

Construction Of A Tool To Measure Constructivist Teaching Scale Of School Teachers

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Abstract

The constructivism is a view of learning based on the belief that knowledge isn't a thing that can be simply given by the teacher at the front of the room to students in their desks. Rather, knowledge is constructed by learners through an active, mental process of development; learners are the builders and creators of meaning and knowledge. In the present study description of perception of school teachers toward constructivist teaching scale has been constructed for the school teachers. This tool constructed and standardized by Roselin and Dr.V.Balakrishnan(2022). This scale consists of 86 statements, items under the dimensions of critical thinking, Student negotiation and Collaborative learning. The Normative survey method. The assessment of reliability of the survey was performed using test retest methodology. The sample consists of 100 school teachers randomly selected from the Kanchipuram District. The tool finally 47 statements were retained for the final study.

Keywords: constructivist Teaching, school teachers.

Introduction

A crucially important aspect of a teacher's job is watching, listening, and asking questions of students in order to learn about them and about how they learn so that teachers may be more helpful to students. Calkins (1986) notes that there is a thin line between research and teaching. At the same time that we teach children, they also teach us because they show us how they learn; we just have to carefully watch them and listen to them. This kind of watching and listening may contribute to a teacher's ability to use what the classroom experience provides to help him or her create contextualized and meaningful lessons for small groups and individuals. The ability to observe and listen to one's students and their experiences in the classroom contributes to his or her ability to use a constructivist approach. Paradoxically, a constructivist approach contributes to one's ability to observe and listen in the classroom. Thus, the process is circular. The objective of the present investigation is to develop a tool to measure the Perception of school Teachers toward constructivist teaching of school teachers. As there is no suitable

tool available for the purpose, the investigator has constructed and validated one in order to realize her objectives.

The constructivist teaching scale (SIS) is a Five point scale of "Strongly Agree (5)", "Agree (4)", "Undecided (3)", "Disagree(2)", and "Strongly Disagree(1)". Eighty-six statements have been collected from the schoolteachers.

Definitions of constructivist teaching

Constructivism particularly in its "social" forms suggests that the learner is much more actively involved in a joint enterprise with the teacher of creating ("constructing") new meaning. It is importance of culture and context in forming understanding.

"Constructivism is the philosophical and logical position that learning emerges through a procedure of dynamic development." (Mascolo and fishcher,2005).

Constructivism is a philosophy of learning founded on the premise that, by reflecting on our

experiences, we construct our own understanding of the world we live in”(Brooks and Brooks)

Constructivism draws on the developmental work of Piaget (1977) and Kelly (1991). Twomey Fosnot (1989) defines constructivism by reference to four principles: learning, in an important way, depends on what we already know; new ideas occur as we adapt and change our old ideas; learning involves inventing ideas rather than mechanically accumulating facts; meaningful learning occurs through rethinking old ideas and coming to new conclusions about new ideas which conflict with our old ideas. A productive, constructivist classroom, then, consists of learner-centered, active instruction. In such a classroom, the teacher provides students with experiences that allow them to hypothesize, predict, manipulate objects, pose questions, research, investigate, imagine, and invent. The teacher's role is to facilitate this process.

Piaget (1977) asserts that learning occurs by an active construction of meaning, rather than by passive recipience. He explains that when we, as learners, encounter an experience or a situation that conflicts with our current way of thinking, a state of disequilibrium or imbalance is created. We must then alter our thinking to restore equilibrium or balance. To do this, we make sense of the new information by associating it with what we already know, that is, by attempting to assimilate it into our existing knowledge. When we are unable to do this, we accommodate the new information to our old way of thinking by restructuring our present knowledge to a higher level of thinking.

Similar to this is Kelly's theory of personal constructs (Kelly, 1991). Kelly proposes that we look at the world through mental constructs or patterns which we create. We develop ways of construing or understanding the world based on our experiences. When we encounter a new experience, we attempt to fit these patterns over the new experience. For example, we know from experience that when we see a red traffic light, we are supposed to stop. The point is that we create our own ways of seeing the world in which we live; the world does not create them for us.

Description of Perception of school Teachers toward constructivist Teaching

As the first step towards the preparation of the constructivist teaching scale, the investigator went through different sources, books, journals articles and websites. Although there are several approaches to constructivism for phye (1997), common perspectives include the view that academic knowledge construction on the part of students is basically a learning process that involves change. Thus, knowledge is the desired outcome or effect of the process of learning. In facilitating teachers' understanding of constructivism Brooks (1990) presents a extensive list of constructivist teaching practices. These require the teacher to recognize and encourage student autonomy and leadership encourage the use of “raw data and primary sources, along with manipulative interactive, and physical materials. Although Brooks (1990) does not use the term “higher order thinking it is apparent that implementing these practices results in greater critical and creative student thinking such as classifying, analyzing, predicting presenting theories engaging in dialogue on issues, elaborating etc. However from my perspectives according to 21st century as no tool was found to be suitable to assess the perception of school teachers toward constructivist teaching scale of school teachers, the constructed and validated the tool by the investigator and Research supervisor. For this construtivist teaching tool prepared and included 86 items under the dimensions of critical thinking, Student negotiation and Collaborative learning. Each item had 5 options as responses.

Pilot Study:

The perception of schoolteachers toward constructivist teaching scale with 86 items was administered to 100 school teachers of kanchipuram district. The responses were collected and scored. For refinement of the tool item whole correlation was found. It refers to the correlation value for items in the draft tool. A Pilot study with 100 samples was conducted in order to estimate the reliability and validity of the Normative survey method. The assessment of reliability of the survey was performed using test retest methodology. Results from the reliability analysis revealed that the scales had good internal consistency. Liker scale method

was used for this tool. This tool finally 47 statements were selected for the final study and not selected 39.

Item Analysis

The perception of school Teachers toward constructivist teaching scale with 86 items was administered to 100 school teacher of Kanchipuram

district. The responses were collected and scored. For refinement of the tool, item whole correlation was found. This is also known an internal validity of an instrument. It refers to the correlation value for items in the draft tool. The item which has the correlation value compare with table value 0.200.

Table No:1 Details of Dimensions and Item of Constructivist Teaching Scale

S.No	Dimension of constructivist Teaching	No. of Positive Items	No. of Negative items	Total No. of Items
1.	Critical Thinking	1,8,9,25,27,29,34, 35,37,42, 43, 45,50,52,62,65,66,67,72, 74,75, 76,81,84,86	4,21,22,36,41,55, 83	32
2.	Student Negotiation	18,19,20,23,24,32,54,58,57, 61, 68,69,77,78,79,85	2,6,15,38,64	21
3.	Collaborative Learning	3,5,7,10,11,12,13,17,26,28,30, 31,33,39,44,46,47,48,49,51,53, 56,59,60,63,,70,71,73,80	14,16,40	33
4.	Total Number of Items	71	15	86

Scoring Procedure:

Each of the items in this scale was responded on a five-point scale. The options were strongly agree, agree, neutral, disagree and strongly disagree and

very rarely. High score indicates the schoolteachers are good in constructivist teaching and poor score indicates the school teachers are bad in constructivist teaching.

Table: 2 Scoring Procedure for Constructivist Teaching

S.No	Response	Scoring of Positive Items	Scoring of Negative Items
1.	Strongly Agree	5	1
2.	Agree	4	2
3.	Neutral	3	3
4.	Disagree	2	4
5.	Strongly Disagree	1	5

Table No:3 Item Analysis Vs Total Correlation of Constructivist Teaching Scale

S.No	Correlation coefficient	Item selected/Not selected
1.	0.534	Selected
2	0.654	Selected
3	0.539	Selected
4	0.180*	Not selected
5.	0.497*	Not selected
6.	0.576	Selected
7.	0.192*	Not selected
8.	0.448*	Not selected
9.	0.737	Selected

10.	0.652	Selected
11.	0.492*	Not selected
12	0.178*	Not selected
13	0.143*	Not Selected
14.	0.594	Selected
15.	0.532	Selected
16.	0.158*	Not Selected
17.	0.585	Selected
18.	0.201*	Not Selected
19.	0.724	Selected
20.	0.586	Selected
21.	0.144*	Not selected
22.	0.122*	Not selected
23.	0.164*	Not selected
24.	0.489*	Not selected
25.	0.166*	Not Selected
26.	0.583	Selected
27.	0.123*	Not selected
28.	0.167*	Not selected
29.	0.143*	Not selected
30.	0.187*	Not selected
31.	0.312*	Not selected
32.	0.123*	Not selected
33.	0.199*	Not selected
34.	0.130*	Not selected
35.	0.182*	Not selected
36.	0.198*	Not selected
37.	0.598	Selected
38.	0.186*	Not Selected
39.	0.754	Selected
40.	0.723	Selected
41.	0.146*	Not selected
42.	0.105*	Not Selected
43	0.512	Selected
44	0.132*	Not Selected
45.	0.162*	Not selected
46.	0.560	Selected
47.	0.432*	Not Selected
48.	0.142*	Not selected
49.	0.154*	Not Selected
50.	0.461*	Not Selected
51.	0.178	Not Selected
52.	0.698	Selected
53.	0.564	Selected
54.	0.686	Selected
55.	0.182*	Not selected
56.	0.176*	Not Selected

57.	0.666	Selected
58.	0.569	Selected
59.	0.558	Selected
60.	0.122*	Not Selected
61.	0.682	Selected
62.	0.734	Selected
63.	0.768	Selected
64.	0.754	Selected
65.	0.834	Selected
66.	0.801	Selected
67.	0.830	Selected
68.	0.124*	Not Selected
69.	0.801	Selected
70.	0.678	Selected
71	0.724	Selected
72	0.830	Selected
73	0.166*	Not selected
74	0.188*	Not Selected
75	0.724	Selected
76	0.788	Selected
77	0.854	Selected
78	0.166*	Not Selected
79	0.782	Selected
80	0.576	Selected
81.	0.666	Selected
82	0.569	Selected
83	0.724	Selected
84.	0.522	Selected
85.	0.682	Selected
86.	0.801	Selected

Table value=0.200

The Items with *marks are deleted.

The Reliability or the tool was established by Test-retest technique and the correlation coefficient was found to be 0.835

Establishing Reliability and Validity

In order to establish the test and retest method was used. The constructivist Teaching scale was given 100 school teachers from various different school teachers of Kanchipuram district. The responses were collected and scored by the investigator. After 15 days, the same tool was administered to the same respondents and responses were collected and

scored. The correlation Co-efficient was obtained to be 0.835 . The validity of the scale is equal to the square root of reliability is 0.913

Conclusion

The investigator is hopeful that this scale would be helpful to measure the level of constructivist Teaching in the school teachers. Hence this tool will be very useful for the investigator to measure to what extent the level of constructivist Teaching scale is in the school teachers.

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