

# Construction and Standardisation of Teacher's Attitude Scale towards Constructivist Approach in Teaching (TASCAT)

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## ABSTRACT

The present study was undertaken to construct and standardize an attitude scale to measure the attitude of teachers towards constructivist approach in teaching. Initially a pool of items was framed by reviewing related literature, which was then given to experts for analyzing the content. After preliminary try out and item analysis was done, only items with 't' value of above 2.77 were retained for the final form of the scale. The final form of the scale thus consists of 40 items. The reliability of the scale was ascertained by Karl Pearson split half method and Cronbach Alpha and it was found to be relatively high. Content validity and face validity was also ascertained. Norms was also established for the interpretation of the obtained scores.

**Keywords:** Literature, Karl Pearson, Cronbach Alpha, content

The need of providing quality education had been felt for quite a long period of time. The last few years saw several efforts being made towards focusing more on the needs of the students and trying to make education more relevant to the students and to encourage the them to learn from their own experience, to think more and to apply what they experience outside school to classroom learning. One of the theories which explain this important concept is the theory of Constructivism. This theory believes that human generates knowledge and understanding as a result of their ideas and experiences. The basic principle of constructivism is that learners construct or build their own knowledge and meaning rather than being taught to them by someone else. A constructivist approach to teaching and learning will allow students to become more engage in their learning process through group learning and collaboration. This will help in developing critical thinking abilities and it will make learning much more interesting and a joyful experience.

The National Curriculum Framework( 2005) in its aim of improving the children's natural desire to

learn strongly support the use of Constructivist Approach in school education (Chapter 2.4.1- Teaching for Construction of Knowledge) as this approach give importance to children's experiences, their voices and their active participation. In India Constructivist and learner centered approach has been introduced only about a decade ago. Its successful implementation in schools largely depends upon the expertise of the teachers. However, as Constructivist Approach is a relatively new concept, it will be a challenging task for the teachers who are so used to their traditional way of teaching where students passively takes in what is being taught without questioning. It requires the teachers to play a different role from that of being the only authoritative source of knowledge in the classroom. The only way to help them shift their views about constructivist approach is to change their attitude towards it. Therefore, having a right attitude is the first step that will help the teachers to embrace this approach.

Attitudes are simply expressions of how much we like or dislike various things. They represent our evaluations- preferences- towards a variety

of attitude 'objects'. One of the reasons that attitudes are important is that they are thought to guide behavior. A favourable attitude towards constructivist approach, on the part of the teacher will contribute towards the successful implementation of constructivist teaching in the classroom while an unfavourable attitude will hinder its application in classroom situations.

In India, research on Constructivist Approach in teaching and learning is still very less in comparison with those done abroad but the studies conducted so far indicate that students performed much more better when taught by constructivist approach. Thus, adopting this approach is essential if we want our students to have a different outlook towards learning. Here lies the need to construct an attitude scale that will measure the attitude of teachers towards constructivist approach in teaching as it will help teachers, student teachers and teacher educators know and understand how to go about in embracing and implement it in real classrooms situation.

### **Objectives of the Study**

The following are the objectives of the study:

1. To construct a Teacher's Attitude Scale towards Constructivist Approach in Teaching (TASTCAT).
2. To Standardize TASTCAT
  - (a) Establishing the Reliability
  - (b) Establishing the Validity
  - (c) Setting up Norms

### **METHOD**

For construction and standardization of attitude scale for measuring the teachers attitude towards constructivist approach in teaching, the following steps were taken.

#### **Preparation of Items**

In order to measure the Teacher's Attitude Scale towards Constructivist Approach in Teaching (TASTCAT,) relevant books, journals, articles, newspaper, etc. were consulted in order to collect statements which deal with constructivist approach. Six components form the basis for the construction of items to be included in TASCAT. These six

components are Reflection, Learning Process, Autonomy- Community, Authority-Facilitator, Power-Empowerment and Evaluation. Altogether 150 statements (77 positive and 73 negative statements) was collected and framed on the basis of these six components.

#### **Reviewing and Editing of the Test Items**

The draft containing the 150 statements was given to 20 experts in the field for analyzing the content, language, nature of the items as well as for editing the statements. Out of 150 statements that were constructed, 76 statements were retained while 74 were rejected.

#### **Preliminary Try Out**

Based on the feedback from the experts, some of the 76 statements were modified before they were arranged according to the six components. There are 41 positive statements and 35 negative statements altogether. The tool was then administered to 100 elementary and secondary school teachers of Shillong to determine the level of understanding of the appropriateness of the dimensions and the items of the Scale. Out of the 76 statements, 31 statements were discarded and the scale now comprised of 45 statements.

#### **Try Out**

For the try out, the attitude scale consisting of 45 statements was then administered to 200 elementary and secondary school teachers. At this stage, there are 22 positive statements and 23 negative statements.

#### **Item Analysis**

For the present study the method as suggested by A.L. Edwards (1957) was used for item analysis. For the basis of rejecting statements, the frequency distribution of the scores based upon the responses to all the statements was taken. Edwards suggested that 25% or some other percentage of the subjects with the highest total scores and lowest total scores must be taken. However, for the purpose of item analysis of this study the top 27% as well as the bottom 27% of the scores was taken aside. The t-values for significance of differences between the mean attitude scores of the top and bottom 27%

**Table 1:** Distribution of items for the final scale consisting of 40 items

Sl. No.	Components	Positive statements	Negative statements	Item number	Maximum Score
1	Reflection	5	3	4, 5, 6, 8, 11,19, 26, 36	32
2	Learning Process	4	1	1, 9, 24, 31, 38	20
3	Autonomy Community	4	5	2, 7, 10, 13, 16, 27, 29, 33, 35	36
4	Authority Facilitator	4	2	3, 15, 17, 18, 22, 23	24
5	Power Empowerment	3	3	12, 21, 28, 34, 39, 40	24
6	Evaluation	1	5	14, 20, 25, 30, 32, 37	24
	Total	21	19	40	160

group of respondents, that were indicative of their difficulty and discrimination values, were calculated for all the 45 statements. Even though a crude and approximate rule of thumb was to regard 't' value equal or greater than 1.75 as indicating that the average response of the high and low groups to a statement differs significantly (Edwards, 1957), in this case those items having 't' value above 2.77 i.e. statements which are significant at 0.01 level of confidence were retained for the try out scale and statements having 't' value less than 2.77 were then rejected.

### The Final form of the test

In the final form of the scale there are 40 items, 21 positive statements and 19 negative statements.

The Final form of the test consists of 40 items and these items were arranged in a random order for the final administration. The TASCAT is a five point scale which has the responses as *Strongly Agree, Agree, Undecided, Disagree* and *Strongly Disagree*. Scoring for each item of the scale was done by giving a score of 4, 3, 2, 1, and 0 for positive statements, and 0, 1, 2, 3 and 4 for negative statements. Therefore, the maximum score is 160 and the minimum score is 0.

### Standardisation of the scale

*Estimation of Reliability:* For finding out the reliability, the Split Half Method to estimate the internal consistency of the scale was used on a sample of 200 elementary and secondary teachers from various schools in Shillong. The scale was divided into two equivalent group. Half test reliability coefficient was computed by Pearson 'Product Moment Method. From the half test reliability coefficient, the whole test reliability coefficient was estimated by using Spearman Brown prophecy Formula.

In addition, Cronbach Alpha is also being calculated for finding out the internal consistency of the scale. The results are shown in the table below:

**Table 2:** Internal Consistency of the Scale

Reliability method	N	Reliability Coefficient
Split Half method	200	0.837
Spearman Brown formula	200	0.913
Cronbach Alpha ( $\alpha$ )	200	0.907

*Estimation of Validity:* The face validity of the scale was confirmed on the basis of the opinion of the experts that it does convey the concept it purports to measure and has a logical link with the objectives.

**Table 3:** Showing Norms

Sl. No.	Raw Scores	Percentile	Ranks	Interpretation
1	116 and above	81 - 100	1 - 149	Highly Favourable
2	110 - 115	61 - 80	173 - 315	Favourable
3	105 - 109	41 - 60	346 - 492	Moderate
4	99 - 104	21 - 40	526 - 697	Unfavourable
5	98 and below	0 - 20	720 - 895	Highly Unfavourable

After the items were constructed, the draft was given to experts in the field of education. Based on their suggestions and useful recommendations, the statements were modified accordingly and some of them were rejected. After try out was carried out, only items with 't' value above 2.77 which are significant at 0.01 level were selected. Therefore, the scale has content validity.

(c) *Establishment of Norms*: In order to establish the norms, the data collected from 895 samples was used. The raw scores obtained from the 895 samples are converted into percentile ranks. The score range, percentile, ranks and interpretation are given in the following table.

## CONCLUSION

This study was done to construct and standardized an attitude scale for teachers to find out their attitude towards Constructivist Approach in Teaching. This scale i.e. TASCAT has been found to be very reliable and valid in terms of face and content validity. Moreover norms have been established which serves as frame of reference for interpreting the obtained scores. Therefore TASCAT is reliable and valid and can be used by Teacher Training Institutes, Teacher Educators or individuals who are interested in finding out the attitude of teachers towards Constructivist Approach in Teaching.

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