



# CONSTRUCTION AND VALIDATION OF ACHIEVEMENT TEST IN TAMIL HIGHER SECONDARY SCHOOL STUDENTS IN THIRUVARUR DISTRICT

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## Abstract

Achievement tests measure the current status of individuals with respect to proficiency in given areas of knowledge or skill. Standardized achievement tests are carefully developed to include measurement of objectives common to many school systems. They measure knowledge of facts, concepts and principles. Achievement tests are primarily used in making classroom-level decisions and are designed with particular reference to the course objectives/learning goals of a specific class. The investigator conducted a study to construct and standardize the achievement test in Tamil for XI standard by following certain steps. The investigator framed 50 items initially on the selected topics of Tamil of class XI on the basis of the blue print prepared for the achievement test in the light of specific objectives. After the items were written the investigator consulted the language and subject experts for checking the items framed with respect to the faulty language or inadvertent defects in wording for and also to verify whether the items measure what was intended to be measured at the level of achievement. For trying out the preliminary draft of the achievement test, the test was given to the sample of 100 students of class XI. The difficulty value, and discriminating power, of the test items were determined On the basis of the preliminary draft of the achievement test was modified.

**Keywords:** Achievement Test, Tamil, Bloom Taxonomy. Spearman Brown. (ATT). Higher secondary students.

## Introduction

An achievement test is a standardized test designed to measure a person's knowledge and skills in a specific area or subject, typically learned through instruction. These tests assess how well individuals have mastered particular content, skills, or concepts. They are commonly used in educational settings to evaluate student performance, guide instruction, or measure progress toward learning goals. Content-Specific: Focus on areas such as mathematics, reading, science, or history. Objective Measurement: Provide quantifiable results that

can be compared against a standard or norm. Criterion-Referenced or Norm-Measure performance against a specific standard or objective. Compare an individual's performance to that of a larger group.

### **Bloom's Taxonomy Levels and Their Correlation with Achievement Tests:**

Achievement tests and Bloom's Taxonomy are closely connected because the taxonomy provides a framework for defining and assessing educational objectives. Bloom's Taxonomy categorizes cognitive skills into six hierarchical levels, which can guide the design of questions and tasks in achievement tests to measure various levels of learning outcomes.

#### **1. Knowledge (Remembering):**

Description: Recalling facts, terms, or basic concepts. Test Items- Multiple-choice, true/false, or fill-in-the-blank questions. Example "What is the capital of France?"

#### **2. Comprehension (Understanding)**

Description: Explaining concepts or interpreting information. Test Items: Short-answer questions or comprehension passages. Example "Summarize the main idea of the passage."

#### **3. Application**

Description: Using information in new situations. Test Items Problem-solving tasks, case studies, or scenarios. Example" Apply the formula for the area of a triangle to solve this problem."

#### **4. Analysis (skills)**

Description: Breaking information into parts to understand its structure Test Items Compare-and-contrast questions, data interpretation, or logic-based problems. Example: "Identify the assumptions in the argument provided."

### **How Achievement Tests Reflect Bloom's Taxonomy**

Lower Levels Basic knowledge and comprehension are often assessed in standardized tests with objective formats like multiple-choice questions. Higher Levels: Application, analysis, synthesis, and evaluation are typically addressed in open-ended questions, project-based assessments, or performance tasks. Achievement tests designed with Bloom's Taxonomy ensure a balanced evaluation of learning, from basic recall to advanced critical thinking skills.

### **Objective of the Study:**

To construct and validate the achievement test in Tamil for XI standard.

## Planning the test

1. Preparation
2. Try out of Preliminary Draft
3. Item Analysis
4. Final draft

## Pilot study

To validate this inventory, a pilot study has been conducted with a sample of 100 Higher Secondary School students in Tiruvarur District, selected through random sampling technique.

## Primary Draft

**Table-1 Objective-wise Blue Print of Achievement Test (first Draft)**

Sl No	Instructional Objectives	Marks	Percentage
1	Knowledge	13	26
2	Understanding	13	26
3	Application	12	24
4	Skill	12	24
	Total	50	100

## Methodology

In this study for construction and validation of the Achievement Test in Tamil for Higher Secondary school students the normative survey method has been adopted. The tool has been prepared on a multiple choice question type with 50 statements and all the statements are positive in nature and the scoring procedure for the tool with the option '1' for Yes and '0' for No. The minimum score for the tool is 0 and maximum score of the tool is 50.

## Item Analysis

The model/draft tool prepared by the investigator was administered with a sample of 100 Higher Secondary school students. The students were response to put a tick mark based on their opinion among the given alternatives. Each statement has four alternative responses; namely Yes/No. Scoring was done for all the statements. The totals Scores were calculated separately for all response sheets of 100 higher secondary school students and they were arranged in the descending order of scores. The top 25% of the subjects (Upper Group) with the highest total scores and the 25% of the subject (Lower Group) with the lowest total scores were taken into account for the analysis. The difference in Means of the high and low groups for each item

was tested for significance by computing the t-ratios. Items with the 't' value of 1.96 and above were selected and the items with the 't' value of lower than 1.96 were rejected.

Table-2

## ITEM ANALYSIS OF ACHIEVEMENT TEST IN TAMIL

SL NO	't' Value	Selected / Not Selected
1	2.775	Selected
2	4.164	Selected
3	4.976	Selected
4	4.016	Selected
5	3.335	Selected
6	0.335	<b>Not selected</b>
7	2.156	Selected
8	3.511	Selected
9	1.332	<b>Not selected</b>
10	3.648	Selected
11	2.672	Selected
12	3.164	Selected
13	3.808	Selected
14	1.517	<b>Not selected</b>
15	3.241	Selected
16	2.672	Selected
17	3.418	Selected
18	3.397	Selected
19	4.976	Selected
20	1.402	<b>Not selected</b>
21	5.741	Selected
22	4.437	Selected
23	3.493	Selected
24	0.976	<b>Not selected</b>
25	3.681	Selected
26	4.514	Selected
27	3.546	Selected
28	1.145	<b>Not selected</b>
29	7.928	Selected

30	5.314	Selected
31	2.672	Selected
32	3.158	Selected
33	5.195	Selected
34	3.335	Selected
35	3.418	Selected
36	3.493	Selected
37	0.910	<b>Not selected</b>
38	3.301	Selected
39	4.427	Selected
40	4.016	Selected
41	3.338	Selected
42	1.757	<b>Not selected</b>
43	2.405	Selected
44	1.159	<b>Not selected</b>
45	3.418	Selected
46	3.397	Selected
47	2.775	Selected
48	0.811	<b>Not selected</b>
49	3.808	Selected
50	4.016	Selected

**Final Draft;****Table ;3 Objective-wise Blue Print of Achievement Test (Second Draft)**

SI No	Instructional Objectives	Marks	Percentage
1	Knowledge	10	25
2	Understanding	10	25
3	Application	10	25
4	Skill	10	25
	Total	40	100

After the item analysis on the basis of 't' value 40 statements were selected and it is taken as tool for final study.

## Reliability and Validity of the Tool

The reliability of School Administrative Support Inventory was determined by Split-Half method. The reliability of the test by Split-Half technique (consistency) followed by the Spearman Brown Prophecy formula is found to be 0.925 The content validity has been established by a panel of experts, faculty members from the Department of Education, and Higher Secondary Schools Teachers. The Intrinsic Validity was established by taking the square root of Reliability Coefficient i.e.,  $r = 0.874$ . Thus from the two coefficients, it may be inferred that this scale is highly reliable and valid.

## Conclusion

This Research tool focused on the Tamil Achievement test based on Bloom Taxonomy under Knowledge, Understanding, Application, Skills, This tool will be immense use of Educational research to measuring the Higher secondary school students achieving the Higher marks, to help of this Tool.

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