CONSTRUCTION AND STANDARDIZATION OF TEACHER EMPOWERMENT SCALE FOR SECONDARY SCHOOL TEACHERS

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Abstract

This research paper highlights the process of construction and standardization of a scale for secondary school teachers to measure their teacher empowerment. Initially, a pool of items was formulated by reviewing related literature, which was then given to the experts for analyzing the content. After preliminary try out and item analysis was done, only items with 't' value 1.75 and above as suggested by Thurstone and Chave (1929) were retained for the final form of the scale. The final form of the scale thus consists of 49 items. The reliability of the scale was ascertained by Karl Pearson's Product Moment Correlation, Test-Retest method and Spearman-Brown Prophecy Formula of Split Half method and it was found to be relatively high. As far as validity is concerned, the content validity and face validity were also established. Norms were also established for the interpretation of the obtained score.

KEYWORDS   Teacher Empowerment, Secondary School Teachers, Reliability, Validity and Norms

Introduction

Teachers need to be empowered so that they can develop the competence to take charge of their growth and be able to resolve their problems in their everyday practice. To develop skills and competence needed in making important collaborative decisions and a display of commitment that in turn will create room for significant collaborative participation and democratic understanding. It enables teachers to exercise power over their educational lives and even resists controls that are detrimental to their work. Research supports the assumption that teacher empowerment relates to greater organizational effectiveness (Barth, 1990; Blase & Blase, 2001. Teacher empowerment has also been defined as the possession and exercise of power in the pursuit of occupational improvement, professional autonomy, and the overall improvement of the educational process (Smith & Lotven, 1993). Empowerment also means simply to be able to effect change (Kreisberg, 1992). In the above definitions, empowerment is both the knowledge that one can make a difference and the actual ability to act (Kreisberg, 1992). Dunst (1991) suggested that empowerment consists of two issues; (i) enabling experiences, provided within an organization that fosters autonomy, choice,

control, and responsibility, which (ii) allow the individual to display existing competencies that support and strengthen functioning. Starratt (2004) conveyed that a leader's 'enabling presence' may empower teachers to participate in addressing school issues, own their professional development, and bring to the effort of school improvement their talents and creativity (p.103).

In education, teacher empowerment has less to do with the ability to boss others but more to do with teacher professionalism (Blase & Blase, 2001). It is the ability to exercise one's professional ability with quiet confidence and to help shape the way the job is done by having meaningful input into the decision-making process and policy development (Maeroff, 1988). Also, teachers who perceive themselves as empowered have improved motivation, self-esteem, confidence, commitment, innovation, autonomy, and reflection (Blase & Blase, 2001). Bolin (1989) stated that teacher empowerment requires, 'investing in teachers the right to participate in the determination of school goals and policies and the right to exercise professional judgment about the content of the curriculum and means on instruction' (p.83). Teacher empowerment provides teachers the opportunities for choice and autonomy in the workplace to demonstrate their competencies as educators (Short, 1994; Zimmerman & Rappaprt, 1988). According to Kirby (1991), three key elements in teacher empowerment are; a) the ability to act, b) the opportunity to act, and c) the desire to act. Empowerment involves both personal and organizational issues. Empowerment focuses on the development of personal competence, as well as the opportunities a person have within the organization to demonstrate competence (Short, 1998). In other words, empowered teachers are highly competent and work in schools that provide opportunities to show competence (Short, 1998). A school that values the empowerment of teachers and students will be better at finding and developing resources than a school that does not support or hold an empowerment philosophy (Short, 1998). Glenn (1990) suggested that the real power behind the construct of teacher empowerment is authority derived from teacher command of the subject matter and essential skills necessary to successfully teach students. Empowered teachers believe they have the skills and knowledge to act on a situation and improve it (Short, 1994).

Rationale for Construction of the Tool

The demand and need for the development of the new and standardized tool are growing to a certain extent because most of the tools are having reliability and validity in the context of a particular area only. Though several scales and questionnaires are there to measure the principal's empowerment and women empowerment we all know that teachers are the custodian of the future so they need to be empowered. Besides; most of the assessable questionnaires/scales are foreign tools which are not fit Indian conditions. Only a few Indian tools are there out of which most of them are meant for school principals and for empowering women. So, no recent reliable and valid tools are available which is solely meant for assessing teacher empowerment. Hence, for accomplishing his research investigator intended to construct a tool that is solely meant for assessing the empowerment of secondary school teachers.

Objectives

The following were the objectives of the study;

1. To prepare the preliminary draft of the teacher empowerment scale for secondary school teachers.

2. To carry out item analysis of a preliminary draft of teacher empowerment scale.

3. To estimate the reliability of the teacher empowerment scale through test-retest and split-half methods.

4. To ascertain the validity of teacher empowerment scale.

5. To establish the norms for interpretation of scores obtained on the teacher empowerment scale.

Methodology

For construction and standardization of teacher empowerment scale, a survey technique under the descriptive method of research was used.

Sampling

In this study, the sample was drawn from the secondary school teachers. The sample for this investigation was drawn by employing multistage sampling along with purposive sampling techniques. Firstly, for item analysis of the preliminary draft, samples of 130 secondary school teachers working in govt. schools of Solan district, of Himachal Pradesh, were taken. At the second stage, a sample of 50 secondary school teachers to compute test-retest reliability and 100 secondary school teachers working in govt. schools of Shimla district of Himachal Pradesh, purposively selected to estimate split-half reliability. At the last stage, samples of 1360 secondary school teachers were chosen from 6 districts of Himachal Pradesh for its norms establishment.

Preparing and Editing the Scale

There are no universal traits/qualities of empowering teachers but certain requirements for teacher empowerment do exist across diverse situations. Therefore, a continuous effort for enumerating qualities/dimensions of teacher empowerment has been witnessed since the time of emergence of study on teacher empowerment. In this connection, different sources i.e. relevant literature, different research studies, existing inventories, questionnaire scales on teacher empowerment, were reviewed. In this way, 125 dimension wise statements were prepared. The statements were written in Hindi and English both languages. More than five rounds of checking and reframing of statements were made to ensure the appropriateness and uniqueness of the statements. The list of positive and negative statements so prepared was reviewed. The statements were judged from a language point of view. Based on experts' opinion the preliminary draft of the scale consisted of 79 test items.

Try Out of Preliminary Draft of Teacher Empowerment Scale

For carrying out item analysis, the preliminary draft of the Teacher Empowerment Scale was tried out on a sample of 130 secondary school teachers. After getting the filled upscale from the respondents, the scoring was done. The responses of the subject were rated on a five-point rating scale ranging from; Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree. The scoring pattern for positively worded items was done by awarding 5 to Strongly Agree, 4 to Agree, 3 to

Undecided, 2 to Disagree, and 1 to Strongly Disagree. For the negatively worded items, the scoring pattern was reversed in order. The scoring for positively and negatively worded items was given in such a way that the higher the score more is the empowerment of secondary school teachers.

Item Analysis

Afterward, the scoring of the Teacher Empowerment Scale for each respondent was done by following the procedure mentioned earlier. The total score on the preliminary draft of the Teacher Empowerment Scale ranged from 79-395. The researcher further proceeded with the technique of item analysis for the selection of the statements for the final draft of the Teacher Empowerment Scale. To compute 't' value, the top 27% of secondary school teachers (36 teachers) with the highest total score and the bottom 27% (36 teachers) of secondary school teachers with the lowest score on the teacher empowerment scale were taken. These two groups were named as 'top group having high score' and 'bottom group having low score' respectively. The high and low scorer groups were considered for item analysis as they provide criterion groups in terms of which to evaluate the individual statements. The middle 46% of booklets were discarded and not considered for further analysis. The value for all 79 statements was computed and arranged in an order to form the final scale. Thurstone and Chave (1929) suggested that 't-value' equal to or greater than 1.75 may be consider significant. So the statements having 't' value equal to or greater than 1.75 were selected for the final draft of the Teacher Empowerment Scale and other having 't-value' less than 1.75 were rejected. The calculated 'value' of each 79 statements is given in table 1.

Table 1: 't' Values in Respect to 79 Items of Final Format of Teacher Empowerment Scale

Item No	't' Value	Item No	't' Value	Item No	't' Value	Item No	't' Value
1.	3.12	21.	2.71	41.	*1.66✶*	61.	*1.37✶*
2.	4.65	22.	*1.57✶*	42.	*1.38✶*	62.	4.40
3.	6.62	23.	4.87	43.	4.52	63.	3.49
4.	5.69	24.	5.54	44.	6.86	64.	*1.42✶*
5.	3.56	25.	*1.37✶*	45.	3.70	65.	4.79
6.	*1.63✶*	26.	*1.50✶*	46.	*1.38✶*	66.	5.58
7.	6.70	27.	*1.37✶*	47.	*1.42✶*	67.	6.07
8.	6.47	28.	*1.61✶*	48.	4.52	68.	2.83
9.	*1.63✶*	29.	*1.20✶*	49.	3.73	69.	*1.66✶*
10.	3.25	30.	5.76	50.	2.77	70.	3.73
11.	2.12	31.	5.69	51.	*0.86✶*	71.	*1.38✶*
12.	*1.33✶*	32.	5.29	52.	*1.51✶*	72.	3.01
13.	*1.64✶*	33.	4.88	53.	*1.62✶*	73.	2.38
14.	6.65	34.	3.16	54.	*1.48✶*	74.	3.49
15.	6.30	35.	*1.66✶*	55.	*1.57✶*	75.	3.64
16.	5.25	36.	4.04	56.	5.54	76.	5.71
17.	2.12	37.	*1.52✶*	57.	4.81	77.	*1.37✶*
18.	2.87	38.	4.16	58.	3.41	78.	*1.42✶*
19.	*1.60✶*	39.	5.05	59.	6.11	79.	*1.52✶*
20.	*1.50✶*	40.	6.21	60.	6.58		

*Note: 't' values shown in bold and Italic letters indicate rejected items (**t<1.75**)*

Final Draft of the Teacher Empowerment Scale

After analysis of the first draft of item analysis, the final form of the scale was prepared. Out of 79 items, 49 items were retained and 30 items were rejected. Dimension wise distributions of items in Teacher Empowerment Scale after item analysis given in table 2.

Table 2: Dimensions wise Distribution of Teacher's Empowerment Scale

Sr. No.	Dimensions	Positively Worded Items	Negatively Worded Items	Total
1.	Self Esteem	06	03	09
2.	Team Working Skill	07	03	10
3.	Teacher Morale	07	04	11
4.	Communication Skill	06	03	09
5.	Decision Making	07	03	10
	Total	33	16	49

Reliability of Teacher Empowerment Scale

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

1. **Test-retest Reliability:** The test-retest reliability of the teacher empowerment scale was estimated by administering the final draft of the scale on 50 secondary school teachers with a time gap of approximately three weeks. For this purpose, the scale was administered on those 50 secondary school teachers who had not been included in the initial draft of the test. The test-retest reliability was measured by calculating the value of the correlation between scores obtained by secondary school teachers at the first administration and second administration of the scale. For this, the method of Karl Pearson's Product Moment Correlation was applied. The dimension wise and overall value of the correlation coefficient is shown in table 3.

Table 3: Dimensions Wise Test-Retest Reliability of the Teacher Empowerment Scale

Sr. No.	Dimensions	Test-retest Reliability	Total Reliability
1.	Self Esteem	0.77	
2.	Team Working Skill	0.81	
3.	Teacher Morale	0.76	0.82
4.	Communication Skill	0.84	
5.	Decision Making	0.83	

2. **Split Half Reliability**: For estimating the reliability of teacher empowerment scale by the split-half method was administered on a sample of 100 secondary school teachers. In the split-half method, the test was first divided into two equivalent halves and the correlation was calculated for those half tests.

The reliability of the scale was obtained by correlation scores on the odd and even numbers. To calculate the reliability co-efficient through the split-half technique, the Spearman-Brown Prophecy Formula was used. The reliability coefficient obtained for dimension wise and total teacher empowerment scale is given below in table :4

Table 4: Dimensions Wise Split-Half Reliability of the Teacher Empowerment Scale

Sr. No.	Dimensions	Split Half Reliability	Total Reliability
1.	Self Esteem	0.79	
2.	Team Working Skill	0.83	
3.	Teacher Morale	0.81	0.84
4.	Communication Skill	0.85	
5.	Decision Making	0.83	

The Validity of the Teacher Empowerment Scale

The validity of the Teacher Empowerment Scale was ascertained in terms of item validity, content validity, and cross validity and cross validity. The teacher empowerment scale 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 the teacher empowerment scale was established by carrying out critical discussions with field experts at the time of development of the preliminary draft of the scale. The experts of the opinion that the statements in the teacher empowerment scale were appropriate and relevant to measure the empowerment of secondary school teachers. In addition to this, only those statements were retained in the preliminary draft of the teacher empowerment scale for which there has been approximately 90% agreement among a panel of experts. Thus, the teacher empowerment scale was found to possess adequate content validity. Furthermore, the teacher empowerment scale can be considered to have adequate intrinsic validity because the split-half reliability of the scale was found to be 0.84 which showed a very high correlation index. The cross validity of the teacher empowerment scale was ensured by taking entirely different samples of secondary school teachers to carry out item analysis, establishing reliability, and developing norms.

Norms for Interpreting Teacher Empowerment Score

Before establishing the norms for interpretation of teacher empowerment scores obtained by secondary school teachers, the obtained data is verified for possessing normality. This was done by computing the values of skewness and kurtosis for overall scores of sampled teachers (N=1360) on the scale. The value of skewness came out to be .0.96. It is showing that the distribution of total teacher empowerment scores is normally skewed. In addition to this, the value of kurtosis was calculated to be 0.67. It also indicates that the distribution of the total teacher empowerment score is somewhat mesokurtic. Further, based on collected data, the mean and standard deviation in respect of teacher empowerment scores of all sampled teachers were calculated which came out to be 175.04 and 18.524

respectively. Then, the raw teacher's empowerment scores were converted into z-scores by taking into consideration the values of the mean and standard deviation to establish norms for interpretation of obtained teacher's empowerment scores.

Table 5: Z- Score Norms for Teacher Empowerment Scale

Raw Score	Z-Score	Raw Score	Z-Score	Raw Score	Z-Score	Raw Score	Z-Score	Raw Score	Z-Score
117	-3.13	140	-1.89	163	-0.65	186	+0.59	209	+1.83
118	-3.07	141	-1.83	164	-0.59	187	+0.64	210	+1.88
119	-3.02	142	-1.78	165	-0.54	188	+0.69	211	+1.94
120	-2.97	143	-1.73	166	-0.48	189	+0.75	212	+1.99
121	-2.91	144	-1.67	167	-0.43	190	+0.80	213	+2.04
122	-2.86	145	-1.62	168	-0.38	191	+0.86	214	+2.10
123	-2.80	146	-1.56	169	-0.32	192	+0.91	215	+2.15
124	-2.75	147	-1.51	170	-0.27	193	+0.96	216	+2.21
125	-2.70	148	-1.46	171	-0.21	194	+1.02	217	+2.26
126	-2.64	149	-1.40	172	-0.16	195	+1.07	218	+2.31
127	-2.59	150	-1.35	173	-0.11	196	+1.13	219	+2.37
128	-2.53	151	-1.29	174	-0.05	197	+1.18	220	+2.42
129	-2.48	152	-1.24	175	-0.02	198	+1.23	221	+2.48
130	-2.43	153	-1.19	176	+0.05	199	+1.29	222	+2.53
131	-2.37	154	-1.13	177	+0.10	200	+1.34	223	+2.58
132	-2.32	155	-1.08	178	+0.15	201	+1.40	224	+2.64
133	-2.26	156	-1.02	179	+0.21	202	+1.45	225	+2.69
134	-2.21	157	-0.97	180	+0.26	203	+1.50	226	+2.75
135	-2.16	158	-0.92	181	+0.32	204	+1.56	227	+2.80
136	-2.10	159	-0.86	182	+0.37	205	+1.61	228	+2.85
137	-2.05	160	-0.81	183	+0.42	206	+1.67	229	+2.91
138	-2.00	161	-0.75	184	+0.48	207	+1.72	230	+2.96
139	-1.94	162	-0.70	185	+0.53	208	+1.77	231	+3.02
								232	+3.07

The following range of z-scores on a continuum can be used as suggestive norms for interpreting scores obtained on the scale for measuring teacher's empowerment given in table 6.

Table 6: Norms for Interpretation of Level of Teacher's Empowerment Scale

Sr. No.	Range of Z-Score	Scores	Levels of Teacher's Empowerment
1.	+2.01 and Above	216 & above	Extremely High Teacher Empowerment
2.	+1.26 to +2.00	200-215	High Teacher Empowerment
3.	+0.51 to +1.25	184-199	Above Average Teacher Empowerment
4.	-0.50 to +0.50	168-183	Average Teacher Empowerment
5.	-0.51 to -1.25	152-167	Below Average Teacher Empowerment
6.	-1.26 to 2.00	136-151	Low Teacher Empowerment
7.	-2.01 and Below	120 & below	Extremely Very Low Teacher Empowerment

Conclusion

The present study was done to construct and standardized a scale for measuring teacher empowerment of secondary school teachers. The Teacher Empowerment Scale (TES) is very reliable and valid in terms of item, content, and face validity. Moreover, norms have been established which serves as a frame of reference for interpreting the obtained scores. Therefore, Teacher Empowerment (TES) is reliable and valid and can be used by administrators, school principals, policymakers and other researchers are who are interested in finding out the empowerment of teachers.

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