

Evaluation System for Teacher Performance with Data Analysis, Result and Conclusion Using Open Source Technology

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Abstract

Evaluation in general is an element of everyday culture. People are judged and evaluated in most areas of society as to what their value is to their institution. Teacher performance evaluation has been a continuous process. Change in teacher performance evaluations is a recent educational phenomenon in education. Evaluation system for teacher performance is developed using open source tools and technologies like PHP PDO evaluation system using seven different criteria like students' evaluation by teachers, self evaluation by teachers, teacher evaluation by colleague, third party teacher evaluation by higher position, teacher evaluation by documents, teacher evaluation by students and teacher evaluation by parents to identify teacher performance evaluation. Evaluation system is online, different principals of schools are using this system and identified their teacher performance evaluation. Using this tool, institute or organization can identify what has been achieved, what needs to be improved and what should be developed.

Keywords: Teacher, performance, analysis, result, conclusion, evaluation system

INTRODUCTION

Teacher performance evaluation is an essential component in education. Teacher performance tool is online open source tool in which any user (principal) can register their school and input data of teacher, student and parents, and easily identify performance of their teachers.

The tool is developed in PHP PDO and MySQL. The tool is online, so, the user can send data (questionnaire form) online through email, and can receive it in email and fill feedback and submit it [1]. Same way, the principal can receive all feedback online and easily check the teacher's performance from different criteria as well as overall performance [2].

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According to performance evaluation, the principal knows the strengths and weaknesses of the teacher and improve the teacher's weaknesses [3–7].

Evaluation system is already put on the following path where user can register and add their school information for identifying their school teachers' performance evaluation.

DATA ANALYSIS

Researchers put the tool online; after online data was received from the school, the research identified teachers' performance of Bhavnagar, Botad, Rajula, Ahmadabad and Amreli districts, as shown in Table 1.

Table 1. Data analysis of different schools.

Total schools	Total principals	Total teachers	Total students	Total parents
21	21	117	783	783

Total 21 schools used this tool to identify their teachers' performance, total 1704 number of persons were involved and 3184 numbers of samples (feedback) for teachers' performance were collected. After sending all the questionnaires, got the feedback from different people, data was stored in different tables.

RESULT

There are two ways tool generate the result.

1. One is *user* output; and
2. Second is *admin* output.

In *user* output, the principals can see the result of only their school, as shown in Figure 1.

There are seven criteria used to identify teachers' performance:

1. Students' evaluation,
2. Self evaluation,
3. Peer evaluation,
4. Third party evaluation,
5. Teachers' portfolio,
6. Students' survey,
7. Parents' survey.

Result of Student Evaluation

Here, the teachers evaluated their class students by filling the questionnaire which they get in email. Following Table 2 shows the result of students' evaluation by their teachers.

Result of Self Evaluation

Here, teachers did self evaluation by filling the questionnaire which they get in email. The principal can see all the teachers' evaluation simultaneously, as shown in Table 3.

Result of Peer Evaluation

Here, the teachers did peer evaluation by their colleagues filling the questionnaire which they get in email. The principal can see one by one all the teachers' peer evaluation, as shown in Table 4.

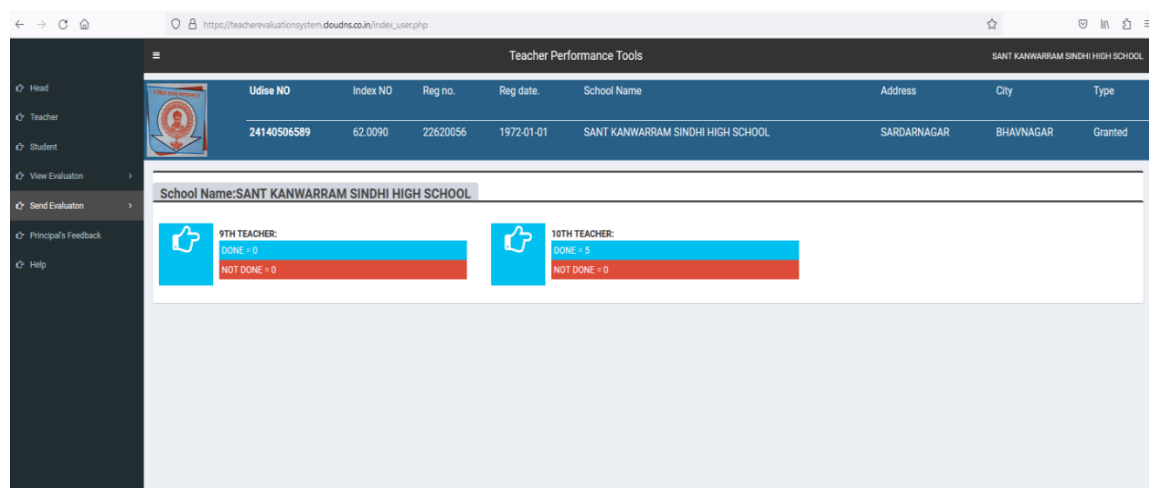
**Figure 1.** User output for school authorities.

Table 2. Result of student evaluation.

S.N.	Teacher name	Student name	Result
1	Tilwani Laxmichand M	Ahuja Sumit B	47.5%
2	Saliya Manish V	Bheda Khushal A	45%
3	Saliya Manish V	Chauhan Ravideep B	67.5%
4	Rajai Jitendra K	Chauhan Ravideep B	70%
5	Dr. Kothari Yogeshkumar D	Chauhan Ravideep B	72.5%
6	Saliya Manish V	Chudasama Kinjal B	92.5%
7	Saliya Manish V	Davda Daval P	92.5%
8	Dr. Kothari Yogeshkumar D	Davda Daval P	67.5%
9	Saliya Manish V	Dembala Tushar B	52.5%
10	Dr. Kothari Yogeshkumar D	Dembala Tushar B	52.5%
11	Rajai Jitendra K	Dhanvani Samir D	70%
12	Rajai Jitendra K	Dihora Harsh S	70%
13	Tilwani Laxmichand M	Gangvani Yash N	55%
14	Rajai Jitendra K	Gangvani Karina L	70%
15	Savani Vipulbhai S	Gehija Meet R	62.5%
16	Tilwani Laxmichand M	Gehija Meet R	67.5%
17	Dr. Kothari Yogeshkumar D	Gehija Meet R	75%
18	Rajai Jitendra K	Jobanputra Prince P	70%
19	Tilwani Laxmichand M	Kanjani Vishal S	65%
20	Dr. Kothari Yogeshkumar D	Kanjani Vishal S	80%
21	Rajai Jitendra K	Keshvani Urvashi V	70%
22	Dr. Kothari Yogeshkumar D	Keshvani Urvashi V	70%
23	Saliya Manish V	Kimtani Bhumi A	60%
24	Rajai Jitendra K	Kimtani Bhumi A	70%
25	Tilwani Laxmichand M	Kudecha Viram U	67.5%
26	Tilwani Laxmichand M	Makwana Vimal A	65%
27	Dr. Kothari Yogeshkumar D	Makhija Nandani R	57.5%
28	Tilwani Laxmichand M	Makwana Dhruv R	80%
29	Saliya Manish V	Modan Arman S	57.5%
30	Tilwani Laxmichand M	Parmar Payal Bhimabhai	67.5%
31	Dr. Kothari Yogeshkumar D	Parmar Payal Bhimabhai	65%
32	Saliya Manish V	Parmar Harendrasinh M	75%
33	Tilwani Laxmichand M	Parmar Harendrasinh M	42.5%
34	Rajai Jitendra K	Parmar Shakti D	70%
35	Savani Vipulbhai S	Rajai Vishakha P	62.5%
36	Saliya Manish V	Rajai Vishakha P	92.5%
37	Rajai Jitendra K	Rajai Vishakha P	70%
38	Saliya Manish V	Rajai Namrata M	75%
39	Dr. Kothari Yogeshkumar D	Sachdev Jatin N	55%
40	Rajai Jitendra K	Vaghela Alpesh G	65%
41	Dr. Kothari Yogeshkumar D	Vaghela Alpesh G	72.5%

Table 3. Result of self evaluation.

S.N.	Teacher Name	Result
1	Savani Vipulbhai S	70%
2	Saliya Manish V	80%
3	Tilwani Laxmichand M	95%
4	Rajai Jitendra K	90%
5	Dr. Kothari Yogeshkumar D	85%

Table 4. Result of peer evaluation.

S.N.	Teacher name	Colleague name	Result
1	Yogeshkumar	Vipulbhai	85%
2	Yogeshkumar	Manish	80%
3	Yogeshkumar	Laxmichand	72.5%
4	Yogeshkumar	Jitendra	95%

Result of Third Party Evaluation

Here, the teachers' evaluation was done by higher position persons, filling the questionnaire of principal which they get in email. Principal can see all the teachers' evaluation, as shown in Table 5.

Result of Teachers Portfolio

Here, teachers' evaluation was done by documents filling the questionnaire of teacher which they get in email. The principal can see all the teachers' documents evaluation, as shown in Table 6.

Result of Students Survey

Here, the teachers' evaluation was done by students by filling the questionnaire of students which they get in email. The principal can see all the teachers' evaluation by students, as shown in Table 7.

Result of Parents Survey

Here, teachers' evaluation was done by parents by filling the questionnaire of parents which they get in email. The principal can see all the teachers' evaluation by parents, as shown in Table 8.

Table 5. Result of third party evaluation.

S.N.	Teacher name	Principal name	Result
1	Yogeshkumar	Laxmichand	70%
2	Vipulbhai	Laxmichand	42.5%
3	Laxmichand	Laxmichand	95%
4	Manish	Laxmichand	85%
5	Jitendra	Laxmichand	77.5%

Table 6. Result of teachers portfolio.

S.N.	Teacher name	Result
1	Savani Vipulbhai S	26%
2	Saliya Manish V	20%
3	Tilwani Laxmichand M	32%
4	Dr. Kothari Yogeshkumar D	26%
5	Rajai Jitendra K	26%

Table 7. Result of students survey.

S.N.	Teacher name	Student Name	Result
1	Rajai Jitendra K	Vaghela Alpesh G	80%
2	Rajai Jitendra K	Chauhan Ravideep B	80%
3	Rajai Jitendra K	Bheda Khushal A	90%
4	Rajai Jitendra K	Rajai Namrata M	75%
5	Rajai Jitendra K	Ranglani Piyush J	85%
6	Rajai Jitendra K	Dhanvani Samir D	85%
7	Rajai Jitendra K	Parmar Payal Bhimabhai	80%
8	Rajai Jitendra K	Kukad Himanshu P	75%
9	Rajai Jitendra K	Valrani Niraj J	80%
10	Rajai Jitendra K	Rathod Jayraj K	85%

Table 8. Result of parents survey.

S.N.	Teacher name	Parents name	Result
1	Savani Vipulbhai S	Gehija Rajeshbhai	80%
2	Savani Vipulbhai S	Rajai Mohanbhai	80%
3	Savani Vipulbhai S	Dembala Bansibhai	85%
4	Savani Vipulbhai S	Parmar Bhaveshbhai	85%
5	Savani Vipulbhai S	Ranglani Jitendrabhai	47.5%
6	Savani Vipulbhai S	Vaghela Ghanshyambhai	67.5%
7	Savani Vipulbhai S	Gangvani Laxmanbhai	70%
8	Savani Vipulbhai S	Sachdev Nareshbhai	75%
9	Savani Vipulbhai S	Makwana Ashokbhai	57.5%
10	Savani Vipulbhai S	Chauhan Rasikbhai	75%

Overall Performance of Teacher

Here, principal can see one by one teachers' overall evaluation. The principal can see the teacher's name, photos, subject taken, and standard, as shown in Table 9.

In *Admin* output, admin can see the result of the following as shown in Figure 2.

- *Total number of schools registered:* Admin can know that how many schools are registered for their teachers' performance evaluation in this tool, as shown in Table 10 [8–12].
- *School wise evaluation:* Admin can see the school wise evaluation of teacher performance. It means that admin can select any registered school and according to selected school, admin can see all the teachers' overall performance evaluation.
- *Medium wise evaluation:* Admin can see the medium wise (English/Gujarati) teacher performance evaluation of all the registered school, admin can also see the average performance of English or Gujarati medium school [13–17]. The chart shown in Figure 3 shows the difference between English/Gujarati medium wise teacher performance evaluation.
- *School type wise evaluation:* Admin can see the school type like government, grant in aid and private school wise teacher performance evaluation as well as school type wise average teacher performance evaluation [18, 19]. The chart shown in Figure 4 shows the difference between Private/Grant in aid or government wise teacher performance evaluation.

Table 9. Overall performance of teacher.

Teacher Name	:	Saliya Manish V
Subject Taken	:	Language
Standard	:	10
School Name	:	Sant Kanwarram Sindhi High School
Medium	:	Gujarati

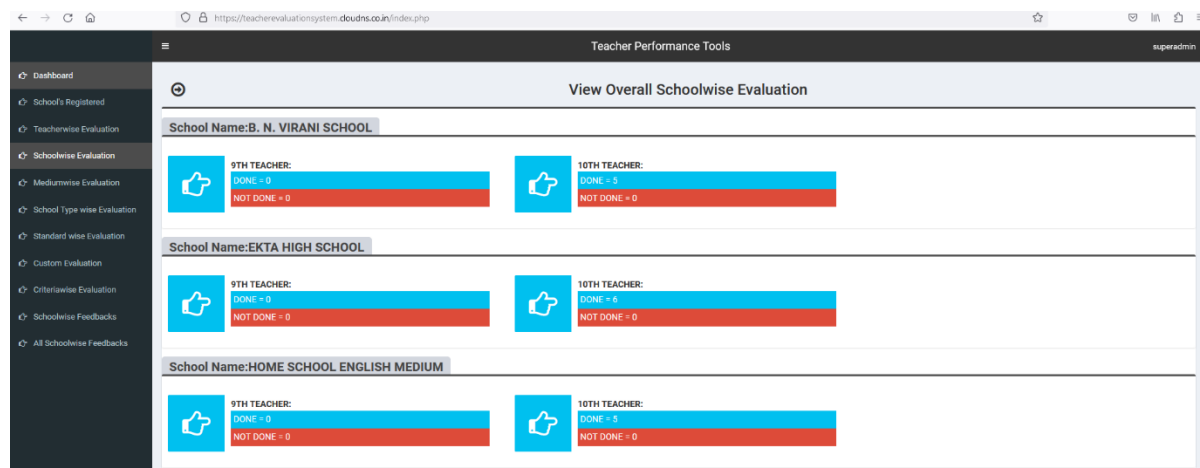
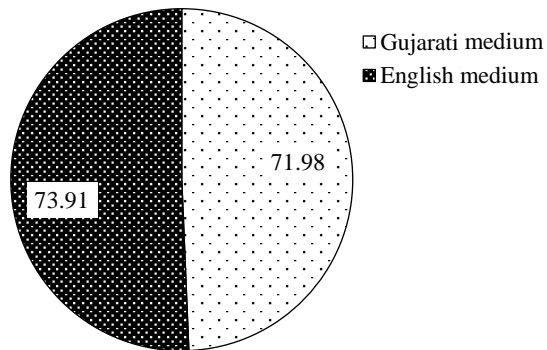


Figure 2. Admin output.

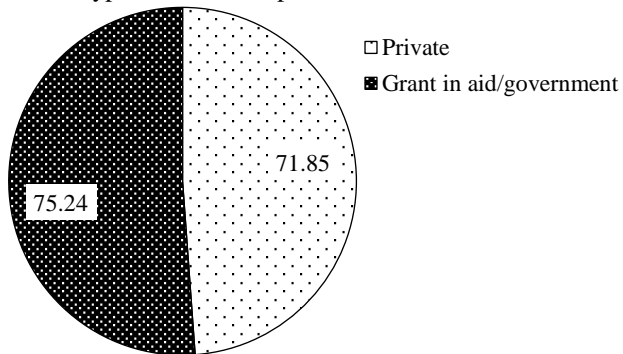
Table 10. Total number of schools registered.

Criteria name	Result
1. Student evaluation	71.00%
2. Self evaluation	80.00%
3. Peer evaluation	85.00%
4. Third party evaluation	85.00%
5. Teacher evaluation by document	20.00%
6. Teacher evaluation by student	83.50%
7. Teacher evaluation by parent	93.00%
Overall teacher performance	73.93%
Grade: very good performance	

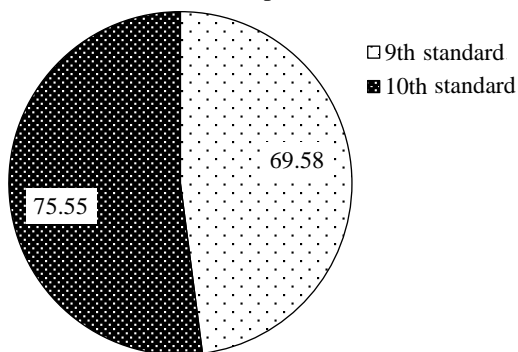
Medium wise teachers performance

**Figure 3.** Medium wise evaluation.

School type wise teacher performance

**Figure 4.** School type wise evaluation.

Standard wise teachers performance

**Figure 5.** School standard wise evaluation.

- *School standard wise evaluation:* Admin can see the school standard wise like 9th or 10th standard teacher performance evaluation. The chart shown in Figure 5 shows the different between 9th/10th wise teacher performance evaluation.
- *Custom evaluation:* Admin can see the result as per their requirement, it means admin can select standard, school type and medium and as per the selected criteria, tool will give the result of teacher performance evaluation.
- *Criteria wise evaluation:* Admin can see the different seven criteria wise result of teacher performance. The chart shown in Figure 6 shows the seven criteria wise teacher performance evaluation.
- *All school feedback:* Admin can see the feedback of all school principals about teacher performance evaluation tool.

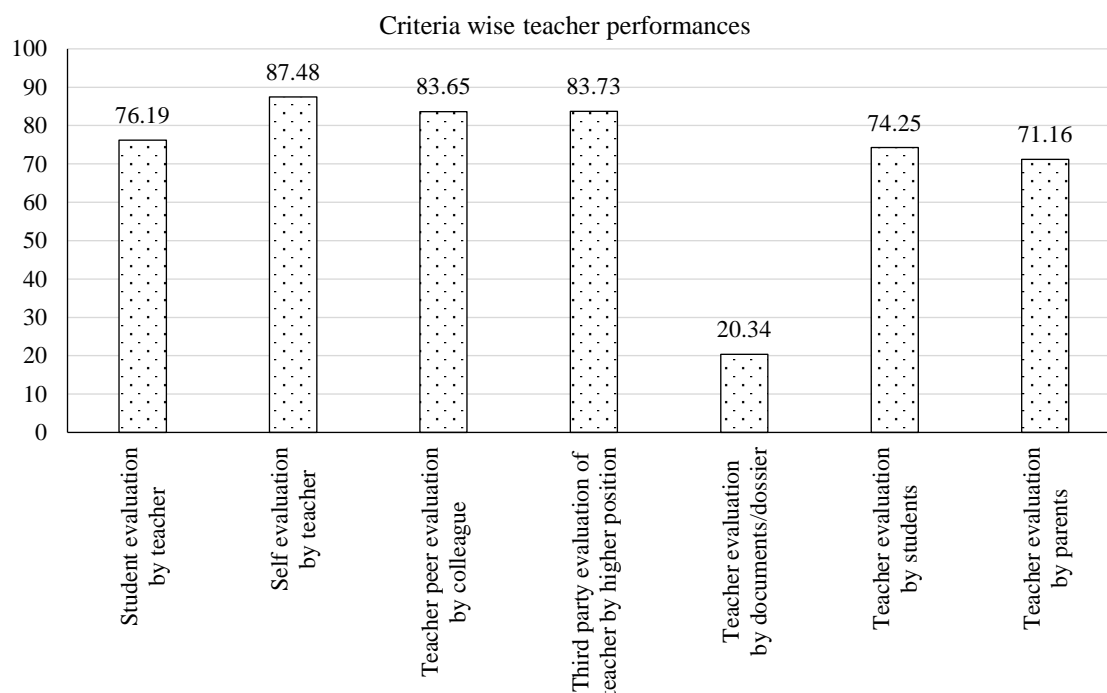


Figure 6. Criteria wise evaluation.

CONCLUSION

This work aim was to identify teachers' performance evaluation using tool which was developed using open source tools and technology.

This work identified teacher performance evaluation using different seven criteria, so that we can easily know what has been achieved, what needs to be improved and what should be developed.

1. The *first* criterion, *students' evaluation*, helps teachers to identify their students' performance evaluation; according to that performance, teachers can easily know about their students' result as well as strength and weakness of their students.
2. The *second* criterion, *self evaluation*, helps teachers to identify their own performance evaluation; according to performance evaluation, teachers easily know their own strengths and weaknesses.
3. The *third* criterion, *peer evaluation*, helps teachers to identify their relationship with their colleagues and what colleagues think about them.
4. The *fourth* criterion, *third party evaluation*, helps teachers to identify their relationship with their principal or higher position and management of institute. Teachers knows easily what principal or management think about them.
5. The *fifth* criterion, *teachers' portfolio*, helps teachers to identify their performance evaluation about certificates, degrees, publications, awards and experiences.
6. The *sixth* criterion, *students' survey*, helps teachers to know what students think about them and what are the changes required to better help the students.
7. The *seventh* criterion, *parents' survey*, helps teachers to know that what parents think about them and what are the changes required to better help the parents.

Using this tool, principal or higher position know their teachers' overall performance evaluation; according to performance evaluation, they can easily identify strong and weak teachers.

This tool helps the institute or organization to identify what has been achieved, what needs to be improved and what should be developed.

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