CONSTRUCTION AND VALIDATION OF
SCALE OF ATTITUDE TOWARDS TEACHING (SAT)

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ABSTRACT

Scale of Attitude towards Teaching (SAT) is a tool for measuring the attitude towards teaching of pre-service and in-service teachers. The items originally constructed for the Bachelor of Education students in Kerala, India, are validated for in-service teachers as well. The tool manifests good reliability in terms of internal consistency and test- retest reliability. It demonstrates high criterion related validity index. The norms of interpretation of scoring the scale are also reported herein.

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***Keywords:** Behaviours of Teaching, Objects of Teaching, Pre-Service Teachers, In-Service Teachers, Attitude Towards Teaching, Cognitive Roles of a Teacher, Affective Aspects of Teaching, Teaching as a Career Choice.*

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Introduction

Owing to the increasing affective nature of modern systems of education, the construct 'attitude' has become a common parlance with extensive scope in the realms of education. An attitude is a positive or negative proneness that impacts on person's feelings, beliefs and behaviours towards events, objects and the others (Kagitcibasi, 1999). The learners' attitude towards the subject being taught is quite significant in their academic progress. Teacher's attitude is but a significant factor in student attitude towards learning.

Teaching being a dynamic activity requires a favourable attitude and certain specific competencies from its practitioners (Sao & Behrara, 2016). Attitude towards teaching can be conceived as the extent of favourableness or unfavourableness experienced by the teachers towards the different dimensions of teaching like communication, content and pedagogical competence, relationship with students, parents and society, ICT, team work, feedback, self-appraisal and evaluation. The positive attitude helps teachers to develop a conducive and learner friendly environment in their classrooms. It is contended to be reflected in teachers' effective communication, acquisition and updation of content and pedagogical knowledge, amicable relationships with students and society, efficient incorporation of ICT facilities, promotion of team work, openness to feedback, deliberations for self- appraisal and adoption of novel evaluation strategies. This eventually casts a fruitful effect on the learning of the students. Thus, for the professional growth of the teachers as well as for improvements in educational system, the attitudes held by teachers are very important.

Relevance of the Tool

Diverse tools and techniques have been employed to measure the attitude towards teaching. Ajzen (2001) and Pajares (1992) implemented observational techniques by the use of anecdotal records which proved to be a rich source of information about student's attitude towards teaching profession.

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Reid (2006) and Blalock (2008) has employed questionnaires to assess the attitude of in-service teachers. Error-choice technique, a projective technique, was used by Kubany (1990) to measure attitude towards teaching of prospective teachers. These measures of attitude, however, prove to be less reliable due to subjectivity, limited access to the sample, reluctance of the respondents to publicly express feelings towards the attitudinal objects and events.

The most often used measure of attitudes, especially in literate and self-aware subjects are standardised scales. Both in India and abroad, standardized scales, for example, were used by Deswal (2020), Banerjee (2019), Sao and Behrara (2016), Sharma (2016), Rani (2016), Arumugam and Prabhakar (2015), Bhaskara (2014), Akbaba (2013), Tarkin and Uzuntiryaki (2012), Ma and Kishore (2007), and Guskey (2002) to measure attitude towards teaching. Even though attitude is a multidimensional and complex concept, many of these scales neither define the overall concept of attitude nor distinguish it from opinions, drives or motivations. Moreover, many current instruments that aims to measure attitude towards teaching fail to accommodate necessary theoretical and statistical standards because of the poor theoretical definition of what constitutes attitude towards teaching. This new scale attempts to fill these gaps by providing a marked distinction between the different attitude objects like attitudes towards transacting the curriculum, facilitating interpersonal relationship, enriching and updating the knowledge base, employing technology integrated teaching and adopting effective evaluation strategies, promoting reflective practices and provisions for self- appraisal.

Target Groups

The tool was initially constructed and standardized to measure the attitude towards teaching of Bachelor of Education students in Kerala. Six hundred B.Ed. Students from six teacher education colleges under University of Calicut were selected for the study. Later the tool was administered to hundred in-service school teachers selected randomly across Kerala in order to reassure the norms on which the tool is being constructed. The scale proved to be feasible to both the pre-service and in-service teachers.

Instrument Development

- **Subscales and Item Writing**

In the construction and validation of this scale, attitude towards teaching is operationally defined as the degree of favourableness or unfavourableness towards different aspects of teaching. After review of several related works (Hancer, 2017; Cetin, 2016; Bilgin & Aykac, 2016; Nalcaci & Sokmen, 2016; Bhargava & Pathy, 2014; Alincak, 2016; Sao & Behrara, 2016; Cinpolat, 2015; Tarkin & Uzuntiryaki, 2012; Ma & Kishore, 2007; Hafsath, 2003) two major dimensions of attitude towards teaching were determined. The attitude is reflected in the responses of the student- teachers to the statements on ten selected components of the attitude under the dimensions namely, the behaviour dimension and the object dimension.

SAT was constructed using the Likert Method. A Likert type of scale assumes that the intensity of levels of agreement or disagreement given to a particular statement is linear, i.e., on a continuum from strongly agree to strongly disagree. The initial draft of the scale was prepared with 70 statements (35 positive and 35 negative) under the two major dimensions of attitude towards teaching.

SAT consists of 10 components, categorized under the two dimensions namely the behaviour dimension (the attitude towards functions and roles of a teacher in and out of the classroom) and the object dimension (the attitude towards people or tasks, related to teacher and teaching). The ten components of the scale are described in Table 1.

Table 1: The Components of the Scale of Attitude towards Teaching

Dimension	Components	Description of component nature
Behaviour	1. Cognitive	Attitude towards the cognitive roles and functions of a teacher as in areas like teacher preparedness, updating of content and development of competencies to face intellectual challenges
	2. Affective	Measuring the attitude towards the affective aspects of teaching by eliciting the responses regarding the extent of pride in choosing a profession which always offers novelty and the bliss of love and admiration he/she gets from the students
	3. Relational	Attitude towards teaching in areas like teacher- student relationship which transcends mere classroom interactions and the influence that the teacher accords to a pupil's life even more than a parent.

	4. Professional	Measuring the attitude towards maintaining professional standards in teaching by taking part in pre-service and in-service training programmes with a consideration of teaching as a socially demanding job.
	5.Transformative	Attitude of teachers towards accepting the profession as a tool of change for the learners in specific and the society in general.
Object	1. Learner	Attitude towards maintaining a healthy relationship with the learners by gauging the efforts to identify each learner's inherent talents and helping them to discover themselves.
	2. Career	Attitude towards teaching as a career choice, a platform for creative and novel thoughts and expressions, a pathway for continuous improvement through committed actions.
	3. Teaching	Measuring the attitude towards the actual process of teaching which involves implementing new methods and techniques in the classroom, giving creative activities and openness to student interaction while delivering the lecture
	4. Parents & Society	Attitude towards teaching as a tool for social progress, identifying the implacable commitment a teacher has for the parents in specific and the society in general.
	5. Self	Measuring the attitude towards teaching as a way of self appraisal through introspection, evaluation by the students and continuous exposure to updated information.

Mode of Responding and Scoring

The respondents indicate their responses against each statement with a tick mark in the one of the five columns denoting the response choices namely; strongly agree ('SA'), Agree ('A'), Undecided ('UD'), Disagree ('DA') and Strongly Disagree ('SDA'). For each positive statement a score of 5, 4, 3, 2 and 1 was given respectively for the responses 'SA', 'A', 'UD', 'DA' and 'SDA'. For negative statements the scoring was reversed. Multiple response for the same statement is taken to be invalid. The score obtained on the items belonging to each component will give a measure of that component of Attitude towards Teaching. The grand total of the scores, on the five components either of the behaviour or of the object dimension, will provide the score on total attitude towards teaching.

Try-out and Item Analysis

The draft scale was tried out on a sample of 400 B.Ed. students (100 student-teachers from each of the four semesters) from 6 colleges of teacher-education including Government, Aided and Unaided institutions. The sample were selected using stratified sampling technique. Item analysis using conventional procedure advocated by Edwards (1956) was done on the tried out sample and items having t-value of 1.96 and above for all the four semesters were selected for the final scale. Thus the final scale consisted of 45 items after the item analysis. The categories of positive and negative statements under the two dimensions of teaching in the final scale is in Table 2.

Table 2: Categories of Positive and Negative Statements in the Final Scale

Dimension	Components	Item no. of Positive Statements	Item no. of Negative Statements
Behaviour	1. Cognitive	13,56	5, 6, 12, 18, 20, 21, 29, 38, 41, 50, 52, 53, 57, 69
	2. Affective	8, 17, 33, 43, 49, 64	11, 36
	3. Relational	23, 30, 31, 34, 37, 44, 54	--
	4. Professional	14, 27, 42, 46, 47	10, 15, 48
	5.Transformative	9, 22, 24, 25, 45, 66	--
Object	1. Learner	9, 25, 33, 49, 54	6, 20, 21, 29, 50, 53
	2. Career	8, 23, 34, 43, 44, 56	10, 11, 18, 36, 38, 41
	3. Teaching	17, 30, 31, 46, 66	12, 15, 52, 69
	4. Parents & Society	14, 27, 37, 47	--
	5. Self	13, 22, 24, 42, 45, 64	5, 48, 57

Reliability

Reliability of the scale and its components were established by test retest method and estimation of internal consistency. The indices are given in Table 3.

Table 3: Indices of Reliability of Scale of Attitude towards Teaching

Scale/components	Test-Retest Reliability (N=40)	Cronbach's Alpha (N=300)
Scale of Attitude towards teaching (whole)	**0.87**	**0.86**
Cognitive component	0.75	0.66
Affective component	0.86	0.70
Relational component	0.85	0.71
Professional component	0.79	0.58
Transformative component	0.87	0.45
Learner component	0.79	0.52
Career component	0.73	0.68
Teaching component	0.76	0.56
Parents & Society component	0.86	0.69
Self component	0.85	0.45

Validity

For estimating the criterion related validity, the scores on the scale were correlated with teacher educators' ratings on teaching attitude of their student- teachers. These teacher ratings of a total of 30 student- teachers were taken from 3 teacher education colleges. The scores were correlated with their corresponding scores on the present scale by using Karl Pearson's product Moment Correlation. The criterion related validity of the scale is 0.84.

Norm Sample

The norm sample of the scale consists of both pre-service and in-service teachers from Kerala. A representative sample of 600 B.Ed. students (300 students who have just joined the course and another 300 who are about to complete the B.Ed. course) were selected randomly from six Teacher Education Colleges affiliated to University of Calicut constitutes the pre-service norm sample whereas the in-service norm sample includes hundred Secondary school teachers with due representation to the Northern, Central and Southern districts of Kerala.

Norms of Scale of Attitude towards Teaching for Student- Teachers

The Attitude towards teaching of student- teachers is categorized into three levels based on their attitude score. The Low attitude group has scores less than or equal to the score corresponding to the 25th percentile, the high attitude group has scores greater than or equal to the score corresponding to the 75th percentile and the average group has the scores in between the two. A norm table for semester I and semester IV student- teachers for both the dimensions is given in Table 4.
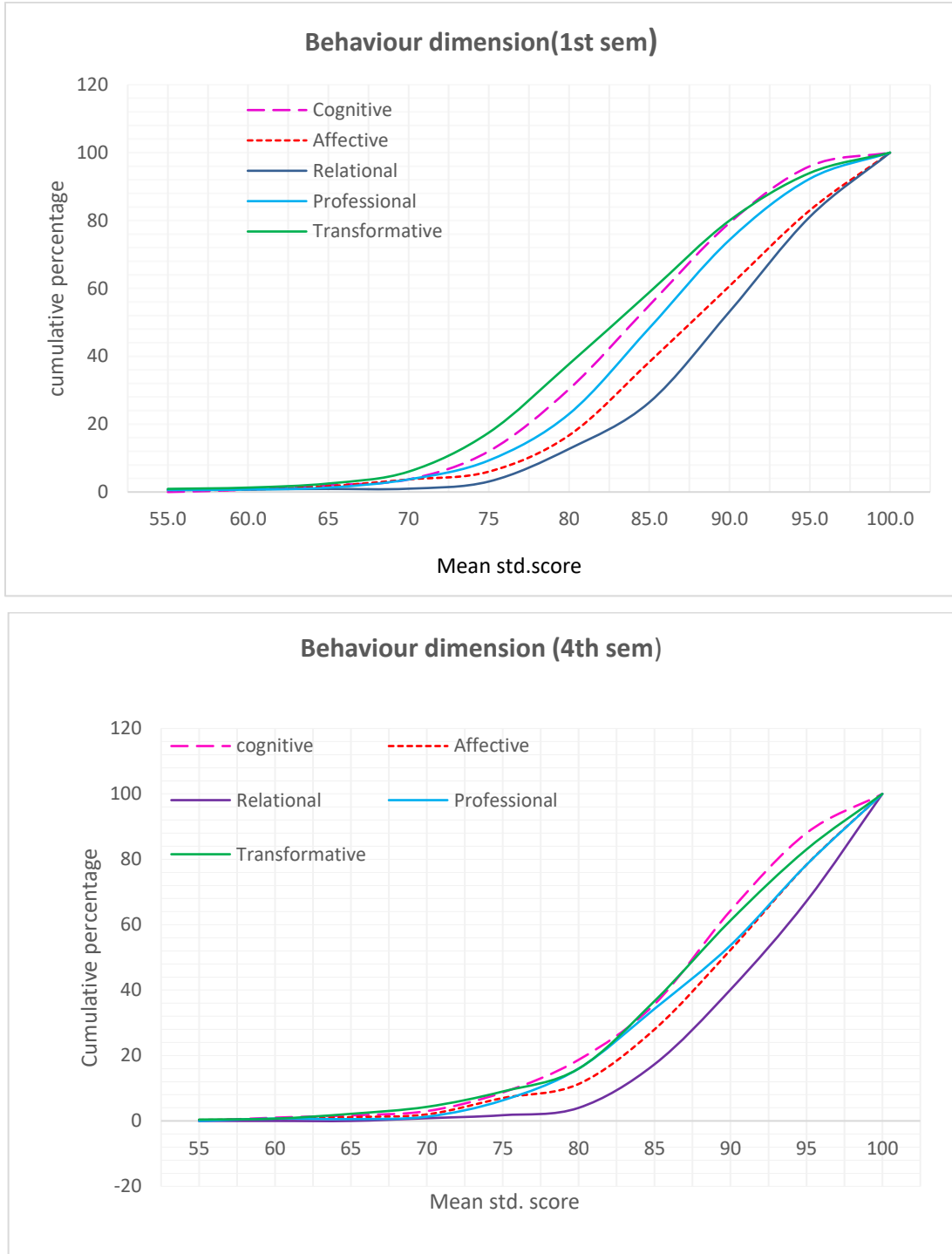
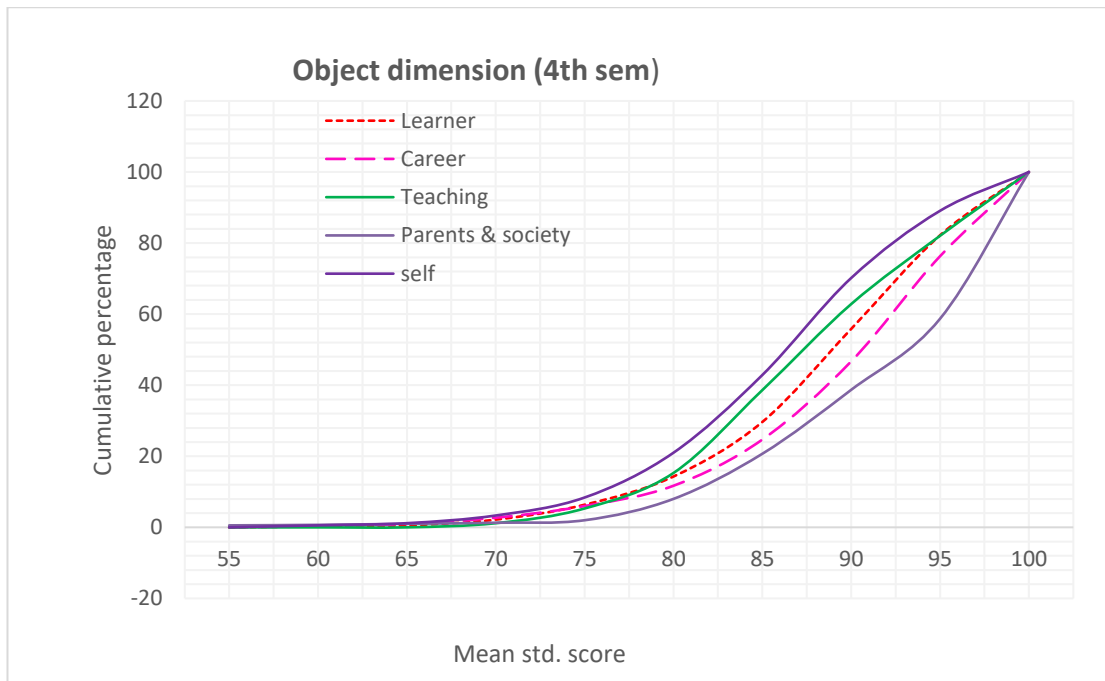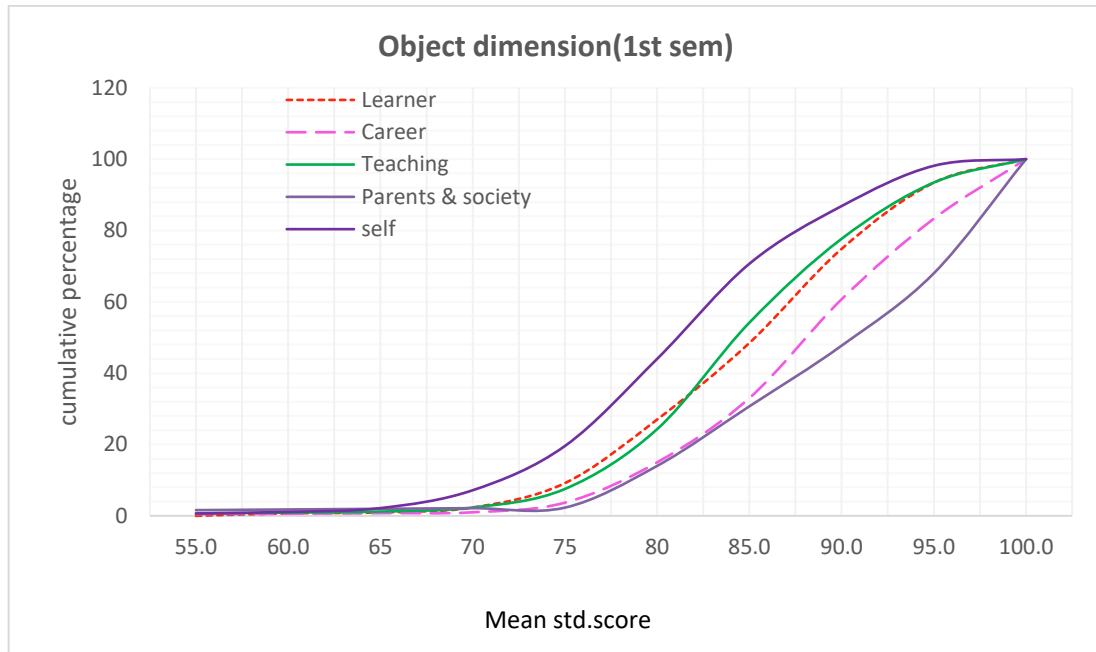**Table 4: Norms of Attitude towards Teaching for Student-Teachers**

The scale		Cut points/ Range of Attitude towards Teaching for B.Ed. Students of Semesters					
		Semester 1			Semester 4		
Dimension	Components	Low (scores ≤)	Average (scores in the range)	High (scores ≥)	Low (scores ≤)	Average (scores in the range)	High (scores ≥)
Behaviour	Cognitive	80.0	80.1 to 89.9	90.0	82.5	82.6 to 92.4	92.5
	Affective	82.5	82.6 to 94.9	95.0	85.0	85.1 to 94.9	95.0
	Relational	85.7	85.8 to 94.2	94.3	88.6	88.7 to 97.0	97.1
	Professional	82.5	82.6 to 92.4	92.5	82.5	82.6 to 94.9	95.0
	Transformative	80.0	80.1 to 89.9	90.0	83.3	83.4 to 93.2	93.3
Object	Learner	80.0	80.1 to 90.8	90.9	85.5	85.6 to 94.4	94.5
	Career	83.3	83.4 to 93.2	93.3	86.7	86.8 to 94.9	95.0
	Teaching	82.2	82.3 to 91.0	91.1	84.4	84.5 to 93.2	93.3
	Parents & Society	85.0	85.1 to 94.9	95.0	90.0	90.1 to 94.9	95.0
	Self	77.8	77.9 to 86.6	86.7	82.0	82.1 to 91.0	91.1
Total (500)		413.7	413.8 to 454.9	455.0	425.7	425.8 to 471.3	471.4
Note. (scores ≤) = the scores less than or equal to the representative score; (scores ≥) = the scores greater than or equal to the representative score; (scores in the range) = the scores lies between the representative scores.							

The cumulative percentage plots of the Behaviour and Object dimensions of the scale for the first and fourth semester B.Ed. students are given in Figure 1. These ogives will help in interpreting the obtained percentage scores as percentile norms.

Figure 1: The Cumulative Percentage Plots of the Behaviour and Object Dimensions of the Scale for B.Ed. Students of Semesters I and IV

Object dimension(1st sem)

Object dimension (4th sem)

Norms of Scale of Attitude towards Teaching for School teachers

The Attitude towards teaching of school teachers is categorized into three groups based on their attitude score. The Low group consists of scores less than or equal to the score corresponding to the 25th percentile, the high group consists of scores greater than or equal to the score corresponding to the 75th percentile and the average group corresponds to the scores in between them. A norm table for school teachers at three levels of teaching experience, ie; Less experienced (less than 2 years of service), Moderately experienced (2 to 5 years of service) and Highly experienced (greater than 5 years of service) for both the dimensions of the scale is given in Table 5.

**Table 5: Norms of Attitude towards Teaching for School Teachers**

The Scale		Cut points/ Range of attitude towards teaching for school teachers of levels:								
Dimension	Components	Less experienced			Moderately experienced			Highly experienced		
		Low (scores≤)	Average (scores in the range)	High (scores≥)	Low (scores≤)	Average (scores in the range)	High (scores≥)	Low (scores≤)	Average (scores in the range)	High (scores≥)
Behaviour	Cognitive	82.5	82.6 to 92.4	92.5	80.9	81.0 to 91.2	91.3	80.0	80.1 to 89.9	90.0
	Affective	80.0	80.1 to 97.4	97.5	84.3	84.4 to 97.4	97.5	85.0	85.1 to 94.9	95.0
	Relational	81.4	81.5 to 97.0	97.10	85.7	85.8 to 97.0	97.1	88.6	88.7 to 97.8	97.9
	Professional	80.6	80.7 to 94.9	95.0	81.8	81.9 to 97.4	97.5	81.8	81.9 to 93.0	93.1
	Transformative	83.3	83.4 to 96.6	96.7	76.7	76.8 to 89.9	90.0	80.0	80.1 to 89.9	90.0
Object	Learner	84.0	84.1 to 93.9	94.0	81.3	81.4 to 91.2	91.3	78.2	78.3 to 92.6	92.7
	Career	80.8	80.9 to 96.6	96.7	79.5	79.6 to 93.2	93.3	85.0	85.1 to 94.9	95.0
	Teaching	80.5	80.6 to 95.5	95.6	80.0	80.1 to 93.2	93.3	80.0	80.1 to 91.0	91.1
	Parents & Society	90.0	90.1 to 94.9	95.0	90.0	90.1 to 94.9	95.0	88.7	88.8 to 94.9	95.0
	Self	78.3	78.4 to 94.9	95.0	75.0	75.1 to 91.0	91.1	80.0	80.1 to 91.0	91.1
	Total (500)	414.3	414.4 to 481.3	481.4	411.9	412 to 460.3	460.4	415.6	415.7 to 463.4	463.5

Note. (scores≤) = the scores less than or equal to the representative score; (scores≥) = the scores greater than or equal to the representative score; (scores in the range) = the scores lies between the representative scores.

The cumulative percentage plots of the Behaviour dimension of the scale on a sample of school teachers with three levels of teaching experience are given in Figure 2.
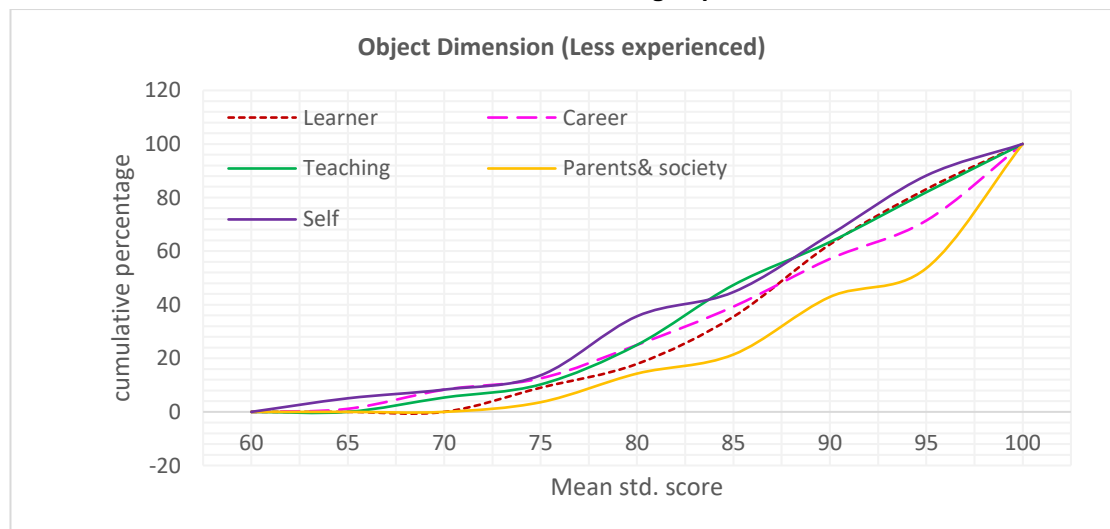
Figure 2: Cumulative Percentage Plots of the Behaviour Dimension of the Scale for School Teachers with Three Levels of Teaching Experience

Behaviour Dimension (Moderately experienced)

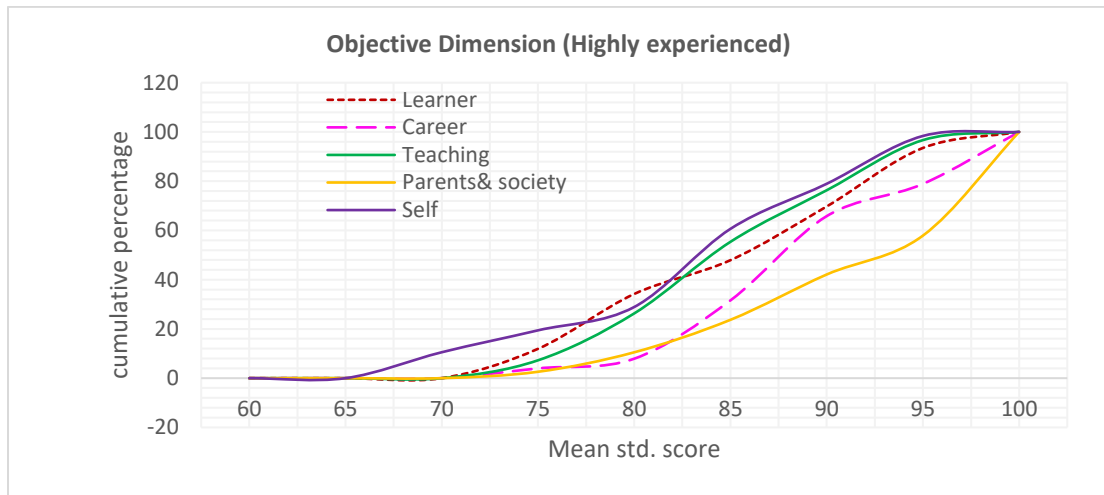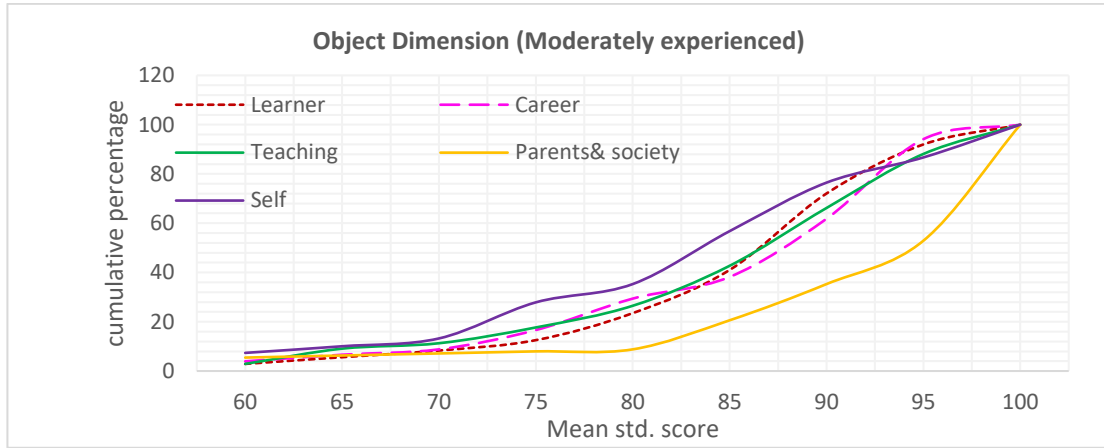
Behaviour Dimension (Highly experienced)
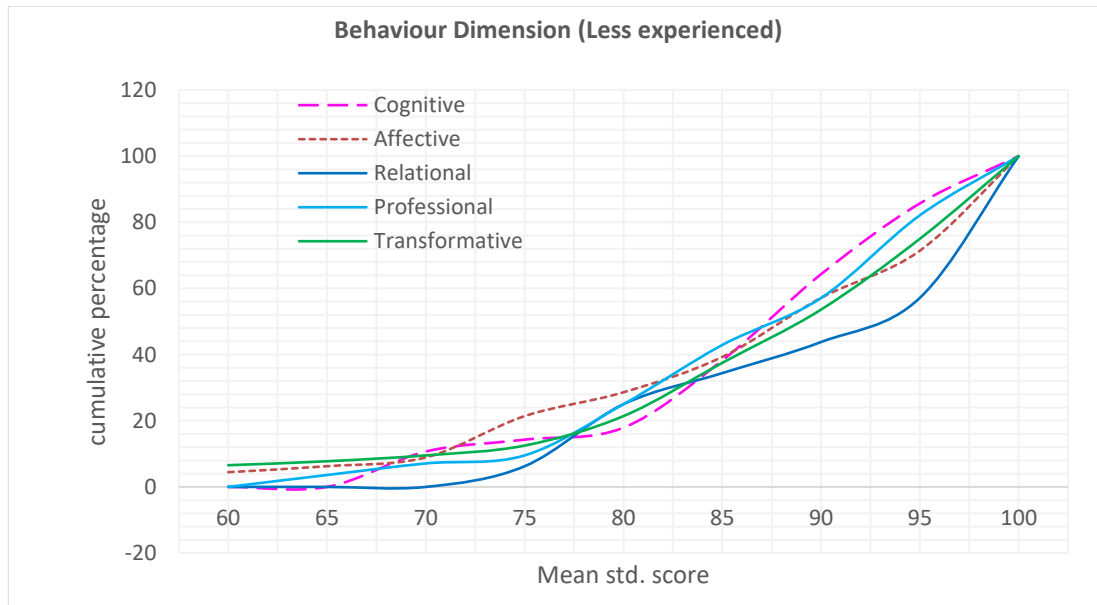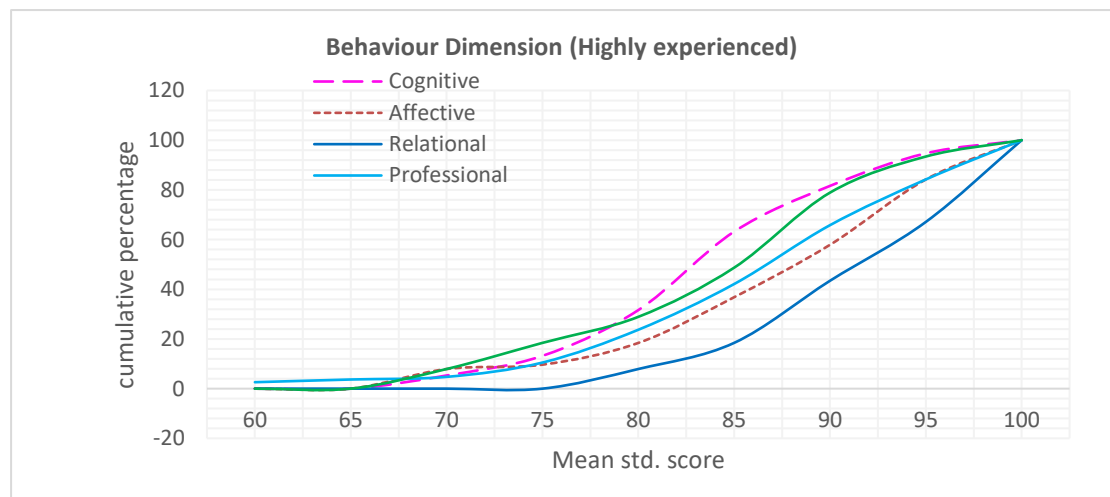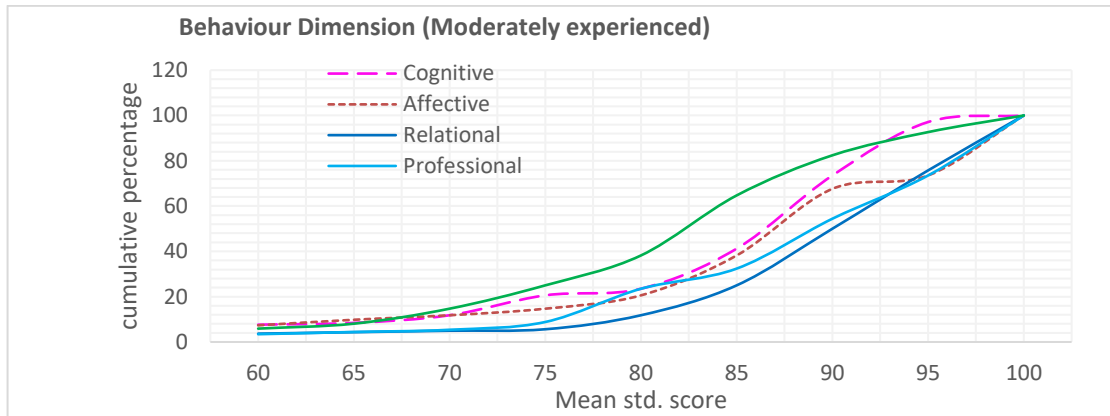
The cumulative percentage plots of the Object dimension of the scale on a sample of school teachers with three levels of teaching experience are given in Figure 3.

Figure 3: Cumulative Percentage Plots of the Object Dimension of the Scale for School Teachers with Three Levels of Teaching Experience

Object Dimension (Less experienced)

Object Dimension (Moderately experienced)

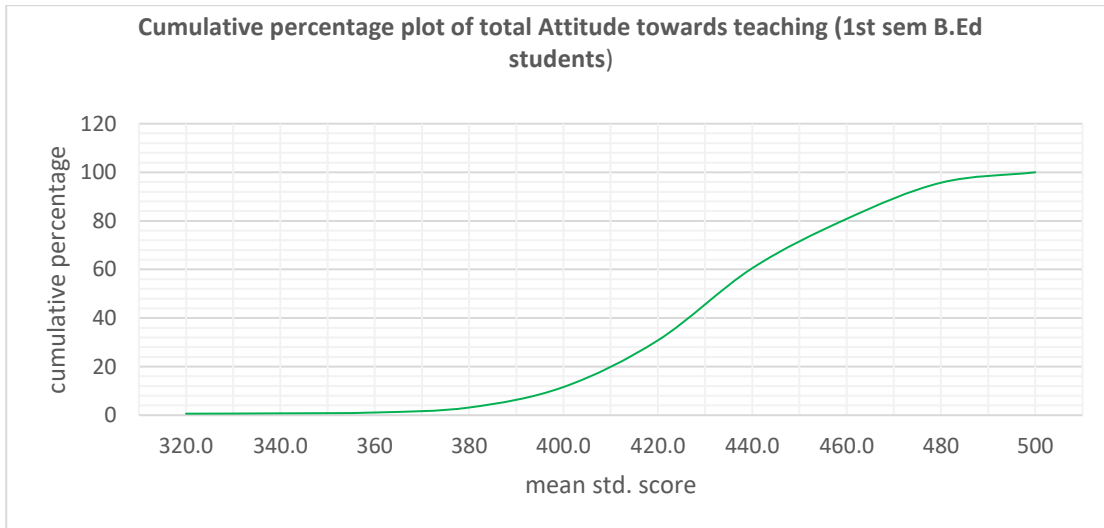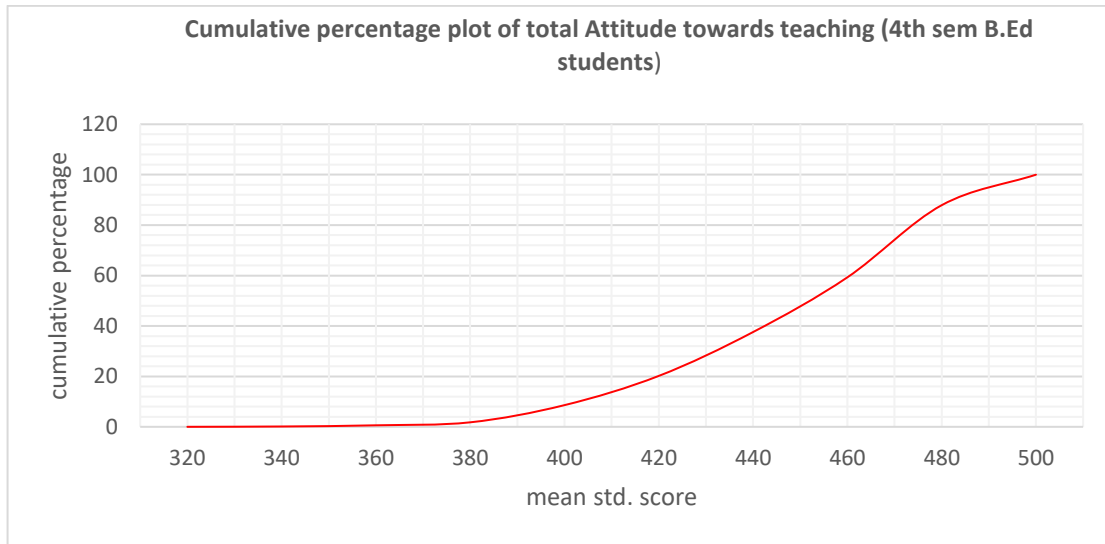**Objective Dimension (Highly experienced)**

The cumulative percentage plots of the total scale for the first and fourth semester B.Ed. students are given in Figure 4.

Figure 4: The Cumulative Percentage Plots of the Total Scale for B.Ed. Students of Semester I and IV

Cumulative percentage plot of total Attitude towards teaching (1st sem B.Ed students)

The cumulative percentage plots of the total scale on a sample of school teachers with three levels of teaching experience are given in Figure 5.

Figure 5: The Cumulative Percentage Plots of the Total Scale for School Teachers with three Levels of Teaching Experience

Conclusion

Scale of Attitude towards Teaching (SAT) is developed and validated to measure attitude towards teaching. The item-wise properties as well as the scale validity and test retest reliability measures evidenced that the scale is capable of measuring the attitude towards teaching of pre-service and in-service teachers across Kerala. While SAT scores, in total and in components of behaviour and object dimensions will provide reliable and valid indicators of the attitude towards teaching for practical use, the scale users may take note of the following. The norms of interpretation for Relational and Professional components of the Behaviour dimension and Parents and society component of Object dimension needs to be interpreted with caution, especially for high attitude groups. The scale needs to be updated with reliability and validity indices for in-service teachers. Likewise the reason for relatively low internal consistency of Transformative component of Behaviour dimension and Learner and Self components of Object dimension, in spite of high test retest reliability needs to be further probed into.

Despite the above limitations, the norms for interpretation of the scores of attitude towards teaching and its dimensions will help student- teachers and their teacher educators as well as the in-service teachers to gauge their level of attitude towards teaching profession. The scale would be especially useful for researchers and educators to study the effectiveness of teacher education practices and activities in bringing about constructive attitudinal shift in prospective teachers. Although the present tool proves to be capable of measuring the attitude towards teaching in an Indian scenario, it can be adopted and administered in international contexts as well, since the identified dimensions and components of the scale are acceptable globally as well.

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Appendix

Scale of Attitude towards Teaching
Dr. K. Abdul Gafoor

Professor

Suma A.

Senior Research Fellow

Name	:				
		Gender	M	F	TG
Name of institution	:	Type of management	Govt.	Aided	Unaided
Subject	:	Category	Pre-service	In-service	
For pre-service teachers Course: Semester:		For in-service teachers Years of experience:			

Instructions

Following are some statements which are intended to measure your attitude towards teaching. Please read each statement and mark your response in the respective column by putting a '✓' mark in the column indicating your choice. The description of choices is as follows: **'Strongly Agree' (SA), 'Agree' (A) 'Undecided' (UD), 'Disagree' (DA) and 'Strongly Disagree' (SDA)**

(Be honest in your responses. You are assured that your responses will be kept quite confidential and will be used only for research purpose with all due ethical considerations).

Sl. No.	Item No. in the Final Scale	Statements	SA	A	UD	DA	SDA
1.	5	I may quit teaching if I get a better job.					
2.	6	Anyone can be a successful teacher					
3.	8	Teaching always offers novelty.					
4.	9	The chance to mold future generation, makes teaching a noble profession.					
5.	10	I consider pre-service training as unnecessary for teaching.					
6.	11	Teaching is a boring job.					
7.	12	Teaching is nothing other than completion of lessons.					
8.	13	Teaching helps in self-development.					

Sl. No.	Item No. in the Final Scale	Statements	SA	A	UD	DA	SDA
9.	14	Teaching is a profession that can take the entire humanity to great heights.					
10.	15	Teaching does not require any special skills.					
11.	17	Teacher is the one who should take initiative in solving any problem concerning the student.					
12.	18	Teacher is not essential in the context of modern educational technology.					
13.	20	True discipline is possible only through rigorous actions.					
14.	21	Interfering in pupil's extracurricular activities is a loss of time for the teacher.					
15.	22	It is a good practice to give students a chance to evaluate teachers.					
16.	23	Teaching offers a variety of opportunities for the expression of creativity.					
17.	24	Teaching provides a high degree of self-satisfaction.					
18.	25	More than teaching, a teacher is the one who helps the pupils to realize themselves.					
19.	27	Teaching demands a high sense of social commitment.					
20.	29	The teachers success is indicated by the pupils' silence in the classroom.					
21.	30	Engaging pupils in creative activities greatly helps in their character formation.					
22.	31	Proper interaction between teacher and pupils helps in solving much of their disciplinary problems.					
23.	33	It is a pleasant experience for the teacher to spend time with pupils.					
24.	34	Teaching requires a high sense of dedication.					
25.	36	A person's talent dries up as soon as he enters the teaching profession.					
26.	37	Teaching fosters social relations.					
27.	38	Teaching requires relatively less intelligence and thinking capacity.					
28.	41	Teaching career is meant for average students.					
29.	42	Teaching gives inspiration to lead a good family life.					
30.	43	I am proud of being a teacher throughout my life.					
31.	44	Teacher can influence the pupils as much as their parents do.					
32.	45	Teacher is a person with an insatiable thirst for knowledge.					
33.	46	It is a nice experience for the teacher to employ new methods and techniques in his teaching.					
34.	47	Teacher has significant role in social progress.					
35.	48	It is unnecessary for a teacher to take part in-in-service programmes.					
36.	49	The love and consideration he gets from his pupils is invaluable for the teacher.					
37.	50	I often feel that teaching is not an agreeable profession.					
38.	52	Visual aids are time consuming and shortening lecture part					
39.	53	Appreciating students has no effect on their progress.					
40.	54	Each student has a specific talent in one or the other subject area.					
41.	56	The principle of learning by doing can be implemented in classroom teaching.					
42.	57	Classroom teaching should be teacher centered.					
43.	64	Teachers often read the journals or magazines related to their subjects.					
44.	66	Classroom teaching helps students to be well organized.					
45.	69	I dislike being questioned while delivering the lecture because it may lead us away from the teaching goal.					

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