



Construction and Standardization of Teacher Competency Scale

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Abstract:

A teacher's contribution to bettering educational outcomes is crucial. The capacity to employ knowledge, skills, and attitude to accomplish intended learning goals and foster a pleasant learning environment is known as teacher competency. Teacher competence refers to a teacher's ability, strength, or proficiency in carrying out their duties. The value, conduct, aptitude, communication, creativity, skill, knowledge, and support for professional development are all influenced by a teacher's competence. This research highlights the process of construction and standardization of a scale for grant-in-aid secondary school teachers to measure their competency.

The teacher competency scale's sixteen components were taken into consideration in this study. The State of Gujarat's grant-in-aid secondary school teachers were considered the population. For the first preliminary draft of the Teacher Competency Scale for grant-in-aid secondary school teachers, 93 statements were provisionally framed in Gujarati. This document was sent to specialists for content validity analysis. Items with strong discrimination values were retained in the final draft following item analysis, while the remaining items were removed. This teacher competency scale had 60 items in its final version, each of which was linked to one of 16 teacher competency components.

Test-retest reliability was found to be 0.89, while the scale's Cronbach alpha was found to be 0.92. The dependability of the scale was determined using Karl Pearson's Product Moment Correlation. It turned out to be comparatively high. Norms was established.

Keywords: Construction, Standardization, Teacher Competency, Teacher Competency Scale

1. Introduction

In recent years, the quality of education has significantly changed. The major aim for Teachers is to provide certain types of knowledge, skills, awareness, and importance to develop their skills, problem-solving, and professionalism. Teacher Competencies are important to teachers, there are levels of aptitude that measure teaching ability. These abilities are targeted at specific content area teachers but can be more broadly based for general classroom teachers. The use of the Teacher Competencies Scale will also aid in educational career paths based on abilities and interests.

According to Mustaffa & Salleh (2023) “teacher competency is the combination of knowledge, skills, and attitudes that a person must have to perform teaching tasks effectively”. In this present study teacher competency is the teacher's ability to use knowledge, skills, and attitudes to create a positive learning environment and to achieve expected learning objectives.

According to Pandey (2019), teacher competency scale consists of statements in five dimensions scale can be used for research purposes. In the present study, the Teacher Competency scale consists of 60 items that measure teacher competency based on 16 components.

2. Objective

The objectives of the study:

- To construct and standardize the teacher competency scale

3. Delimitations of the Study

- The study is delimited to Gujarat State.
- The study is delimited teachers of grant-in-aid secondary school.

4. Methodology of Research

4.1 Research Design

Quantitative research design and
Quality in Measurement (5-point Likert Scale)

4.2 Research tool

Constructed and Standardized tool by researcher.

5. Procedure

Process of construction and standardization of Teacher Competency Scale:

This scale was constructed and standardized based on 16 dimensions of teacher competency.

According to (Sharma, 2016), the process of scale construction and standardization can carry out in two phases. In the present study, the process of scale construction and standardization was carried out in two phases.

1. Construction of the scale & Standardization of the scale

Steps of Construction of the Teacher Competency Scale, this phase include the following steps:

1. Planning of the scale
2. Preparation of the item pool.
3. Editing of the items.
4. Scoring procedure.
5. Preliminary try out of the Teacher Competency Scale.
6. Final try-out of the Teacher Competency Scale.
7. Item analysis.
8. Final form of the Teacher Competency Scale.
9. Scoring system.

1. Planning of the teacher competency scale

At this stage, the researchers developed a complete blueprint of the scale. For developing the teacher competency scale, 16 components of competency were taken into consideration.

- Methodology for scale construction: Likert's (1932) techniques.

2. Preparation of the item pool

93 items were tentatively framed in the Gujarati language for the first preliminary draft of the Teacher Competency Scale for grant-in-aid secondary school teachers.

3. Editing of the items

After scrutiny of the items, based on the expert's suggestion, 65 items were chosen to be included in the provisional draft. Thus, the provisional draft of the Teacher Competency Scale consisted of 65 items which cover 16 components areas of Teacher Competency scale.

4. Scoring procedure

Table 1. Teacher Competency Scale Scoring

Sr.	Responses	Scores for positive statements	Score for negative statements
1	Strongly agree	5	1
2	Agree	4	2
3	Neutral	3	3
4	Disagree	2	4
5	Strongly Disagree	1	5

5. Preliminary try out of the Teacher Competency Scale

The Teacher Competency Scale consisting 65 items was given to a small group of grant-in-aid secondary school teachers. General information of teacher, system to respond items, its example etc were included in this scale.

6. Final tryout of the Teacher Competency Scale

65 items were then administered to 100 teachers of grant in aidsecondary school teachers.

7. Item analysis

According to Kauts (2022), Patel (2017), Celen and Aybek (2022), item discrimination can be effectively assessed through item-total correlation. According to Kauts (2022), another method for assessing the discrimination index involves calculating the correlation between each item's score and the total score when using a Likert scale. For the final tryout, the teacher competency scale, consisting of 65 items werethen administered to 100 teachers of grant-in-aid secondary school teachers. In the present study, the item discriminant index was determined by calculating the item-total correlation. According to Jha (2024), items with a discrimination index value of less than 0.19 discrimination **value** was rejected for the final tool Therefore, 60 items were retained in the Teacher Competency Scale for the final try-out.

8. Final form of the Teacher Competency Scale

The final form of this teacher competency scale consisted of 60 items related to 16 areas of teacher competency.

9. Scoring system

The highest score for TCS was $300 (60 \times 5) = 300$ and the lowest score was $(60 \times 1) = 60$.

6. Standardization of the Teacher Competency Scale

6.1 Cronbach's Alpha

The Cronbach alpha of this scale was found 0.92 which was near to 1. So, its implied that the tool being developed is reliable.

6.2 Test-retest Reliability

The obtained test-retest reliability score was 0.89 which is considered a good correlation score.

6.3 Validity of the Teacher Competency Scale

The Content validity and face validity of the scale was ascertained by the expert's opinion. As the Teacher Competency scale was reviewed by different experts.

Table 2: Norms and standards (teacher competency scale)

Sample	1352
Mean	178.26
Standard Deviation	20.37

Norms for teacher competency scale		
Z-scores Range	TCS score	Interpretation
0.675 and above	192 above	High Teacher Competency
0.625 to -.07	191-164	Moderate Teacher Competency
-0.749	163 and below	Low Teacher Competency

Conclusion

The construction and standardization of the scale was found to be highly reliable and valid to measure the teacher competency, the standardized scale can be used for the main study by the investigator to measure the teacher Teachers' education should be modified so that all teachers have the knowledge of the subject, competencies, to accommodate all aspects of the teacher's activities. Teachers have to understand their new role and the need for acquiring new competencies for the demand of our educational development. Teacher Competency leads the teacher to the path of success in the teaching profession.

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