

Construction and Validation of Teacher Effectiveness Scale of High School Teachers

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Abstract

The effectiveness of teachers plays an important part in the learning process. This research aims to develop and verify the Scale of Teacher Effectiveness (TES). Researchers illustrated the Teacher Efficiency (TES) scale by reading the literature thoroughly and framed 60 course-related things after analysis of the text. The 60 items were carefully updated and edited and then provided useful advice and corrections to the subject-matter experts to ensure their accuracy. For the collection of 200 samples, a basic random sampling approach has been introduced. Item Analysis was performed by measuring the difficulties index level and the power of discrimination for each pilot study item. Mean values (M) were derived from the various grade standards variables. Study has taken on various aspects of instructor efficiency such as instruction and teaching preparation, curriculum scheduling, topic comprehension, features of education and human relations. This study attempted to build and validate a teacher effectiveness scale to measure the degree of high school teachers.

Keywords: Construction, Difficulty, Discrimination, High School, Teacher Effectiveness,

Introduction

The secret to maintaining excellence of education is effective teachers. Effective teachers set high standards for the students and teach them to the students explicitly. They challenge and empower students to increase their awareness and comprehension. They demand more of them. He or she is often concerned with continuity of teaching, diversity of instructions, mission orientation, participation in the learning process and achievement. The secondary phase of schooling is a key stage in the advancement of human resources and the educational level. Teachers at this point have a particular role to play in making a highly accountable, dynamic, skilled, resourceful, fair and enterprising citizen.

In the teaching–learning process, teacher effectiveness is critical. An effective teacher does not create the image of the students; instead, he or she assists the students in creating their own image by understanding and assisting them with their problems, making any subject interesting, controlling the class, and being fair with the students when dealing with them. Teacher effectiveness is a field of study that focuses on the relationship between teacher traits, teaching actions, and their consequences on education, as well as distinguishing between more and less effective teachers. When a teacher has gained the essential competence in their responsibilities and tasks, such as classroom management preparation and planning, subject matter knowledge, teacher traits, and interpersonal relationships, they are considered to be effective. A key goal of education is to maximise teacher effectiveness.

The efficiency of teachers is the result of various variables: academic, professional mastery, intellectual level, children's affection, satisfaction with the work, teaching experience, professional development, age of teachers, teaching methodologies etc. The most significant variable of all those elements is the knowledge, personality and above all the interaction between the teacher and the students. Effective teachers are therefore those who can exhibit the ability to produce the targeted learning results that allow them to achieve the desired goals.

Review of Literature

Johnson (2004), “was identified a number of supports for teacher effectiveness. They are mentoring a curriculum that is adaptable and supportive of teacher learning and a professional culture in which there was a deep and sustained interaction between novice and veteran teachers.”

Ding (2006), “was studied on the relationship between teacher effectiveness and student's achievement as measured by test scores. A strong belief among policy makers and public as well as private funding agencies is that test scores are directly related to the quality of teaching effectiveness. The relationship indicated that there is a direct causality among teacher preparation, teacher quality and student achievement. Fundamental research issues and concerns as well as an alternative conceptual framework for studying the relationship of achievement and teaching were highlighted.”

Glenn (2012), “conducted a study to develop and psychometric properties of a scale that measures teacher effectiveness in higher education. One hundred seven (107) items initial scale and 497 higher education students served as participants. The results of the study showed that there were four dimensions of teacher effectiveness in higher education. These dimensions identified in the scale possess the psychometric properties of internal consistency and validity. The internal consistency estimate of the sub-scales using Cronbach coefficient α ranged from 0.707 to 0.968 while the overall internal consistency estimate of the scale was 0.972. Further, the result depicted that the Teacher Effectiveness Scale in Higher Education (TESHE) is a psychometrically sound scale to measures the multidimensional aspects of teacher effectiveness in higher education.”

Chamyal (2019), “aimed to construct, develop and standardize Teacher Effectiveness Scale (TES). Investigators outlined the Teacher Effectiveness Scale (TES) with a through reading of the literature and after analysing the content framed 170 items related to the course. Reliability of the questionnaire were found 0.82. The predictive and concurrent validity were 0.79 and 0.77. Simple random technique was adopted for the selection of 200 samples. Item Analysis was done by calculating the Difficulty Index level and Discrimination Power for each of the 139 items of the study.”

Shahzad and Mehmood (2019), “were aimed to construct of such a scale which could be used to assess university teachers' teaching effectiveness. Sixty-five (65) statements were prepared as an item pool after literature review related to capabilities of efficient and effective teacher. Finally, these 43 items were administered to 698 university students. Confirmatory Factor Analysis (CFA) was performed on LISREL 8.8 to ensure construct validity. Further, there remained 32 items whose factor loadings were more than 0.40. Reliability Coefficient Value (RCV) was high ($r= 0.87$).”

Malechwanzi and Murag (2020), “to investigated the differential effects of teaching practices on students' satisfaction. A total number 600 respondents were selected for data collection by using the simple random sampling technique. The results demonstrate that the subject mastery was the most effective teaching practice while non-cognitive issues was the least effective teaching practice.”

Need and Importance of the Study

Teacher efficiency is the indicator of the performance of the teacher in the execution of institutional and other specific tasks required by the design of his job. Teachers are the younger generation's natural role models. Teachers nowadays must be more efficient and precise in their profession. Teachers ought to be life-long learners themselves in order to express instruction in a modern paradigm of learning, be adoptful and supportive of addressing a new generation of students from various age classes, varied ethnicities and a wide spectrum of backgrounds and previous experience. Effectiveness of teachers is critical since successful teaching encourages students to understand. It is much more relevant as the focus has been placed on quality in higher education. The example above shows that the performance of teachers is closely connected to student achievement.

In addition, the characteristics of a good instructor have an influence on the success of pupils. Effective teachers aspire to inspire all of their students to learn, not merely to admit that certain students cannot get involved and perform badly. They hope that every student should succeed at school and do all he can to ensure that every student is effective.

Construction and Validation of Teacher Effectiveness Scale of High School Teachers

Pilot Study

Teacher Effectiveness scale was validated through a Pilot Study conducted with a sample of 200 High school teachers in Shopian District in Jammu and Kashmir, selected through Random Sampling Technique.

The tool was built using a five-point Likert style scale of 60 claims. All declarations are of a constructive disposition and the scoring process includes alternatives such as: Strong agreement (5), agreement (4), undecided (3), disagreement (2) and strong disagreement (1). The maximum tool score is 60, and the minimum score is 1.

Item Analysis

The draught tool prepared by the researchers was administered in the target region with a sample of 200 high school teachers. Students were required to read the statements carefully and to identify one of the options offered in each declaration, i.e., Strong agreement, agreement, undecided, disagreement and strong disagreement.

The object Analysis approach for selecting the final statements has been introduced. The cumulative values were determined separately and ordered in decreasing order. The review took into consideration the top 27 % of the best ratings (Higher Group) and the bottom 27 % of the lowest ratings (Lower Group). For each object, the difference in the meanings of the high and low groups was determined for importance by calculating the t-ratios. For the final instrument, items with a value of 1.96 and higher were picked. To validate this scale, a Pilot Study has been conducted with a sample of 200 High School teachers teaching in high schools selected through the Random sampling technique. The researcher developed a classroom efficiency scale for high school teachers. To construct the method, several types of literature on instructor efficiency and test building processes were used. The Instructor Efficiency was built upon consultations with school and college instructors, counsellors and curriculum specialists. The evaluation was conducted on a 5-point scale. Initially, 60 statements in the English medium were planned. The questionnaire contains 60 items. Each item is provided with five alternatives ,, Strongly Agree (5), Agree (4), Undecided (3), Disagree (2), and Strongly Disagree (1).

The responses of the students were recorded in the inventory itself. The inventory seeks to study good school environment of secondary school student from poorly environment student in six dimensions of the school that are given below in the Table:

Table. 1:

S. No	Dimensions	Questions no	Items
1	Preparation and teaching planning	1-11	11
2	classroom management	12-25	14
3	knowledge of the subject matter	26-33	8
4	teaching characteristics	34-50	17
5	Interpersonal relations	51-60	10

There is no fixed time for completing the inventory, but an average teacher completes the questionnaire in 50-60 minutes. The instruction was printed on the scale itself. However, the investigator has also given oral instruction to the students at the time of administration. The minimum tool score is 1 and the highest tool score is 60.

Item Selection:

A preview of the model/design tool prepared by the investigator was provided 200 teachers undergoing high school. Teachers were invited to comment on the alternatives. Each argument contains five alternatives: strong agreement (5), agreement (4), undecided agreement (3), disagreement (2), and strong disagreement (1).and the values are given to the five alternatives is 1 and 5, respectively. Scoring was done for all the statements. For the final selection of sentences, the item analysis was introduced. The cumulative values were determined separately and ordered in decreasing order. The top 27% and the bottom 27% of the scores alone were considered. By calculating the t-ratios, the difference in the mean of the high and low groups were tested for each object. T-value items of 1.96 and higher were chosen for the final instrument. The final tool therefore comprises 40 objects. The number of t-

value elements is shown in the table. 2. The Split-Half technique has often been used to assess the accuracy of the evaluation. It was mentioned in the table below.

Table: 2: Item analysis of Teacher Effectiveness Scale

Item No.	Mu	S. D	MI	S. D	t- value	Decision
1	2.44	1.18	1.60	1.41	0.40	Rejected
2	2.15	1.07	1.70	1.12	2.25	Selected
3	2.32	1.14	1.69	1.48	2.86	Selected
4	2.20	1.41	2.14	1.34	0.30	Rejected
5	2.23	1.14	1.75	1.48	2.00	Selected
6	2.25	1.31	1.68	1.47	2.19	Selected
7	2.36	1.27	2.18	1.14	0.90	Rejected
8	2.40	1.17	1.80	1.31	2.50	Selected
9	2.13	1.23	1.71	1.22	2.10	Selected
10	2.29	1.30	1.76	1.38	2.65	Selected
11	2.50	1.31	1.56	1.38	4.70	Selected
12	2.28	1.21	2.28	1.44	0.00	Rejected
13	2.20	1.22	2.10	1.20	0.50	Rejected
14	2.29	1.30	1.76	1.38	2.65	Selected
15	2.50	1.31	1.56	1.38	4.70	Selected
16	2.33	1.01	2.51	1.46	-1.05	Rejected
17	2.59	1.14	1.69	1.48	5.29	Selected
18	2.28	1.13	2.29	1.56	-0.05	Rejected
19	2.28	1.21	2.28	1.44	0.00	Rejected
20	2.53	1.23	1.81	1.42	4.23	Selected

Construction and Validation of Teacher Effectiveness Scale of High School
Teachers

21	2.29	1.30	1.76	1.38	2.65	Selected
22	2.50	1.31	1.56	1.38	4.70	Selected
23	2.28	1.21	2.28	1.44	0.00	Rejected
24	2.19	1.14	1.69	1.44	2.27	Selected
25	2.09	1.15	1.59	1.48	2.27	Selected
26	2.13	1.13	1.61	1.40	2.36	Selected
27	2.17	1.17	1.66	1.32	2.31	Selected
28	2.33	1.09	2.11	1.36	1.00	Rejected
29	2.44	1.18	1.69	1.37	3.40	Selected
30	2.30	1.19	1.60	1.41	3.18	Selected
31	2.20	1.11	1.55	1.39	2.95	Selected
32	2.25	1.13	1.67	1.32	2.63	Selected
33	2.20	1.18	2.00	1.21	1.00	Rejected
34	2.36	1.16	1.64	1.29	3.27	Selected
35	2.49	1.14	1.69	1.48	3.33	Selected
36	2.28	1.13	2.10	1.44	0.81	Rejected
37	2.30	1.14	1.69	1.41	2.77	Selected
38	2.29	1.13	2.29	1.39	0.00	Rejected
39	2.33	1.01	2.11	1.31	0.00	Rejected
40	2.43	1.23	1.80	1.40	2.86	Selected
41	2.50	1.23	1.81	1.43	2.81	Selected
42	2.39	1.14	1.69	1.37	3.18	Selected
43	2.33	1.01	2.51	1.39	-0.90	Rejected
44	2.55	1.14	1.79	1.40	3.16	Selected
45	2.37	1.01	2.11	1.42	1.18	Rejected
46	2.44	1.14	1.69	1.31	3.40	Selected
47	2.66	1.23	1.71	1.36	4.31	Selected
48	2.57	1.23	1.97	1.29	2.72	Selected
49	2.48	1.14	1.69	1.39	3.59	Selected
50	2.30	1.01	2.10	1.46	1.00	Rejected
51	2.33	1.25	1.60	1.30	3.31	Selected
52	2.29	1.22	1.70	1.35	2.68	Selected
53	2.35	1.08	1.75	1.21	3.00	Selected
54	1.90	1.20	1.75	1.10	0.75	Rejected
55	1.99	1.11	1.49	1.30	2.27	Selected
56	2.40	1.10	2.55	1.43	-0.75	Rejected

57	2.50	1.18	1.61	1.42	4.04	Selected
58	2.30	1.15	1.55	1.40	3.40	Selected
59	2.50	1.30	2.80	1.20	-1.36	Rejected
60	2.10	1.50	1.55	1.40	2.11	Selected

Reliability

When we assume the result is stable and credible, a test score is considered accurate. Stability and confidence rely on the extent to which the score is an index of "real capacity," free of chance Error —Test-retest approach used to achieve the efficiency of the instrument. It is the best way to calculate the agreement between two scores Repeating the exam. The test is done and replicated within the same category and the similarity between the first and second sets of scores is calculated. Due to the period between the two studies, the findings of the administration indicate the stability of the test scores. The correlation coefficient value indicates that the correlations between these two measurements are highly positive and are shown in Table 3.

Table: 3. Shows the Reliability Co-efficient of the Teacher Effectiveness Scale. (TES)

S. No.	Method of Reliability	Values
1	Test-retest (Repetition)	0.81
2	Split – Half	0.72

Validity:

The first important attribute of a credible test is its high reliability. In addition to the substance or the authenticity of the face, the investigator was supposed to be inherently legitimate. Intrinsic validity is described by Guilford (1950) as "the measurement to which a test tests what it measures." Therefore, the teacher's inherent validity scales to 0.81.

Description of the Final Tool:

The last tool with 40 statements was prepared in English medium. The test has been prepared on a five-point scale. Initially, 40 statements were prepared in English medium. The questionnaire contains 40 items. Each item is provided with five alternatives,, Strongly Agree (5), Agree (4), Undecided (3), Disagree (2), and Strongly Disagree (1) for a question. The responses of the students have recorded a scale in itself.

The inventory seeks to study the teacher effectiveness of high school teachers from poorly in six dimensions of the teacher effectiveness below given in the Table.

Table. 4:

S.No	Dimensions	Questions no	Items
1	Preparation and teaching planning	01-08	08
2	classroom management	09-16	08
3	knowledge of subject matter	17-22	06
4	teaching characteristics	23-33	11
5	Interpersonal relations	34-40	07

There is no time limit for completing the inventory, but an average student completes the questionnaire 30-40 minutes. The instruction was printed on the inventory itself. However, the investigator has also given oral instruction to the students at the time of administration. The minimum score for the tool is 0, and the maximum score for the tool is 40.

Teacher Effectiveness Scale Personal Information Sheet

Name: _____

Construction and Validation of Teacher Effectiveness Scale of High School
Teachers

Age: _____ Gender: _____ Locality: _____
 Class: _____ Type of Management: _____ Family Type: _____
 Father's Occupation: _____ Father's Qualification: _____
 Mather's Occupation: _____ Mather's Qualification: _____
 Medium of Instruction: _____ Religion: _____

Instruction:

On the following few pages, some questions are covering your school, which have S. A (5), A (4), U. D (3), D. A (2), and S. DA (1) written in after them. Read every question carefully and decide whether you want to answer it with; if your answer is in „ Strongly Agree, “ then encircle five and if in „ Agree “encircle 4, “Undecided” encircle 3, “Disagree” 2, and Strongly Disagree then encircle 1. Remember, your answer will not be told by any other person. So, give the correct answer without hesitation. You may take your own time, but try to finish it as soon as possible

Following are the final statements of the study:

S.No	Statements	S. A	A	U. D	D.A	S. D
1	I wisely comply with my teaching hours					
2	I'm heading to school on time and leave it on time.					
3	I am methodical in my lesson planning.					
4	I plan the topic I teach to be in agreement with the goals of the course.					
5	I structure my lessons to take account of the disparity between classes.					
6	I recapture the concept again at the end of the lesson.					
7	I consult my elderly in-class preparation whenever compulsory					
8	I design my lessons on the basis of proven and found competent techniques.					
9	I use audio-visual aids to boost my teaching quality.					
10	I respect my students' experiences throughout the learning session.					
11	I strive to encourage my students' academic interests during my lectures.					
12	I direct my students to do their work.					
13	I advise students to do their work punctually.					
14	I am concerned about maintaining discipline in the classroom in a democratic atmosphere.					
15	I communicate to students about their results in exams					
16	I pose questions that trigger more reflection than it teaches to find questions.					
17	I have total influence over the topic I am teaching.					
18	I discuss my subject-matter knowledge with my coworkers and become better acquainted.					
19	I like to learn new skills					
20	I have a lot of growth and learning for citizens.					
21	I explore the contents of the discussion with faith and comfort.					
22	I am adopted enough to sustain a cordial human partnership.					
23	I have supportive behavior.					
24	I'm extremely imaginative.					

25	I'm balanced physically					
26	I'm on schedule to attend my school work.					
27	I have good etiquette. (pleasant manners.)					
28	I've got a pretty strong recall.					
29	I've got a feeling of obligation and service.					
30	I appreciate my accomplishments(achievements) in academics					
31	I deliver a praiseworthy example of my personal and social life.					
32	In dealing with my pupils, I display empathy and compassion.					
33	I consider other critiques as suggestions for my own development.					
34	I cooperate in my school's job.					
35	I'm pleased to my fellow Participants					
36	I encourage my students to speak after class hours.					
37	I'm really involved in the group of parent-teachers.					
38	I support my students with personal and educational challenges.					
39	I'm obeying my headmaster fairly.					
40	I think my first responsibility is to make my school a good reputation(profile)					

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Construction and Validation of Teacher Effectiveness Scale of High School
Teachers

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