Volume-3, Issue-8, August-2014 • ISSN No 2277 - 8160

Research Paper Education

Development and Standardisation of Teaching Competency Scale for Training College Teachers

G.MAHESWARI Ph.D., Research Scholar, Department of Education, Annamalai University, Annamalainagar – 608002, Cuddalore District, Tamilnadu, India.

Dr.N.O. NELLAIYAPEN PROFESSOR AND HEAD, Department of Education, Annamalai University. Annamalainagar – 608002, Cuddalore District, Tamilnadu, India.

ABSTRACT

The purpose of this paper is to construct, standardize and validate a tool to measure the teaching competency of training college teachers. There were 70 statements in the teaching competency scale and was administered on a sample of 100 training college teachers working in the districts of in and around Cuddalore district of Tamilnadu, India. The 70 statements are coming under the four dimensions. To standardize the tool the investigator used chi-square technique and finally 58 statements are retained for the final study. The percentile norms also found out from the raw scores of the teaching competency scale.

KEYWORDS : Standardisation, Teaching Competency Scale, Training College Teachers.

INTRODUCTION

Education is conceived as a powerful agency, which is instrumental in bringing about the desired changes in the social and cultural life of a nation. The whole process of education is shaped and molded by the human personality called the teacher, who plays a pivotal role in any system of education. The preparation of such an important functionary must conceivably get the highest priority. Teacher Education is the crown of teaching profession and training college teachers are playing the key role in educating the prospective teachers. Teachers are expected to use the best practices and strategies to meet the challengeable demands of their career. The teachers must possess effective teaching competency then only they can produce well equipped teachers. In this context the investigator aimed to develop a tool for teaching competency of training college teachers.

RATIONALE FOR CONSTRUCTING THE TOOL

Teaching competency is being measured by both experimental method and survey method. In survey method it can be measured by using a scale. There are several measures of teaching competency but no specific scale is available to measure the teaching competency of training college teachers. Hence there is a need to construct a tool to measure the Teaching competency of training college teachers.

OPERATIONAL DEFINITION OF THE TERMS

TEACHING COMPETENCY

Teaching competency refers to the ability of the training college teachers to make use of their Content knowledge, Teaching skill, Attitude and classroom management in teaching.

TRAINING COLLEGE TEACHERS

The teachers working in D.T.Ed and B.Ed colleges are referred as training college teachers.

OBJECTIVE OF THE STUDY

1. To construct a Teaching Competency Scale for the training college teachers.
2. To find out the level of teaching competency of the training college teachers.

SAMPLE

The cluster sampling technique was adopted to select a sample of 100 training college teachers. From the districts in Tamilnadu, four districts were chosen in and around cuddalore district viz., Cuddalore, Nagapattinam, Perambalur and Villupuram. Out of the total number of 156 training colleges in the four districts, 7 B.Ed colleges and 8 D.T.Ed colleges were chosen for the purpose of pilot study.

DATA COLLECION

At the preliminary stage of the tool construction, the investigator referred many books, journals, related studies, websites, Ph.D works and discussed with experts in the field of Education and Psychology. Further with the expert advice from the guide, the investigator constructed the tool. Based on reference and discussions 70 statements are framed which are coming under four dimensions. Those are content knowledge, Teaching Skill, Attitude and Classroom Management. This tool is a Likert type five point scale of Strongly Agree, Agree, UnDecided, DisAgree, and Strongly DisAgree. In the case of favourable statements the weightage given to the different responses are as follows: SA=5, A=4, UD=3, DA=2, SD=1.This scale consists of 17 unfavourable statements for which the weightage given as SA=1, A=2, UD=3,DA=4, SD=5. Therefore one can get a maximum score of 350 and minimum score of 70.

After constructing teaching competency scale the researcher administered the tool to the 120 training college teachers by using the normative survey method. Respondents were asked to put a tick mark under the column which is more appropriate to them. But only 100 respondents responded which are taken for the item analysis process.

STATISTICAL ANALYSIS

After the pilot study the investigator decided to seek whether the observed responses are really significant or merely chance of fluctuations. Therefore the null hypotheses were set for each item. So the Chi-square values for all the statements are calculated by using the Chi-Square formula which forms the basis for item selection in order to build up the final scale.

The Chi-square values of 70 statements for a df of 4 are given in Table No 1. The Chi-square value for a df of 4 at 0.01 is 13.277. From Table No.1 it is evident that the Chi-square value of the items which are greater than 13.277 were significant at 0.01 level. Therefore, the null hypotheses in respect of these statements were rejected at 0.01 level. The Chi-square values of the items which are less than 13.277 were not significant at 0.01 level. Therefore, the null hypotheses in respect of these statements were accepted at 0.01 level. From that it was concluded that the deviations of the observed responses from the expected distribution were really significant for 58 statements out of 70 statements and not a matter of chance. Therefore, 58 statements in the scale were retained for the final study. A few verbal changes, whenever found necessary during pilot study will be carried out in the final tool.

TABLE – 1 Chi-square values for the statements of the Teaching Competency Scale

Item	Chi-Square value	Df	Level of Significance	Remarks
1	124.300	4	0.01 (S)	Selected
2	117.300	4	0.01 (S)	Selected
3	121.900	4	0.01 (S)	Selected
4	100.300	4	0.01 (S)	Selected
5	103.600	4	0.01 (S)	Selected

Item	Chi-Square value	Df	Level of Significance	Remarks
6	120.800	4	0.01 (S)	Selected
7	119.500	4	0.01 (S)	Selected
8	92.500	4	0.01 (S)	Selected
9	139.400	4	0.01 (S)	Selected
10	91.200	4	0.01 (S)	Selected
11	115.600	4	0.01 (S)	Selected
12	10.100	4	0.039 (NS)	Not Selected
13	12.900	4	0.012 (NS)	Not Selected
14	7.100	4	0.131 (NS)	Not Selected
15	80.100	4	0.01 (S)	Selected
16	101.900	4	0.01 (S)	Selected
17	83.700	4	0.01 (S)	Selected
18	88.700	4	0.01 (S)	Selected
19	114.800	4	0.01 (S)	Selected
20	40.600	4	0.01 (S)	Selected
21	85.000	4	0.01 (S)	Selected
22	9.900	4	0.042(NS)	Not Selected
23	79.100	4	0.01 (S)	Selected
24	87.800	4	0.01 (S)	Selected
25	51.300	4	0.01 (S)	Selected
26	83.200	4	0.01 (S)	Selected
27	63.900	4	0.01 (S)	Selected
28	82.600	4	0.01 (S)	Selected
29	94.300	4	0.01 (S)	Selected
30	101.300	4	0.01 (S)	Selected
31	94.500	4	0.01 (S)	Selected
32	8.700	4	0.069(NS)	Not Selected
33	12.200	4	0.016(NS)	Not Selected
34	82.700	4	0.01 (S)	Selected
35	60.300	4	0.01 (S)	Selected
36	84.900	4	0.01 (S)	Selected
37	101.300	4	0.01 (S)	Selected
38	91.400	4	0.01 (S)	Selected
39	81.700	4	0.01 (S)	Selected
40	65.700	4	0.01 (S)	Selected
41	100.500	4	0.01 (S)	Selected
42	75.400	4	0.01 (S)	Selected
43	84.400	4	0.01 (S)	Selected
44	101.600	4	0.01 (S)	Selected
45	76.300	4	0.01 (S)	Selected
46	10.700	4	0.030(NS)	Not Selected
47	9.400	4	0.052(NS)	Not Selected
48	102.800	4	0.01 (S)	Selected
49	8.000	4	0.092 (NS)	Not Selected
50	113.000	4	0.01 (S)	Selected
51	109.100	4	0.01 (S)	Selected
52	122.000	4	0.01 (S)	Selected
53	131.100	4	0.01 (S)	Selected
54	7.700	4	0.103(NS)	Not Selected
55	129.900	4	0.01 (S)	Selected
56	124.300	4	0.01 (S)	Selected
57	13.200	4	0.010(NS)	Not Selected
58	109.300	4	0.01 (S)	Selected
59	123.200	4	0.01 (S)	Selected
60	131.600	4	0.01 (S)	Selected
61	81.600	4	0.01 (S)	Selected
62	128.200	4	0.01 (S)	Selected
63	104.600	4	0.01 (S)	Selected
64	89.100	4	0.01 (S)	Selected
65	49.000	4	0.01 (S)	Selected
66	95.700	4	0.01 (S)	Selected
67	109.300	4	0.01 (S)	Selected
68	103.700	4	0.01 (S)	Selected
69	11.300	4	0.023(NS)	Not Selected
70	46.900	4	0.01 (S)	Selected

S – Significant
NS – Not Significant

RELIABILITY AND VALIDITY

The reliability of the Teaching Competency Scale was established through Split-half technique followed by use of Spearman–Brown prophecy formula. The coefficient of internal consistency has been found to be 0.89.

The validity value for this scale was found to be 0.94 by taking square root of reliability coefficient. The face validity of the teaching competency scale is established, that the items are selected through discussion and opinion of the training college teachers. The constructed tool was given to experts in the field of Education and Psychology and they agreed that the items in the scale provided adequate coverage of the content. Therefore the tool is reliable and valid one.

Norms

To obtain the norms, the percentile have been computed for the raw scores of teaching competency scale for Training college Teachers and are given in following tables.

Table–2 The percentile norms of the for Teaching Competency Scale for Training College Teachers

Dimensions of Teaching Competency	Content Knowledge	Teaching Skill	Attitude	Classroom Management	Total
Mean	48.94	69.26	66.98	54.80	239.98
SD	5.59	9.62	5.37	4.68	22.07
Percentiles					
P_{10}	41	53	60	48	202
P_{20}	45	63	62	51	225
P_{30}	48	68	65	53	237
P_{40}	49	71	67	54	243
P_{50}	51	73	68	55	249
P_{60}	51	75	70	56	251
P_{70}	52	75	70	58	253
P_{80}	53	76	71	59	257
P_{90}	54	77	72	60	260

Interpretation of the Teaching Competency Scale scores

The percentiles norms were calculated for the Teaching Competency Scale scores and norms for the interpretation of the level of Teaching Competency Scale for training college teachers are given in Table 3.

Table-3 Norms for Teaching Competency scores

Percentiles	N	Score Range	Interpretation
Below P_{25}	27	229 & Below	Low level
$P_{25} – P_{75}$	33	230 - 249	Average level
Above P_{75}	40	250 & Above	High level

CONCLUSION

Findings of the study signify the importance of item analysis for determining the teaching competency of training college teachers. The investigator believes that this teaching competency scale would be a contribution to the field of Teacher Education and those who want to measure the level of teaching competency of the training college teachers anywhere in this country will find this scale very useful.

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