

Application of Teacher's Assessment scale: A Different Approach

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Research Article

Abstract: In the world of Globalization there is tough competition among different companies. A company's growth depends on many factors. One of the core factor is skilled manpower. In India we have to concentrate on highly skilled manpower which can be achieved through high quality of education systems. To induce accountability and Transparency in the education system, Mr. Vilas Padhye, lecturer in Psychology, Government college of Arts and Science Aurangabad, Maharashtra, India has developed a Teachers Assessment scale (TASC) .This scale is useful for assessing performance of a Teacher on five different core factors. The 5 core factors are:-1.Knowledge in the subject.2. Classroom teaching and communication 3.Sincerity 4.Attitude towards students and 5. Facilitating overall development of students. 20 item questionnaires has been developed for the assessment of Scale. *The answer of the student among the five alternatives reflects the student's opinion about the ability of the teacher.* Here our aim is to analyze the student's opinion about the Teacher in a correct scientific way so that the purpose of TASC is achieved. For this, marks are assigned as per the student's response *in a different way*. After assigning marks to the responses, different weightage are given to the different factor which reflects the Teacher's ability. Teacher's Assessment is evaluated by the Weighted Mean based on the weighted average of the five factors.

Keywords: Analysis of TASC-Different Approach.

Introduction

Today is the world of Globalization. Due to free trade, any country can sell his product to another country. So a customer has a choice for purchasing a product of different varieties produced by the different companies in different countries. Naturally the product which has special qualities and low cost will stand in the market. This leads to tough competition in the world among different companies. A company's growth is depend on many factors like quality of the product, marketing strategies, advanced technology, skilled manpower etc...

In India there is huge man power in the area of science and technology. But to meet the need of Globalization we have to concentrate on highly skilled manpower which

can be achieved through high quality of education systems.

An Ideal Teacher is one who has the following qualities:

1. He can deliver his knowledge in an effective way to a student so that the student not only understands the subject thoroughly but also starts taking interest in the subject.
2. He should not discriminate the student irrespective of the caste, religion, intellectuality, sex, personality, of the student.
3. He should have thorough knowledge of the subject.
4. He should be able to solve the difficulties of the students as per the necessity of the student without any hesitation and keeping his mind cool.
5. He should be able to facilitate the student for the overall development of the student.
6. He should be sincere.

About TASC: To induce accountability and Transparency in the education system, an objective feedback to the teachers from their students is necessary which should be easy to understand and apply. Mr. Vilas Padhye, lecturer in Psychology, Government college of Arts and Science Aurangabad, Maharashtra, India has developed a Teachers Assessment scale (TASC) .This scale is useful for assessing performance of a Teacher on five different core factors. The 5 core factors are:-1.Knowledge in the subject.2. Classroom teaching and communication 3.Sincerity 4.Attitude towards students and 5. Facilitating overall development of students.

Through rigorous process of test standardization and validation, a brief 20 item questionnaire has been developed . For each question the student has 5 alternatives to give answer.1. Totally disagree. 2. Disagree.3.Cannot say 4.Agree 5.Totally agree. *The answer of the student among the five alternatives reflects the student's opinion about the ability of the teacher.* The questionnaire is given below in Table 1.

Table 1: Table shows Question number and its contents

Q.No.	Content of the question
1.	The teacher has an in-depth ability of the topics he/she teaches.
2.	It is easy to understand what the teacher teaches.
3.	The teacher engages all the lectures regularly.
4.	The teacher does not discriminate among the students.
5.	The teacher motivates the students to participate in extra-curricular activities.
6.	The teacher has information on a wide range of topics in the subject.
7.	The teacher helps students to generate interest in the subject through his/her teaching.
8.	The teacher is always present in time for the lectures.
9.	If the teacher scolds students, the intention is to improve them rather than to insult them.
10.	The teacher inculcates good morals and values in the students.
11.	The teacher is able to solve any problem related to the subject.
12.	The teacher takes a regular feedback (tests, tutorials, assignments, seminars etc...)
13.	The teacher completes the entire syllabus prescribed for the year.
14.	The teacher is affectionate towards the students.
15.	The teacher supports new ideas and creativity of the students.
16.	The teacher imparts information on the latest development in the subject.
17.	Students can freely raise questions/doubts in the teacher's class.
18.	Students have understood the subject better because of the efforts of the teacher.
19.	The teacher is always helpful to the students who are from the weaker sections of the society.
20.	The teacher is a good advisor of the students for their higher studies and carrier options.

The questions numbers related to the five different core factors are given in Table 2 below:

Table 2: Factors and the related question number

Statement showing the factors, and the related question numbers .					
Content of the factor	Factor No.	Related question number of the factor.			
Knowledge in subject	Factor 1	1	6	11	16
CLASSROOM Teaching and Communication	Factor 2	2	7	12	17
Sincerity	Factor 3	3	8	13	18
Attitude towards students	Factor 4	4	9	14	19
Facilitating overall development of students	Factor 5	5	10	15	20

The Author of the TASC had tested the validity of the factors by finding the significance of the correlation of the different items (related question number of the factor) with the concerned factor.

For scoring purpose he simply had given marks as follows:

Table 3: Student's response and Marks assigned by the Author of the TASC

Sr. No.	Student's Response	Marks Assigned
1.	Totally disagree	1
2	Disagree	2
3	Can not say	3
4	Agree	4
5	Totally agree	5

Methodology

Here our aim is to analyze the student's opinion about the Teacher in a correct scientific way so that the purpose of TASC is achieved. For this, we assigned marks as per the student's response *in a different way*. This is shown below in

Table 4: Student's response and Marks assigned

Sr. No.	Student's Response	Marks Assigned
1.	Totally disagree	-2
2	Disagree	-1
3	Can not say	0
4	Agree	+1
5	Totally agree	+2

After assigning marks to the responses, different weightage are given to the different factor which reflects the Teacher's ability. This is mentioned in Table 5 below:-

Table 5: Weight age given to the Factor

Factor No.	Factor content	Weight age given (Wi) (in percentages) to the factor.
1	Knowledge in subject	60
2	Classroom Teaching and communication	15
3	Sincerity	10
4	Attitude towards students	5
5	Facilitating towards students	10
Total Weight age		100

Let A_i denotes the average Marks of Factor (i) (Where $i= 1, 2...5$)

Let W_i denotes the weight attached to Factor (i) (Where $i= 1, 2...5$)

Hence the Teacher's Assessment can be evaluated by the Weighted Mean based on the weighted average of the five factors.

$$\text{i.e. } A_w = \frac{A_1W_1+A_2W_2+A_3W_3+A_4W_4+A_5W_5}{W_1+W_2+W_3+W_4+W_5}$$

DATA

Here the data is collected from the Mathematics and Statistics faculty of XYZ College. This data consists of responses of 25 students for the 20 questions designed which reflects the ability of the Teacher. This is shown below in Table 6:

Table 6: Statement showing Question wise responses of the students

Statement showing Question wise responses of the students --> Question no.-->																				
Student No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	4	4	5	5	4	4	4	5	5	4	5	4	5	5	4	4	5	5	4	5
2	4	4	5	5	4	5	4	5	4	4	5	5	5	4	4	5	4	4	4	4
3	5	5	5	5	5	5	5	4	5	4	5	5	5	5	5	5	5	5	5	5
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	4	2	5	4	4	5	3	5	4	5	5	5	5	4	4	4	3	2	4	4
6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
7	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
8	4	4	5	4	3	4	4	5	4	4	4	5	5	4	4	5	5	4	5	4
9	4	4	4	4	4	4	3	4	5	2	4	2	4	4	4	2	2	2	2	2
10	5	5	5	5	5	5	5	5	1	2	5	5	5	5	5	5	5	5	5	5
11	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
12	4	5	5	5	4	4	5	5	5	4	5	5	5	4	4	4	5	5	3	4
13	5	5	4	4	3	4	5	5	4	4	4	5	5	3	4	5	5	4	4	5
14	5	5	5	5	4	4	5	5	5	4	5	5	5	4	5	5	5	4	5	5
15	5	4	5	5	4	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5
16	5	5	5	5	5	5	4	5	5	5	5	4	5	5	5	5	4	5	5	5
17	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
18	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
19	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
20	4	5	5	1	4	5	4	5	5	4	4	5	5	4	4	4	4	5	5	4
21	5	4	5	5	5	4	4	5	4	4	5	4	5	5	4	5	4	4	5	4
22	4	4	4	3	4	3	4	4	3	4	5	5	5	4	4	4	4	4	3	4
23	4	4	4	5	4	5	4	4	4	4	4	4	5	4	4	4	4	4	4	4
24	5	5	5	5	4	5	5	5	4	4	5	4	5	5	5	4	4	5	4	5
25	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3	5

The numbers assigned for the responses are 1. Totally disagree. 2. Disagree.3.Cannot say 4.Agree 5.Totally agree.

Now we assign the marks for the responses of the students as mentioned in Table 4 as follows:

The number in brackets indicates the Marks

1. Totally disagree (-2).
2. Disagree.(-1)
- 3.Cannot say (0)
4. Agree (+1)
- 5.Totally agree (+2).

For each question (which reflects Teacher's ability) the marks assigned as per the responses of the 25 students are given in the Table 7 below:

Table 7: Statement showing Question wise Marks assigned (Responses converted into marks)

Statement showing Questionwise Marks (Responses converted into marks)--> Question no.-->																				
Student Sr. No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	1	1	2	2	1	1	1	2	2	1	2	1	2	2	1	1	2	2	1	2
2	1	1	2	2	1	2	1	2	1	1	2	2	2	1	1	2	1	1	1	1
3	2	2	2	2	2	2	2	1	2	1	2	2	2	2	2	2	2	2	2	2
4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	1	-1	2	1	1	2	0	2	1	2	2	2	2	1	1	1	0	2	1	1
6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	1	1	2	1	3	1	1	2	1	1	1	2	2	1	1	2	2	1	2	1
9	1	1	1	1	1	1	0	1	2	-1	1	-1	1	1	1	-1	-1	-1	-1	-1
10	2	2	2	2	2	2	2	2	-2	2	2	2	2	2	2	2	2	2	2	2
11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
12	1	2	2	2	1	1	2	2	2	1	2	2	2	1	1	1	2	2	0	1
13	2	2	1	1	3	1	2	2	1	1	1	2	2	0	1	2	2	1	1	5
14	2	2	2	2	1	1	2	2	2	1	2	2	2	1	2	2	2	1	2	2
15	2	1	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2
16	2	2	2	2	2	2	1	2	2	2	2	1	2	2	2	2	1	2	2	2
17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
20	1	2	2	-2	1	2	1	2	2	1	1	2	2	1	1	1	1	2	2	1
21	2	1	2	2	2	1	1	2	1	1	2	1	2	2	1	2	1	1	2	1
22	1	1	1	3	1	0	1	1	3	1	2	2	2	1	1	1	1	1	0	1
23	1	1	1	2	1	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1
24	2	2	2	2	1	2	2	2	1	1	2	1	2	2	2	1	1	2	1	2
25	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2

Now we calculate the average marks for each question which reflects the opinion about the ability of the teacher. The average marks of different factors (reflects ability of the teacher), and the total Avg.marks for that factor is given in table 8 below:-

Table 8: Statement showing the factors, related question numbers and the averages of the responses of the related questions:

Statement showing the factors, related question number and the averages of the responses of the related questions:						
		Related question number and Average marks				
Knowledge in subject	Factor 1	1	6	11	16	Total Avg. Marks
Average Marks		1.6	1.6	1.72	1.56	6.48
CLASSROOM Teaching and Communication	Factor 2	2	7	12	17	
Average Marks		1.48	1.48	1.64	1.48	6.08
Sincerity	Factor 3	3	8	13	18	
Average Marks		1.8	1.8	1.92	1.56	7.08
Attitude towards students	Factor 4	4	9	14	19	
Average Marks		1.68	1.56	1.52	1.36	6.12
Facilitating overall development of students	Factor 5	5	10	15	20	
Average Marks		1.6	1.36	1.52	1.64	6.12

Now the Teacher's Assessment is evaluated by the Weighted Mean based on the weighted average of the five factors using the formula

$$A_w = \frac{A_1W_1 + A_2W_2 + A_3W_3 + A_4W_4 + A_5W_5}{W_1 + W_2 + W_3 + W_4 + W_5}$$

Where A_i denotes the average Marks of Factor (i) (Where $i = 1, 2, \dots, 5$) and W_i denotes the weight attached to Factor (i) (Where $i = 1, 2, \dots, 5$)

The calculations are given in Table 9 below:-

Table 9: The factors, weightage given to the different factors, the total of Average marks of the factors and Weighted Mean

Statement showing the factors ,weightage given to the different factors, the total of Avg.marks of the factors and Weighted Mean:					
Sr. No.	Contents of the factor	Factor number	Weightage(Wi) in percentage	Total of Avg. Marks	Wi*Ai
1	Knowledge in subject	Factor 1	60	6.48	388.8
2	CLASSROOM Teaching and Communication	Factor 2	15	6.08	91.2
3	Sincerity	Factor 3	10	7.08	70.8
4	Attitude towards students	Factor 4	5	6.12	30.6
5	Facilitating overall development of students	Factor 5	10	6.12	61.2
	Total Weight age		100	$\sum Wi*Ai$	642.6
				Weighted Mean= $\frac{\sum Wi*Ai}{\sum Wi} =$	6.426

Conclusions

- From the table 9 it is seen that the total average marks for the Factor 3. (Sincerity) is highest among the marks of other factors. This is the strong factor of the teacher.
- From the table 9 it is seen that the total average marks for the Factor 2. (CLASSROOM Teaching and Communication) is lowest among the marks of other factors. This is the area where the ability of the teacher can be improved.
- The maximum possible mark for each question is +2. Each factor consists of 4 questions. Hence for every factor the maximum possible average marks are $8(2*4=8)$. Hence if question wise analysis is done we could able to give micro feedback to the teacher which helps him to improve his performance.
- This analysis is useful for assessment of performance of a teacher. Using timely assessment and feedback we could find lacunas in different factors. A well planned and scientifically designed training can be given to the teacher which helps them to fill the lacuna in a certain area. This will help them to enhance their performance.
- We could also compare different teacher's ability using this assessment technique. An annual reward/prize system in terms of advance increment/promotion/prize can be established to encourage the teachers.

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