

Construction and Standardization of Teachers' Perception Scale towards Continuous and Comprehensive Evaluation

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Abstract

Indian Education system experienced a number of innovations before and after Independence. Our educational system has improved from time to time according to social needs and requirement and become one among major power exporting countries of the world, our government has attempted to evaluate the standard of education so as to fulfilling the national objectives. For this several committees have been held. They have given several recommendations after observing the whole education system. In the last decades, several education experts analyzed the present education system. It was revealed that evaluation is missing link in education system. CCE is a note worthy from such worldwide step in that direction. CBSE School received severe criticism with regards to some of its loopholes which have created doubts and confusion in the reform movement So CBSE launched a national study on CCE scheme with the objectives to know how teachers perceive CCE scheme. In the present paper questionnaire used in National Scientific research study was standardized by the investigator by finding its reliability and validity.

KEYWORDS: Continuous and Comprehensive Evaluation (CCE) scheme, Perception, Perception Scale.

Introduction: -

The role of CCE is very important when our aim is to improve learner's quality in the cognitive as well as in the non-cognitive domains. In the context of school it is a continuous updating of teachers about their students. CCE facilities students affective learning as well as their all around development of personality with its multiple tools measures. It is an integral part of teaching learning process which promotes standard of school. The Acontinuous and comprehensive Evaluation scheme was initiated based on recommendation to reform evaluations practices in school education by National curriculum for elementary and secondary education – a framework (1988). There fore it is expected to evaluate how the teachers and Principal's perceived this scheme.

The State Council for Education, Research and Training (SCERT) prepared proposal to overhaul the examination system in schools. According to this current system replace by CCE scheme by the Central Board of Secondary Education (CBSE). There is 'NO FAIL' system under Right to Education Act (RTE). But there is a number of monthly unit tests instead of the present half-yearly and annual examination. The marks system is replaced by grades and the performance of student in both curricular and co-curricular subjects reflected in the report card. The new CCE process aims at HOLISTIC GROWTH OF CHILDREN. The examination is no more be limited to text books. Non-scholastic assessment of students is also important in school.

The main objectives of Continuous and Comprehensive Evaluation (CCE) by CBSE is to reduced the wide-ranging and practical in its approach while on the one hand

it is supposed to identify learning progress of students at regular intervals on small positions of content, it also implies re-medical measures of teaching based on individual difference of learner. Other components include involving learners actively in the learning process and recognizing abilities of learner in co-scholastic areas of education areas of education.

CCE is one of the major changing in the Indian Educational system. Some educationalists said that the CCE is a revolution in school education but some of the educationalists argue about the practical problems in its proper implementation. No doubt the role of teachers is significant in CCE involves Formative and Summative evaluation, grading system, frequently observing the learner's and recording data more freedom to students etc. The investigator informally discussed with a few school teachers about CCE and varying reactions of male and female teachers were noted. How the Teachers' and Principals' Perceived CCE is noted by the investigators informally.

The Central Board of Secondary Educational has launched a National Scientific research study on Continuous and Comprehensive Evaluation by using teachers' perception scale on CCE and has asked school principals' to fill scale for bringing in reforms to improve it. Teachers have been assigned to talk to the students before filling in the forms. So, if the real field workers i.e. Principals' and Teachers' will not perceive CCE scheme in right manner then they are not able to implement it in a right manner.

Objectives of Teachers' Perception Scale are: -

- To understand teachers acceptance and adoption of CCE.
- What motivate teachers to adopt CCE?
- To determine the skills required by teachers to use CCE.
- Establish the support structure including ICT needed for teachers for using CCE.
- Examine challenges in the implementation and continued use of CCE.

Description of Teachers' Perception Scale towards Continuous and Comprehensive Evaluation

The construction of Teachers' perception scale towards continuous and comprehensive evaluation was planned with the purpose of measuring teachers' and Principals' perception towards different dimension of CCE scheme. The Construction of self rating scale was carried out with the technical assistance and consultation with experts. The present scale was designed to measure the "Perception of Teachers' towards and Continuous and Comprehensive Evaluation which may be operationally defined as under.

"Teachers' Perception towards Continuous and Comprehensive Evaluation refers to the way how the teachers gather information. It is the set of processes by which a teacher become aware of and interpret information about Continuous and Comprehensive evaluation. It was measured by the scores obtained by the teachers on scale of perception towards CCE.

Technique Employed for the Development of Perception Scale: -

The method of summated rating as given by Likert (1932) has been employed for development of Perception scale.

Dimensions Teachers' Perception Scale towards CCE Scheme: -

There are 15 dimensions of perception scale namely: -

- CBSE Supports. Teacher Effort. School Support. School Incentives. Peer influence. Parents influence. Students Influence. Perceived Ease to use.

Compatibility. Trail ability. Observability. Complexity. Perceived Enjoyment. Perceived Innovativeness. Perceived usefulness
Hence the final Scale Consisting 51 statements on five points namely strongly disagree, disagree, neither agree nor disagree, agree and strongly agree.

Scoring Procedure: -

The scale is self administering and self reporting five points scale requiring response for each statements on a continuum ranging from strongly disagree to strongly agree. Each response has been converted to a numerical value ranging from 1 to 5.

The items were scored in such a manner if the strongly agree then a score of '5' is given for agree option a score of 4' for neither agree nor disagree a score '3' Disagree a score of '2' and strongly disagree a score of '1' was awarded on the other hand in case of negative items the above scoring procedure was completely reversed. The sum of scores on all statements of the scale is considered as how respondents perceived CCE Scheme. In the scheme of scoring for teachers' maximum marks that can be awarded by any individual for positive statements $37 \times 5 = 185$ and the minimum marks that can be awarded for positive statement is $37 \times 1 = 37$ similarly for negative statement maximum score that can be awarded $14 \times 5 = 70$ and minimum marks for negative statements $14 \times 1 = 14$. So, with this scoring perceptions of teachers' towards the new grading system can be seen. On an average 40 minutes was the completion scheme.

Reliability of Scale

Reliability refers to the consistency of scores or measurement which is reflected in the reproducibility of the scores. A test is said to be consistent over a given period of time when all the examinees retain their same relative ranks of two separate testing with the same test. In other words reliability tests is defined as to what extent individual differences of scores can be assigned to chance error.

There are four common methods for computing reliability as given: –

1. Alternative or Parallel Form Method
2. Split-half Method
3. Rational Equivalence Method
4. Test-Retest Method

Internal consistency method has been used for calculating the coefficient of reliability for items including in the test.

Administration of Scale for calculating reliability: - Final draft of scale was administrated to eight three teachers of Garden Valley International CBSE affiliated School Machhiwara. After collecting the required data from the teachers scoring was done. The total scores were calculated by summing up the scores of each statement. After the gap of six months again test was administrated on the same group. Again scoring was done.

In test-retest reliability method two sets, when correlated gives the value of the reliability coefficient thus obtained is also known as temporal stability coefficient and indicated as to what extent the examiners retain their relative position as measured in statements of the test scores over a given period of time. Guilford (1956) writes in the regard that, "A retest coefficient of correlation tells us the internal consistency of a test. The key concept for this procedure is that of stability. It answer the questions concerning. How stable or dependable are the measurement over a period of time. The test –retest method is the only feasible approach to the establishment of the reliability of the test. The

answer of one question given by a respondent in two instances can be compared for estimating consistency.

Calculating Reliability: - Internal consistency method of correlation has been used for the calculating for the coefficient of reliability for statements by administering following formula.

$$r = \frac{\sum xy}{\sqrt{\sum x^2 \times \sum y^2}}$$

Where $x = x - \bar{x}$
 $y = y - \bar{y}$

x = scores of teachers obtained in tryout I.

y = scores teachers obtained in tryout II. [After six months].

\bar{x} = Mean of scores obtained in tryout I.

\bar{y} = Mean of scores obtained in tryout II.

r = coefficient of correlation.

Description of scores for calculating Reliability and Validity of scores

| S.No | X | Y | dx = x - \bar{x} | dy = y - \bar{y} | xy | x ² | y ² |
|------|-----|-----|--------------------|--------------------|-----------|----------------|----------------|
| 1. | 137 | 174 | -45.8 | -18.06 | 0827.146 | 2097.64 | 326.16 |
| 2. | 147 | 158 | -35.8 | -34.06 | 1219.348 | 1281.64 | 1160.08 |
| 3. | 144 | 158 | -38.8 | -34.06 | 1321.528 | 1505.44 | 1160.08 |
| 4. | 147 | 146 | -35.8 | -46.06 | 01648.94 | 1281.64 | 2121.05 |
| 5. | 145 | 158 | -37.8 | -34.06 | 01287.46 | 1428.84 | 1160.08 |
| 6. | 147 | 224 | -35.8 | -31.94 | -01143.45 | 1281.64 | 1020.16 |
| 7. | 172 | 179 | -10.8 | -13.06 | 0141.048 | 0116.64 | 170.006 |
| 8. | 168 | 186 | -14.8 | -06.04 | 0089.39 | 0219.04 | 036.005 |
| 9. | 150 | 143 | -32.8 | -49.06 | 1609.16 | 1075.84 | 02406.8 |
| 10. | 147 | 219 | -35.8 | 26.94 | -0964.45 | 1281.64 | 00725.7 |
| 11. | 145 | 186 | -37.8 | -06.06 | 229.065 | 1428.84 | 00036.7 |
| 12. | 160 | 158 | -22.8 | 34.06 | 0776.56 | 0519.84 | 1160.08 |
| 13. | 187 | 188 | 04.2 | -04.06 | 017.052 | 0017.64 | 0016.48 |
| 14. | 181 | 188 | -01.8 | -04.06 | 007.308 | 0003.24 | 0016.48 |
| 15. | 212 | 215 | 29.2 | 22.94 | 669.848 | 0852.64 | 0526.02 |
| 16. | 202 | 178 | 19.2 | -14.06 | -269.95 | 0368.64 | 0197.06 |
| 17. | 187 | 189 | 04.2 | -03.06 | -0012.85 | 0017.64 | 0009.36 |
| 18. | 182 | 185 | -00.8 | -07.06 | 0005.64 | 0000.64 | 0049.08 |
| 19. | 137 | 185 | -45.8 | -07.06 | 0323.34 | 2097.64 | 0049.08 |
| 20. | 174 | 171 | -08.8 | -21.06 | 0185.32 | 0077.44 | 0443.05 |
| 21. | 168 | 188 | -14.8 | -04.06 | 060.088 | 0219.04 | 0016.48 |
| 22. | 188 | 173 | 05.2 | -19.06 | -099.112 | 0027.04 | 0363.02 |
| 23. | 208 | 217 | 25.2 | 24.94 | 00628.48 | 0635.04 | 622.003 |
| 24. | 147 | 132 | -35.8 | -60.06 | 2150.14 | 1281.64 | 3607.02 |
| 25. | 166 | 192 | -16.8 | -00.06 | 001.008 | 0282.24 | 0.0036 |
| 26. | 202 | 185 | 19.2 | -07.06 | 0135.55 | 0368.64 | 49.008 |
| 27. | 185 | 181 | 02.2 | -11.06 | -024.33 | 0004.84 | 00122.3 |

| | | | | | | | |
|-----|-----|-----|-------|--------|----------|---------|---------|
| 28. | 160 | 178 | -22.8 | -14.06 | 0320.56 | 0519.84 | 00197.6 |
| 29. | 187 | 190 | 04.2 | -02.06 | -08.652 | 0017.64 | 0004.24 |
| 30. | 186 | 187 | 03.2 | -05.06 | -016.192 | 0010.24 | 0025.60 |
| 31. | 157 | 160 | -25.8 | -32.06 | 827.148 | 0665.64 | 1027.84 |
| 32. | 184 | 182 | 01.2 | -10.06 | -012.072 | 0001.44 | 00101.2 |
| 33. | 212 | 180 | 29.2 | -12.06 | -352.152 | 0852.64 | 00145.4 |
| 34. | 215 | 181 | 32.2 | -11.06 | -356.132 | 1036.84 | 00122.3 |
| 35. | 204 | 203 | 21.2 | 10.94 | 231.928 | 0449.44 | 00119.6 |
| 36. | 187 | 194 | 04.2 | 01.94 | 008.148 | 0017.64 | 0003.76 |
| 37. | 190 | 188 | 07.2 | -04.06 | -029.232 | 0051.84 | 0016.48 |
| 38. | 194 | 186 | 11.2 | -06.06 | -067.872 | 0125.44 | 0036.72 |
| 39. | 202 | 184 | 19.2 | -08.06 | -0154.75 | 0368.64 | 0064.96 |
| 40. | 174 | 192 | -08.8 | -00.06 | 000.528 | 0077.44 | 00.0036 |
| 41. | 182 | 183 | -00.8 | -09.06 | 007.248 | 0000.64 | 0082.08 |
| 42. | 201 | 182 | 18.2 | -10.06 | 183.092 | 0331.24 | 00101.2 |
| 43. | 192 | 194 | 09.2 | 01.94 | 017.848 | 0084.64 | 0003.76 |
| 44. | 194 | 224 | 11.2 | 31.94 | 357.728 | 0125.44 | 1020.16 |
| 45. | 205 | 189 | 22.2 | -03.06 | -067.932 | 0492.84 | 0009.36 |
| 46. | 222 | 189 | 39.2 | -03.06 | 119.952 | 1536.64 | 0009.36 |
| 47. | 203 | 228 | 20.2 | 35.94 | 725.988 | 0408.04 | 01291.6 |
| 48. | 193 | 230 | 102 | 37.94 | 386.988 | 00104.4 | 01439.4 |
| 49. | 195 | 187 | 12.2 | -05.06 | 061.732 | 0148.84 | 00025.6 |
| 50. | 195 | 194 | 12.2 | 01.94 | 023.668 | 0148.84 | 0003.76 |
| 51. | 206 | 194 | 23.2 | 01.94 | 045.008 | 0538.24 | 0003.76 |
| 52. | 189 | 194 | 06.2 | 01.94 | 012.028 | 038.44 | 03.76 |
| 53. | 198 | 198 | 15.2 | 05.94 | 090.288 | 231.04 | 035.2 |
| 54. | 208 | 198 | 25.2 | 05.94 | 149.688 | 635.04 | 035.2 |
| 55. | 189 | 200 | 06.2 | 07.94 | 049.228 | 038.44 | 63.64 |
| 56. | 187 | 188 | 04.2 | -04.06 | -017.052 | 017.64 | 016.4 |
| 57. | 186 | 195 | 03.2 | 02.94 | 009.408 | 010.24 | 08.64 |
| 58. | 165 | 180 | -17.8 | -12.06 | 214.668 | 316.84 | 145.4 |
| 59. | 157 | 177 | -25.8 | -15.06 | 388.548 | 665.64 | 226.8 |
| 60. | 197 | 164 | 14.2 | -28.06 | -398.452 | 201.64 | 787.3 |
| 61. | 157 | 186 | -25.8 | -06.06 | 0156.348 | 665.64 | 36.72 |
| 62. | 197 | 195 | 14.2 | 02.94 | 0041.748 | 201.64 | 08.64 |
| 63. | 187 | 195 | 04.2 | 02.94 | 0012.348 | 017.64 | 08.64 |
| 64. | 197 | 203 | 14.2 | 10.94 | 0155.348 | 201.64 | 119.6 |
| 65. | 186 | 188 | 03.2 | -04.06 | -012.792 | 010.24 | 16.48 |
| 66. | 197 | 196 | 14.2 | 03.94 | 055.948 | 201.64 | 15.52 |
| 67. | 190 | 188 | 07.2 | -04.06 | -029.232 | 051.84 | 16.48 |
| 68. | 190 | 204 | 07.2 | 11.94 | 085.965 | 051.84 | 142.5 |
| 69. | 198 | 197 | 15.2 | 04.94 | 075.088 | 231.04 | 24.40 |
| 70. | 195 | 195 | 12.2 | 02.94 | 035.868 | 148.84 | 08.64 |
| 71. | 206 | 177 | 23.2 | -15.06 | -349.392 | 538.24 | 226.8 |
| 72. | 177 | 203 | -05.8 | 10.94 | -063.452 | 033.64 | 119.6 |

| | | | | | | | |
|-----|-----|-----|-------|--------|----------|--------|-------|
| 73. | 185 | 184 | 02.2 | -08.06 | 0017.732 | 004.84 | 064.9 |
| 74. | 169 | 198 | -13.8 | 05.94 | -081.972 | 190.44 | 035.2 |
| 75. | 178 | 195 | -04.8 | 02.94 | -014.112 | 023.04 | 08.64 |
| 76. | 186 | 194 | 03.2 | 01.94 | 0006.208 | 010.24 | 03.76 |
| 77. | 202 | 194 | 19.2 | 01.94 | 0037.248 | 368.64 | 03.76 |
| 78. | 197 | 195 | 14.2 | 02.94 | 0041.748 | 201.64 | 08.64 |
| 79. | 187 | 194 | 04.2 | 01.94 | 0008.748 | 017.64 | 03.76 |
| 80. | 187 | 197 | 14.2 | 04.97 | 0070.148 | 201.64 | 24.40 |
| 81. | 178 | 194 | -04.8 | 01.94 | -009.312 | 023.04 | 03.76 |
| 82. | 183 | 186 | 00.2 | -06.06 | -001.212 | 00.04 | 36.72 |
| 83. | 184 | 187 | 01.2 | -05.06 | -006.072 | 01.44 | 25.60 |

Here $\bar{X} = \frac{\text{sum of scores obtained by teachers in try out I (test)}}{\text{no.of teachers (N)}}$

$$= \frac{15174}{83} = 182.8$$

After 6 months

$$\bar{Y} = \frac{\text{sum of scores obtained by teachers in try out II (Retest)}}{\text{no.of teachers (N)}} = \frac{15941}{83} = 192.06$$

$$\sum x^2 = \sum dx^2 = 33438.68$$

$$\sum y^2 = \sum dy^2 = 25715.2$$

$$\sum xy = 13400.784$$

Reliability (Internal consistency method of correlation) given by coefficient of correlation

$$r = \frac{\sum xy}{\sqrt{\sum x^2 \times \sum y^2}}$$

$$r = \frac{13400.784}{\sqrt{33438.68 \times 25715.2}} = 0.457 = 0.46$$

Values show that test is highly reliable at 0.01 level of significance.

Validity

Content validity of scale: - (1) By statistical Analysis: - Validity of Try-Out I was calculated by using method of 'standard deviation given by

$$\sigma_{test} = \sqrt{\frac{\sum x^2}{N}}$$

$$= \sqrt{\frac{33438.68}{83}} = \sqrt{402.8}$$

$$= 20.1$$

Validity of try out II (Retest was conducted after six month)

$$\sigma = \sqrt{\frac{\sum dy^2}{N}}$$

$$\sigma = \sqrt{\frac{25715.2}{83}} = \sqrt{309.82} = 17.6$$

Values of standard-deviation indicate that test is valid at 0.01 level of significance

Content validity was also examined by experts judgment, the statements of the scale was submitted to a group of subject matter experts. These experts examine the content of the test whether the statements of the test measure what we intent to measure to them? All the experts with minor differences found to agree with each other to a great extent. [This indicates that the scale has content validity.]

Time Limit for completion of the scale: -

When the scale was given to an equivalent group to fill time taken by each teacher was noted to have an estimate of the time required for the completion of the scale. The mean of the time of first ninety percent teachers was calculated which comes out to be 40 min. Again scale was administrated to 83 teachers of equivalent teachers. The teachers were divided into five groups and were given of 40 min, 45 min, 50 min, 55 min and 60 minutes to complete the test. Then S.D of the group who have completed the test in 40 min was maximum. Hence the time limit for the completion of the scale was set of 40 minutes.

Utility Teachers' Perception scale towards CCE Scheme: -

Scale is fairly reliable and valid and use to measure how the teachers' and Principals' perceive CCE scheme irrespective of level of education and types of institutions in which they are working.

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