (SM), and Surface Strategy (SS).

- **Final version of the revised SPQ**

  The final version of the revised questionnaire was then tested with a sample of 495 undergraduate students from various disciplines across each year of study from one university in Hong Kong.

- **SCORING: STUDY PROCESS QUESTIONNAIRE:**

  Scoring the SPQ involves adding every fourth response each student scores on the above two dimensions of student learning: a deep approach which is characterised by an intention to understand the material by relating it to a wider context; and a surface approach characterised by an intention to complete task requirements and relying on memorisation. The reliability of the SPQ has been found to be high in terms of internal consistency using Cronbach’s alpha and test-retest scores which intercorrelate significantly over time (Biggs, 1993; Jones & Jones, 1996; O’Neil & Child, 1984; Zeegers, 2001; Biggs and Kember, 2001).

  To determine approach to learning scores the 20 SPQ questions were added together in four sets of five questions as follows:
  
  - **Deep Motive (DM)** = 1+5+9+13+7
  - **Deep Strategy (DS)** = 2+6+10+14+18
  - **Surface Motive (SM)** = 3+7+11+15+19
  - **Surface Strategy (SS)** = 4+8+12+16+20

  As illustrated, each set provides either a motive or strategy subscale (theoretical range 5-20) or one of the two main learning approaches (theoretical range 10-50). The
revised SPQ only allows analysis for motives and strategies as compared to the previous 43 question instrument which included ‘achieving’.

- **Reliability and unidimensionality of subscales**

  The unidimensionality of each of the subscales was separately tested by fitting a single factor model to the corresponding five items by the EQS program (Bentler, 1995). From the suggestions recommended by Hu and Bentler (1999), the comparative fit index (CFI), and the standardised root mean squared residual (SRMR) were chosen for this study. A CFI value greater than 0.95, and SRMR less than .08 can be used as an indication of a relatively good fit between the hypothesised model and the observed data.

  The results of separately testing each of the subscales are shown in Table 2. Good fits of the single factor models for the four subscales to the observed data were supported and hence it can be concluded that the items are unidimensional for each of the four subscales. Once the homogeneity of the items has been established, the Cronbach alpha was used to determine the subscales’ reliability (Schmitt, 1996). Cronbach alpha values for each subscale in the instrument were computed and were given in Table 2.21. The value all reach acceptable levels indicating that the subscales can be interpreted as internally consistent.

<table>
<thead>
<tr>
<th>Subscales</th>
<th>CFI</th>
<th>SRMR</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep Motive (DM)</td>
<td>0.997</td>
<td>0.01</td>
<td>0.62</td>
</tr>
<tr>
<td>Deep Strategy (DS)</td>
<td>0.998</td>
<td>0.02</td>
<td>0.63</td>
</tr>
<tr>
<td>Surface Motive (SM)</td>
<td>0.988</td>
<td>0.02</td>
<td>0.72</td>
</tr>
<tr>
<td>Surface Strategy (SS)</td>
<td>0.998</td>
<td>0.02</td>
<td>0.57</td>
</tr>
</tbody>
</table>

*Note*: CFI = comparative fit index, SRMR = standardised root mean squared residual, Alpha = Cronbach alpha

It is expected that most of the routine users will compute the scores for both Deep and Surface Approaches by summing up the corresponding 10 items. Thus, it would be useful to provide the reliabilities of the two talent constructs for the sample.
The Cronbach alpha values are 0.73 for DA and 0.64 for SA in the sample, which are considered as acceptable.

A process of testing and refinement resulted in a final version with deep and surface approach scales. Each of these scales consists of 10 items so the questionnaire is short and simple enough for use by teachers. At the same time, the rigorous testing described in this article shows that the final version of the questionnaire has very good psychometric properties. From a theoretical viewpoint it is also reassuring to see that development an testing of the questionnaire confirmed the vision of an approach as consisting of congruent motive and strategy components. A copy of the final version of the learning approaches tool has been given in appendix 2 (v).
Figure 2.3 Latent structure of R-SPQ-2F at item level