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## CONSTRUCTION AND STANDARDIZATION OF TEACHER ATTITUDE TOWARD INCLUSIVE EDUCATION SCALE FOR SECONDARY SCHOOL TEACHERS

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### ABSTRACT

*The present study was designed to construct and standardize Teacher Attitude Toward Inclusive Education Scale for measuring attitude toward inclusive education of secondary school teachers. For the purpose data were collected from secondary school teachers by adopting random cluster sampling technique. An item pool was developed by referring various sources and consulting theoretical and empirical literature available in the concerned area. Developed item pool was put to evaluation and criticism by technical as well as language experts. For selecting only highly discriminating items in the final draft of the teacher attitude toward inclusive education scale preliminary draft of scale was subjected to item analysis. The reliability of scale was estimated using test-retest and split-half methods which were found to be 0.70 and 0.86 respectively. Further, the validity of teacher attitude toward inclusive education scale was also ascertained and norms were established to interpret the scores obtained on the scale. Teacher Attitude Toward Inclusive Education Scale can be used in Indian settings with greater precision and is applicable to various demographic variables, viz. teacher's qualification, gender, age, stream, teaching experience etc.*

**Keywords:** Construction, Standardization, Teacher Attitude Toward Inclusive Education, Secondary school teachers.



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## **Introduction**

Inclusive Education ensures that all children irrespective of their disability being able to learn together with normal children in ordinary school or community educational settings with appropriate network of support services. It ensures the strengthening of the system of education so as to reach every learner and forms a key strategy to achieve the goal of Education For All (UNESCO). Inclusive education ensures that children with special needs are placed in their age appropriate classes in the schools situated in vicinity so as to get quality education that empowers them to meet success in the core curriculum irrespective of the challenges they face (Bui et al., 2010; Alquraini and Gut, 2012).

Growing access to inclusive education is part of a worldwide programme today. A number of studies related to inclusive education has been done by various researchers at different levels. According to UNESCO Inclusive Education is the pedagogical integration of the students with special needs in a regular school. It further states that inclusion may either take the form a policy to encourage integration (UNESCO 1996) or should be mandatory under some legislation.

Attitude is an internal state of a person that influences the him/her to make an evaluation along a continuum, which in turn affects subsequent behaviours enacted by the individual. Cook et al. (2000) found that the teacher attitudes change with experience of inclusion. Greater the experience of inclusion, the greater the feeling of concern teachers develop for students with special educational needs. According to Forlin (2004) teachers' knowledge and skills paired with their attitudes and beliefs are essential in the development of inclusive practices. He found that majority of teachers are not still comfortable in including children with disabilities in their classrooms. Besides teachers' positive attitude towards inclusive education a favorable attitude of the school leader is equally important for inclusion to be effective.

Fakolade et al. (2009) examined the attitude of teachers towards inclusion of children with special needs in general classroom in Nigeria. The results of the study revealed that female teachers possess more positive attitude towards the inclusion of children with special needs than their male counterparts. Further, professionally trained teachers possess a more favourable attitude towards inclusion of children with special needs as compared to untrained teachers. While, teaching experience was found to have no impact on attitude of teachers



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towards inclusion. According to Hsien et al. (2009) the inappropriate training in inclusive education may result in lower level of positive attitudes towards the inclusion among teachers. Bhatnagar and Das (2013) studied the concerns of regular teachers of secondary schools in Delhi so as to work with students with disabilities in inclusive education settings. The results of the study indicated that the teachers had a moderate level of concerns to implement inclusive education in their schools. The teachers were however not concerned about their increased workload due to inclusion. Vast majority (95%) of the teachers pointed that they had not received any training related to special education. Therefore, the study emphasized teacher training in inclusive education to improve teacher quality for inclusive education.

Alhassan (2014) reported that teachers' attitudes toward students with disabilities are different due to different schools' practices of inclusion. He found that a negative attitude of teachers was associated with large class-sizes and the presence of a student with disability in the classroom. Teachers with negative attitudes consider inclusion is a burden on teachers and they should get special service delivery in special education settings so as to avoid developing the negative impact on them in the regular classroom (Zambelli and Bonni, 2004). Galovic et al. (2014) revealed that in general the teachers held neutral attitude towards inclusive Education and more positive expectations regarding that outcomes of inclusion.

Kumar (2016) studied the attitude of teachers towards inclusive education System and revealed a significant difference in attitude of rural and urban teachers towards inclusive Education. Coelho et al. (2017) investigated teachers' attitudes toward the inclusion of students with special educational needs in the classroom. Moreover, the researchers also evaluated the factors suggested by the teachers for an effective inclusion process. The study revealed that the age, length of service, level of education and academic qualifications do not influence teachers' attitudes toward inclusion. The major barriers found in the implementation of inclusion in the schools were: a) the attitudes of teachers & families, b) coordination between educational staff, c) lack of human and physical resources and d) lack of training to work with students with special needs. Saloviita (2018) studied the attitude of teachers towards inclusive education in Finland. The results of the study revealed that teachers who were confident in their support networks and had sufficient access to educational resources were more positive towards inclusion than other teachers. The attitudinal variables self-efficacy and child-centeredness as



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well as demographic variables age and gender were found to be associated with attitudes towards inclusion. According to researcher a vicious circle exists between resources and teacher attitudes. The negative ambiance towards inclusion prevents the legislations to guarantee adequate resources for mainstream teachers with students having support needs in their classes. This lack of legal guarantees prevents change in negative teacher attitudes towards inclusion.

A complete review of literature revealed that the only tool which is available for measuring the attitude of teachers toward inclusive education ‘Attitude Towards Inclusive Education Scale’ (ATIES) developed by Wilczenski. In India only a few studies were found in which the researchers tried to modify the tool for Indian conditions for their studies. Thus, no research tool is available with us which can be safely used for measuring teacher attitude toward inclusive education of secondary school teachers of India. Therefore, it was thought worthwhile to construct and standardize teacher attitude towards inclusive education scale for secondary school teachers in India. Consequently, the present research was undertaken with the following objectives:

### **Objectives of the Study**

1. To prepare the preliminary draft of teacher attitude towards inclusive education scale for secondary school teachers.
2. To carry out item analysis of preliminary draft of teacher attitude towards inclusive education scale.
3. To estimate reliability of teacher attitude towards inclusive education scale using test-retest and split-half method.
4. To ascertain the validity of teacher attitude towards inclusive education scale.
5. To establish norms for interpretation of scores obtained on teacher attitude towards inclusive education scale.

### **Methodology**

In the present study of construction and standardization of teacher attitude towards inclusive education scale, the researcher used descriptive research method.

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## Sampling

The researcher used random cluster sampling technique to collect the requisite data. The samples of secondary school teachers were taken from district Shimla of Himachal Pradesh. Firstly, a sample of 130 secondary school teachers was selected for carrying out item analysis of preliminary draft of teacher attitude towards inclusive education scale. At the second stage, to compute test-retest reliability of the teacher attitude towards inclusive education scale a sample of 80 teachers was selected. Moreover, at the third stage, 80 teachers were selected to estimate split-half reliability index of teacher attitude towards inclusive education scale. Finally, a sample of 840 teachers was sampled for establishing norms for interpretation of scores obtained on teacher attitude towards inclusive education scale.

## Teacher Attitude Toward Inclusive Education Scale (TATIES)

### Preparation of Initial Draft of TATIES

Planning and Preparation of Initial Draft of Teachers Attitude Toward Inclusive Education Scale (TATIES) involved thoroughly screened the related literature, existing inventories / questionnaires / tests available on teacher's attitude toward inclusive education. Further discussions were carried out with the experts in the related area. Initially a list of 70 statements / Items were prepared covering different areas of teacher's attitude toward Inclusive Education for getting the statements of opinions from the experts, researchers, experienced teachers and teacher educators as well. The items of the scale were formulated on a five-point continuum ranging from strongly agree, agree, undecided, disagree to strongly disagree by using Likert Method of Summated Ratings. In the scale all positive statements were to be scored in such a way that teachers preferring 'Strongly agree' option were awarded a score of 5 and teachers preferring 'Strongly disagree' option were awarded a score of 1. The middle options i.e. agree, undecided, disagree were awarded equivalent scores of 4, 3 and 2 respectively. While, in case of negative items, the scoring procedure was reversed completely in such a manner that teachers preferring 'Strongly disagree' option was awarded a score of 5 and teachers preferring 'Strongly agree' option were given a score of 1. The middle responses on the scale i.e. disagree, undecided, agree were given a score of 4, 3 and 2 respectively in case of negative statements. The total teacher attitude toward inclusive



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education score of a teacher on this scale was computed by adding the score on all individual items.

### **Editing and Revision of Initial Draft of TATIES**

This initial draft of the scale was given to language teachers, experienced school teachers, research scholars and teacher educators to judge the content and linguistic accuracy of each item and its relevance. Each item/statement of the scale was personally discussed with the experts and their respective suggestions were taken into account so as to remove any sort of logical, technical and linguistic ambiguity present in the statements. On the basis of expert opinion, 60 items were finalized in preliminary draft of Teacher Attitude Toward Inclusive Education Scale. Out of these 60 statements, 40 statements were positive in nature, whereas the remaining 20 were negative in nature.

### **Data Analysis and Results**

#### **Item Analysis of Preliminary Draft (Try-Out Form) of TATIES**

The technique of item analysis was employed for selection/rejection of items for preparing final draft of teacher attitude toward inclusive education scale. For carrying out item analysis, the preliminary draft of Teachers Attitude Toward Inclusive Education scale was tried out on a sample of 130 secondary school teachers of district Shimla of Himachal Pradesh. Further, the scoring of teacher attitude toward inclusive education scale in respect of each individual teacher was done by following the procedure mentioned earlier. The total score on preliminary draft of teacher attitude toward inclusive education scale could range from 60 to 300. Subsequently, two groups of scores were framed choosing 27% of the teachers (35 teachers) with highest total scores and 27% of the teachers with lowest total scores on teacher attitude toward inclusive education scale. These two groups were named as 'top group' and 'bottom group' having high scores and low scores respectively. The middle 46% scores were weeded out and not included in further data analysis. Further, mean and standard deviation for each item of the scale were calculated separately for top group and bottom group of secondary school teachers. Thereafter, t-values were computed for each item to find out the significance of mean difference among two groups i.e. top group and bottom group in respect of each item of teacher attitude toward inclusive education scale. The t-value is a

measure of the extent to which a given item differentiates between the high and low scoring groups. Thus, t-values for all 60 statements were computed and the items having t-values equal to or more than 1.75 were selected for final draft of the teacher attitude toward inclusive education scale. While the items having t-values less than 1.75 were rejected. So, the final draft of TATIES was left with 55 items as the 5 items were found to have t-values less than 1.75.

The t-values in respect of each item of try-out form of Teacher Attitude Toward Inclusive Education Scale (TATIES) are given in table-1 below.

**Table-1**

**t-Values in respect 60 Items of Preliminary Draft of**

**Teacher Attitude Toward Inclusive Education Scale (TATIES)**

Item No.	t-value						
1.	9.04	16.	2.34	31.	<b>1.19</b>	46.	4.68
2.	4.67	17.	5.09	32.	3.43	47.	3.76
3.	3.77	18.	5.67	33.	8.06	48.	2.08
4.	7.09	19.	6.08	34.	6.89	49.	7.87
5.	5.65	20.	3.56	35.	3.09	50.	10.40
6.	3.82	21.	<b>1.03</b>	36.	3.86	51.	6.23
7.	8.04	22.	9.20	37.	10.43	52.	7.08
8.	5.23	23.	11.05	38.	4.09	53.	1.90
9.	2.64	24.	8.08	39.	12.23	54.	5.81
10.	7.88	25.	<b>0.89</b>	40.	5.09	55.	2.81
11.	1.89	26.	2.43	41.	9.20	56.	9.54
12.	<b>1.64</b>	27.	6.55	41.	7.32	57.	4.05
13.	7.66	28.	8.04	43.	7.30	58.	2.54
14.	4.03	29.	5.23	44.	3.09	59.	<b>0.95</b>
15.	6.70	30.	4.99	45.	6.83	60.	7.08

**Note:** t-values shown in Bold Font are rejected items (t-value < 1.75)



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It is evident from the table that 55 items with serial no.1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 and 60 in the preliminary draft were selected and remaining 5 items with serial no. 12, 21, 25, 31 and 59 were rejected from the final draft of the teacher attitude towards inclusive education scale. Further, the final draft of Teacher Attitude Toward Inclusive Education Scale (TATIES) contains 39 positive and 16 negative items.

### **Reliability of TATIES**

The reliability of TATIES scale was determined by employing two methods i.e. test-retest method and split-half method.

1. Test-Retest Reliability: The test-retest reliability of TATIES scale was estimated by administering by the final draft of the scale twice on 80 teachers after a time gap of three weeks. Then, the correlation coefficient was calculated between the two sets of scores by applying Pearson's' Product Moment Correlation Method. The correlation coefficient 'r' i.e. reliability index came out to be 0.70 which was greater than the table value ( $r = 0.339$ ) at 0.01 level of significance, for df 89 and hence, was high significant. This indicated that there is high stability over time in TATIES scores obtained by secondary school teachers.

2. Split-Half Reliability: For estimating the reliability of TATIES scale by split-half method, the statements of final draft of the scale were divided into two halves by following odd-even procedure. The two halves of the scale were administered on 80 secondary school teachers selected from secondary schools of Shimla district. Afterwards, scoring was done separately for two halves of the scale and the value of Pearson's' Product Moment Correlation coefficient was computed between the scores of two halves. The correlation coefficient for one half of the TATIES scale was found to be 0.76. The reliability of the whole TATIES scale was obtained by applying Spearman Brown Prophecy Formula. Thus, the split-half reliability of whole TATIES scale came out to be 0.86 which was higher than the table value ( $r=0.325$ ) at 0.01 level of significance, for df 79 which was highly significant. This was indicative of the fact that the TATIES scale was internally consistent to measure the level of teacher attitude toward inclusive education of the secondary school teachers.



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## **Validity of TATIES**

The validity of TATIES was ascertained in terms of item validity, content validity and cross validity. TATIES was considered valid enough in terms of item validity because only those items were retained in the final draft of the scale which was having t-values equal to or greater than 1.75 (highly discriminating items). The content validity of TATIES was established by carrying out critical discussions with field experts at the time of development of preliminary draft of the scale. The experts were of the opinion that the statements in the TATIES were fully adequate and relevant to measure the teacher attitude toward inclusive education of secondary school teachers. In addition to this, only those items were retained in the preliminary draft of TATIES for which there has been at least 90% agreement amongst experts. Thus, the TATIES was found to possess adequate content validity. Furthermore, the TATIES can be considered to have adequate intrinsic validity because split-half reliability of the scale was found to be 0.86 which is a fairly high correlation index. The cross validity of TATIES was ensured by taking entirely different samples of secondary school teachers in order to carry out item analysis, establishing reliability and developing norms.

## **Norms for Interpreting TATIES Scores**

Before establishing the norms for interpretation of TATIES scores obtained by secondary school teachers, the obtained data were verified for possessing normality. This was done by computing the values of skewness and kurtosis for overall scores of sampled teachers (N=840) on the scale. The value of skewness came out to be -0.572 showing the distribution of total TATIES scores as somewhat negatively skewed. In addition to this, the value of kurtosis was calculated to be 0.461 indicating that the distribution of TATIES scores is somewhat platykurtic in nature. Further, on the basis of collected data, the mean and standard deviation in respect of TATIES scores of all sampled teachers were calculated which came out to be 109.18 and 18.99 respectively. Then, the raw TATIES scores were converted into z-scores by taking into consideration the values of mean and standard deviation for the purpose of establishing norms for interpretation of obtained TATIES scores. The following range (Table-2) of z-scores on a continuum can be used as suggestive norms for interpreting scores obtained on scale for measuring teacher attitude toward inclusive education.

**Table-2****Norms for Interpretation of Scores on TATIES**

Z-scores Range	TATIES Score	Interpretation
+2.01 and above	208 & above	Very high positive attitude
+1.26 to +2.00	194 – 207	High positive attitude
+0.51 to +1.25	179 – 193	Average positive attitude
-0.50 to +0.50	160 – 178	Moderate/Indifferent attitude
-1.25 to -0.51	146 -159	Below average negative attitude
-2.00 to -1.26	132 -145	High negative attitude
-2.01 & below	131 & below	Very high negative attitude

**Conclusions**

Following conclusions were drawn with respect to construction and standardization of scale for measuring teacher attitude towards inclusive education of secondary school teachers:

1. The present teacher attitude towards inclusive education scale has been specifically developed for secondary school teachers. However, it can be administered for measuring teacher attitude towards inclusive education of teachers at other levels of education with caution.
2. The initial draft of teacher attitude towards inclusive education scale was comprised of 70 statements which were put to strict and rigorous examination in terms of expert opinions. After such critical examination and taking into consideration the suggestions of field experts, ten statements were rejected and a few items were modified. The preliminary draft of scale was thus comprised of 60 items. After carrying out item analysis, five items with t-values less than 1.75 (least discriminating items) were rejected and final form of the scale has 55 items. Out of these, 39 items were positive in nature and 16 items were of negative type.



3. The reliability coefficients computed through test-retest and split half method were found to be 0.70 and 0.86 which were highly significant and thus teacher attitude towards inclusive education scale possessed appreciably high stability and internal consistency respectively.
4. The validity of teacher attitude towards inclusive education scale has also been ascertained in terms of item validity, content validity and cross validity which have been found to be satisfactory.
5. The norms for interpretation of obtained scores on the teacher attitude towards inclusive education scale have been established on the basis of which, the teacher attitude towards inclusive education can be ascertained.

### **Implications**

The present research work was designed to construct and standardize a scale for measuring teacher attitude towards inclusive education of secondary school teachers. Teacher Attitude Toward Inclusive Education Scale (TATIES) can be used for varied group of teachers differentiated on the basis of teacher's qualification, gender, age, stream, teaching experience etc. The scale is quite reliable and valid to measure secondary school teacher attitude toward inclusive education. TATIES can be easily administered and is convenient to score and interpret. Using TATIES teacher attitude toward inclusive education can be assessed easily at various levels. It may help in taking necessary steps to develop a positive attitude of teacher toward inclusive education so that the various schemes run by the government for inclusion can be successfully implemented.



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