Chapter 4
Assessment and Quantification

This chapter provides the details of assessment and quantification. Following this, the formulation of tools (questionnaires, in two sets—one each for written and oral responses) covering the components of verb morphology in Tamil that are distributed among their dimensional factors, are discussed. Subsequently, the details of problem perspectives, pilot study, experimental group, question-wise rationale, data recording mechanism, etc., are also provided.

4.1 Assessment and Quantification

The pre-requisite of assessment is to ensure assessability of the object (being taken up for assessment) by way of identifying the details of the components that constitute the concept of the object. Here, the ‘object’ is the language being learnt; and, the ‘objective’ is the specific details of the language being learnt. Hence, those details to be collected (as data, otherwise known as evidences or responses) on this count, obviously need to be identified, collected and quantified for the purpose of determining the extent of learning.

Further, assessment is a process of making value judgement. For making value judgement, evidences are essential. Here, the evidences are the responses to be obtained as language data. They need to be collected and quantified, preferably in terms of numerical values, in order to make the value judgement very objective. Thus, assessment has a direct relation to quantification; in other words, assessment is dependent on quantification.

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71 Tool : Refers to an instruments or device used to collect data or evidences.

72 Quantification is the process of quantifying something or assigning numerical values to unknown magnitude of materials or properties or traits or progress.

73 Assessment (an integral part of teaching and learning) is an analytical process of gathering information, interpreting them making value judgement as objectively as possible w.r.t one’s performance in relation to an educational course or particular job (Subbiah, pon 2008).
4.2 Tool / Questionnaire Formulation

In order to collect the evidences, a tool was formulated. Here tool refers to the Questionnaire\textsuperscript{74} in two sets – one each for collecting written and oral responses. The questionnaire for written response consists of about 85 question items with some have 2 or more subdivisions or variants. The other one meant for oral responses is a shortened version consisting of about half the number of question items, drawn from the questionnaire, for written response, without compromising the overall effect. They were meant to be used for collecting written and oral responses respectively, from the examinees (experimental group).

Prior to the questionnaire formulation, the practical problems encountered by the learner in the classroom were collected through observation and also through their practical workbooks; they were analysed; about 180 factors causing such problems identified; and to overcome these problems formulated a list of learning points (in that many number) along with their operating contexts and provided the same under the broad categories of 5 dimensions viz., form, function, structure, boundary and meaning as indicated in chapter 3. Thus, the problems that are embedded in the learning points comprising the components of language as well as the dimensions associated with their operating context, formed a basis for the formulation of the above questionnaire.

4.3 Questionnaire for Written Response

Every learning point in the list is covered by a separate question item, except a few cases where the learning points are more. In such cases, the number of question items were decided on certain ratio (structure of verb 1:3; meaning of adverb, structure and boundary of particles & clitics 1:2; in an extreme case, boundary related to adverb 1:6). This was done by adopting an appropriate strategy of sampling process. Thus, 179 learning points were

\textsuperscript{74} Questionnaire is the special term used to represent a list of questions (with space provided for indicating the response to each question) designed to elicit information about a subject or a particular area of study that can be analysed for usable information.
taken care of by 85 questions (109 with variants). Also, some of the questions (marked as a,b,c,d) have dealt with more than 1 learning points. The details indicating number of learning points and number of questions covered are given below in nutshell.

Tally Table

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Morphological components</th>
<th>Verb</th>
<th>Adverb</th>
<th>Particles &amp; Clitics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Learning points Identified</td>
<td>Number of questions &amp; ratio</td>
<td>Learning points Identified</td>
<td>Number of questions &amp; ratio</td>
</tr>
<tr>
<td>Form</td>
<td>44</td>
<td>30 (1:1)</td>
<td>2</td>
<td>2 (1:1)</td>
</tr>
<tr>
<td>Function</td>
<td>12</td>
<td>11 (1:1)</td>
<td>4</td>
<td>3 (1:1)</td>
</tr>
<tr>
<td>Structure</td>
<td>42</td>
<td>13 (1:3)</td>
<td>5</td>
<td>4 (1:1)</td>
</tr>
<tr>
<td>Boundary</td>
<td>13</td>
<td>08 (1:1)</td>
<td>6</td>
<td>1 (1:6)</td>
</tr>
<tr>
<td>Meaning</td>
<td>10</td>
<td>10 (1:1)</td>
<td>2</td>
<td>1 (1:2)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>121</strong></td>
<td><strong>72</strong></td>
<td><strong>19</strong></td>
<td><strong>11</strong></td>
</tr>
</tbody>
</table>

This tally table consists of 7 columns. The first column in the LHS provides the details of dimensions. The second and third columns provide the number of learning points and verb related questions respectively, with their ratio in brackets. Similarly, the third and fourth columns provide the number of learning points and adverb related questions respectively, with their ratios and the fifth and sixth columns provide the number of learning points and particles and clitics related questions respectively with their ratio. The horizontal row indicates morphological components. The total in respect of each component distributed across the dimensions are indicated at the bottom of the table.

The questionnaire for written response was designed as a ‘question cum answer book’ (ref. Appendix-1) in order to facilitate the examinees to quickly relate their responses to the questions and also to curtail the length of responses to the desired limit. Since the intention is to quantify the language being learnt, ‘yes’ or ‘no’ questions are generally avoided.

The questionnaire consists of 5 parts - one each for the 5 dimensions viz., form, function, structure, boundary and meaning mentioned above.
covering the verb morphology viz., verb, adverb, particles & clitics. Including subdivisions, questionnaire consists of 109 questions, placed in the above mentioned sequence.

Their distribution is as follows: form - 40 questions (verb-30, adverb-2, particles-8); function - 17 questions (verb-11, adverb-3, particles-3); structure - 22 questions (verb-13, adverb-4, particles-5); boundary - 14 questions (verb-8, adverb-1, particles-5); meaning - 16 questions (verb-10, adverb-1, particles-5).

A provision has been made to collect personal data of the examinees in the beginning of the questionnaire.

This questionnaire was administered in a formal situation as an announced test in the actual classroom to every batch of these examinees in the respective academic year. In the beginning, examinees were briefed about the intention of this questionnaire and study behind it along with other related academic inputs. The doubt raised by the examinees were clarified then and there.

4.4 Questionnaire for Oral Response

The questionnaire for oral response is the miniature version of the written one (ref. Appendix-3). Question items for this, are drawn from the questionnaire for written response. The number of questions have been reduced to about 50% without compromising the overall effect of the questionnaire i.e., all the major divisions of the questionnaire for written response have been proportionally covered. This reduction becomes unavoidable in the practical point of view and also the time factor as the response have to be recorded by the researcher herself by engaging the examinees one by one.

Some of the examinees, who have taken the written response, volunteered to appear for the oral test also. The oral test was administered in an informal situation. Certain selected question items were posed on to them and the oral responses obtained from them, were recorded by the researcher herself.
4.5 Problem Perspectives

Every question item is embedded with a ‘problem’ which is conceived as an unknown part of the dimension associated with the components of language. The portion consisting the problem constitutes the stem of that question. Out of 179 problems covered 121 are related to verb; 19 to adverb; 39 to particles and clitics. Broadly, it is assumed that each correct response indicates the learner’s acquaintance with at least 3 problems of synonymous nature. Some of the questions have been framed with more than one problem stem.75

It may also be noted that form related problems are 56 (verb-44, adverb-2, particles & clitics-10); function - 18 (verb-12, adverb-4, particles & clitics -2); structure-58 (verb-42, adverb-5, particles & clitics -11); boundary - 30 (verb-13, adverb-6, particles & clitics -11); and meaning - 17 (verb-10, adverb-2, particles & clitics -5).

4.6 Pilot Study

Prior to the finalization of the questionnaire, a pilot study was conducted on a group of randomly selected probable examinees for the purpose of determining the comprehensiveness of the content coverage, their relevance, time required for making response, and the difficulty level. Based on the responses received, the questionnaire was altered by way of removing or adding or modifying some of the question items included in the draft version.

4.7 Experimental Group (Examinees)

The experimental group consists of the learners of Tamil as L2 at SRLC of CIIL, Mysore, which is the main focus group in view of their structured learning under a common curriculum. It consists of a learner group with heterogeneous members (teachers, researchers, non-working post graduate degree holders). Most of them are the speakers of dravidian languages, and the rest are the speakers of Indo-aryan language. The 3 consecutive batches

75 Stem - Part of the question consisting the problems requiring solution.
of learners of SRLC are duly marked as Batch I (2012-13), Batch II (2013-14), & Batch III (2014-15).

For cross verification, comparison, etc., some learners of Tamil (foreigners) at PILC Pondicherry, and IITS Chennai, were also considered as part of the experimental group. Batch IV consists of 2 groups i.e., one from IITS and the other from PILC (on practical considerations, both the groups were treated as 1 batch). Learners of Tamil from Malaysian University is marked as Batch V.

4.8 Rationale for each Question Items

The rationale behind each of the questions related to verb, adverb, particles and clitics included in the questionnaire are given below, in the order of their serial numbers.

i. Questions numbers from 1 to 27 deals with FORM

Question nos. 1,5,6,8,9 intend the examinees to identify different forms of verbs differentiating from another (verb root, imperative, conditional, relative participle). Question no. 22 intends the examinee to identify the causal factor for determining the verb form.

Question nos. 2-4, 7, 10-15 intend the examinee to produce different verb forms by adding appropriate suffixes (such as tense, person, number, gender, passive, concessive, verbal noun, participle noun, transitive, infinitive, negative relative participle, negative defective verb). Question No. 23, & 24 intend the examinees to produce the appropriate markers for determining the verb form (such as finite verb, verbal participle).

Question no. 16-17 intend the examinees to identify different forms of adverb from one another (such as basic and derived adverb form).

Question no. 25 intend the examinees to produce adverb form by adding the suitable adverbial marker (/-aaka/ to noun form in a sequence).

Question no. 18 intend the examinees to identify and produce the clitic marker embedded in the verb form (final part of the verb such as /-o/, /-e/, /-um/, /-taan). Question no. 19 & 21 intend the examinees to identify and
replace one form of particles with another form which gives the equivalent meaning (such as quotative, and emphatic forms). Question no. 20 intends the examinee to identify onomatopoeic form from another form based on the sound and meaning relationship.

Question no. 26 intend the examinees to produce different clitic forms by adding appropriate clitic markers (such as exclamatory; & Interrogative form).

ii. Questions numbers from 28 to 44 deals with the FUNCTION

Question nos. 28, 29, 31, & 32 intend the examinees to identify the role of verb (such as nominalised form as subject; all other forms as predicate). Question no. 30 intend the examinees to identify the noun which plays the role of object in a sentence by differentiating it from the subject. Question no. 33 intend the examinees to identify the verb which has the role of predicate and complete the sentence.

Question no. 36 intend the examinees to convert the given root verb into nominalised form and make use of them in the given context. (such as subject in indicative context).

Question nos. 37-40 intend the examinees to produce a sentence by using given verb forms in context (such as usage of different forms of verb as predicate in different contexts such as interrogatory, exclamatory, passive, etc.)

Question no. 34 & 35 intend the examinees to identify the adverb which has the role of modifier to predicate in the given sentence from among the different roles of word (such as basic, derived adverb).

Question no. 41 intend the examinees to produce the sentence by using the adverb as predicate modifier in exclamatory context (doubt).

Question no. 43 intends the examinee to identify the predicate in the given sentence and then make use of it in the context (such as emphatic context).

Question no. 42 & 44 intend the examinees to produce the sentence by using the particle as adjunct to predicate in the given context (such as concessive form as sentence link, quotes, etc.).
iii. Questions numbers from 45 to 66 deals with the **STRUCTURE**

Question nos. 45-49 intend the examinees to identify different verb forms from the jumbled set of elements / words based on their arrangement in the order of a proper structure (such as finite verb, infinitive, verbal participle (negative), participle noun, etc.).

Question nos. 53, 54, & 55 intend the examinees to name certain verb patterns based on the pre-determined model or set framework (such as pattern of concessive verb, auxiliary verb, infinite verb, etc.).

Question no. 56, 59, 60 intend the examinees to identify the given verb from different patterns and also identify the verb pattern of different verbs (such as patterns of transitive verb, participle noun-negative, finite verb, etc.)

Question no. 57 & 58 intend the examinees to produce examples of verb in the given pattern (such as verbal participle; relative participle, etc.)

Question no. 64 & 65 intend the examinees to produce the examples for given pattern and also the pattern of the given verb. (such as finite verb with interrogative clitic (question).

Question no. 50 intend the examinees to rearrange the jumbled elements to form adverb (such as basic and derived adverb).

Question no. 51 intend the examinees to identify the elements arranged in the sequence of adverb form from amongst the jumbled ones.

Question no. 61 & 62 intend the examinees to produce the adverb in the given pattern (such as adverb pattern) in which the way the language units are grouped together

Question no. 52 intend the examinees to rearrange the jumbled elements in a sequence to form meaningful structure of verb by adding the bound clitics at the end of the word (such as interrogative clitics, exclamatory clitics etc.).

Question no. 63 & 66 intend the examinees to identify the verb in the given pattern of verb with bound clitics from among the different forms of verb (such as ‘peru + va+aal+oo’).
iv. Questions numbers from 67 to 73 deals with the BOUNDARY
Question no. 67 & 68 intend the examinees to produce the appropriate boundary markers of verb to suit the given context (such as (?) for question word, (!) for exclamatory word), (.) for completing the sentence, (“ “) for double quotes, (,) for continuation, etc.).

Question no. 72 intend the examinees to produce the bounded units based on given boundary marker of verb. (such as (?) as end boundary i.e., the (?) is preceded by the question word i.e., Verb having interrogative marker)

Question no. 69 intend the examinees to produce the preceding and following markers of adverb such as preceded by (?) and followed by (.)

Question no. 70 intend the examinees to identify the marker which has end boundary from amongst the given boundary markers.

Question no. 71 intends the examinees to produce the boundary markers to suit the given context such as double quotes (“ “), and single quotes (‘ ’) when followed by the verb enru.

Question no. 73 intends the examinees to give the name of the bounded language unit based on the given boundary markers (such as quotative words is bounded by double quotes “ “)

v. Questions numbers from 74 to 85 deals with the MEANING
Question no. 74-76, 78 intend the examinees to identify the direct (lexical) meaning of the given verb (such as finite verb; basic verb root; defective verb)

Question no. 83 & 84 intend the examinees to identify the meaning of the word (verb) form given in context such as idiomatic, grammatical, etc.,

Question no. 77 & 79 intend the examinees to produce direct (lexical) meaning of the verb forms (synonyms & antonyms).

Question no. 85 intend the examinees to produce the meaning of the verb according to the context.

Question no. 80 & 81 intend the examinees to identify the direct/lexical meaning of the adverb from among 2 different forms in contrast.
Question no. 82 (a, b, c & d) intend the examinees to identify the direct meaning relationship among reduplicated forms with the corresponding verb.

4.9. Data Recording Mechanism

Responses collected were recorded in a specially created table called ‘data recording table’. Two such tables—one for written responses and the other for oral responses were created. The details of data recording mechanism are given below.

For written response: The responses obtained are actually available in the question cum answer book. In view of the enormity, they were recorded in a consolidated form in the specially created tables. A total of 5 tables with their entries, running into 25 pages (meant for all the 5 batches of the experimental group are provided as Appendix-2, a sample of which is given below.

**Sample Data Recording Table for Written Response**

| Name : Batch No. | Number of L₂ Learners |

<table>
<thead>
<tr>
<th>(1) Sl. No.</th>
<th>(2) Major Dimensions</th>
<th>(3) Language Aspect</th>
<th>(4) Quest. Nos. as in Questionnaire</th>
<th>Responses of all Learners individually recorded</th>
<th>(5) Total No. of Correct responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Form, etc.,</td>
<td>Verb, etc.,</td>
<td>1</td>
<td>1 X 1 1 x x           9</td>
<td></td>
</tr>
</tbody>
</table>

This sample table consists of 6 columns. Column no.1 indicates serial number, 2 indicates the dimensions covered, 3 indicates the language aspect covered, 4 indicates the question serial number (as provided in the question cum answer book) with sub-divisions, if any, 5 indicates the individual responses of the learners recorded, and column 6 represents the total number of correct responses. The responses of particular Learner in the horizontal line (row) and number of question items in a vertical line (column) are
recorded in the table. Right responses (responded correctly) were marked as 1 and wrong responses (attempted wrongly) were marked as X and those questions not attempted were marked as 0. The performance status of each individual on each dimension is provided at the end of each section. This will provide a holistic view of the process of test administration and the recording of responses collected.

Correctness of responses was decided on the basis of the Answer key developed by researcher herself, in the light of the learning points.

Single question dealing with multiple problems, splitted into as many as the number of problems eg., question no. 3 deals with 4 problems. Hence splitting it as 4 questions for the purpose of recording the questions. Thus, number of questions and responses will not tally where as number of problems and responses will tally. Data recording table so used, is given as Appendix 2.

For oral response: Since the responses were recorded by the researcher herself there is no separate answer sheet provided to the examinees. Since the actual responses are less in number, the actual responses are included in the table. (unlike the written responses which are available in the question-cum answer book). A total of 5 tables with the entries running into 15 pages are meant for all the 5 batches of the experimental group. They are provided as Appendix-4, a sample of which is given below.

**Sample Data Recording Table for Oral Response**

**Name:** Batch No. (Year)

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Form, etc.,</td>
<td>Verb, etc.,</td>
<td>1</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

* Numbers in bracket represent the learner as in Written Questionnaire

Column 1 indicates the coverage of dimensions, 2 indicates the language aspects covered, 3 question serial numbers (as in the questionnaire
for oral), 4 the right responses (answer keys), and 5 the number codes of learners (who provided responses). The boxes of each row indicates the performance status of each learner (against each question, the actual responses provided by the learners have been recorded). The correct responses are shown by putting tick mark (✓). The wrong responses and not attempted are recorded as mentioned by them orally. For all the subjective type questions the responses were recorded as given in Appendix – 4.