

## **Evaluation of clinical students perspective of the effect of feedback on quality of teaching in South East Nigeria: A cross-sectional study.**

### **Abstract:**

**Introduction:** Feedback is vital for clinical students to improve their learning, enhance insight into their growth, and raise self-awareness of their clinical skills. It also provides an important vista for faculty members to appraise their teaching practices for quality assurance process. Therefore, it is vital to assess the students' perspectives on the credence of feedback on teaching quality. Regular and thorough feedback, maybe helpful in improving teaching skills, encourage better performance, aid provision of deeper understanding of the material taught, and cause appreciation of the teaching quality of the faculty. This study probed the students perception of teaching evaluation feedback, awareness of teaching feedback methods and relevance of teaching feedback.

**Method:** A cross sectional (qualitative) study, carried out among clinical students in 5<sup>th</sup> year medicine purposefully selected based on their clinical experience from medical schools in South East Nigeria; using a 45 item structured questionnaire consisting of Likert –scale questions and multiple choice questions to obtain sociodemographic and relevant data(awareness of teaching feedback, perception of feedback and criteria to evaluate clinical teachers. Survey was administered in a paper format;. Data was analysed using SPSS version 26 to calculate descriptive statistics(mean,standard deviation). Inferential statistics (t-test, regression analysis) was carried out to determine relationship between feedback and teaching quality.

**Results:** Most(93.2%) of the 370 respondents, were aged between 20 and 29 years, with a mean of  $25.08 \pm 3.18$ . Male participants were (53%) and females (47%). Of all the respondents, 74.3% were aware of the use of feedback as a factor of teacher evaluation; 24.1% indicated that they provide feedback in their school. Students that were aware of other teacher evaluation systems were 43 (11.6%); 39(90.7%) mentioned student achievement measures, 3 (7%) on- the- job evaluation, 1 (2.3%) Marzano model. The very high mean response values greater than the Likert scale's criterion mean of 3; a standard deviation value very close to the mean, indicating low response variability depicts students agreeing that feedback is very important for all relevant attributes of a clinical teacher. Female participants and those living in the hostel consider feedback more important to

teachers' attributes with statistically significantly response rate of ( $t = 3.203, p = 0.001$ ), ( $t = 3.058, p = 0.002$ ).

**Conclusion:** This study suggests that students perceive that feedback was a relevant attribute of a clinical teacher. With a small number of study subjects providing feedback in their schools, it becomes imperative that feedback as a way of improving learning be strengthened.

**Key words:** Feedback, Perception, Clinical students, Teaching, Quality.

## INTRODUCTION

A core component of teachers' professional development is obtaining feedback from students, and this forms the basis for critical self-assessment, identification of deficiencies and comparison between one's performance and set goals.<sup>1</sup> Several studies have assessed the effect of student feedback on teaching quality in different parts of the world.<sup>2-5</sup> It has been shown to be advantageous in clinical settings where clinical teachers can use this information to focus on their strengths and areas of improvement.<sup>2,3,5</sup> When teachers receive feedback about areas to improve or reflect on, their perception of the effectiveness is higher than when only praise is given.<sup>6</sup> However, it's been suggested that teachers with less teaching experience tend to have more negative feelings related to negative student feedback, and they are also more likely to make unjustified changes to their teaching in order to please students.<sup>7</sup> In addition, some students believe that their feedback to teachers does not change anything in the classroom.<sup>8</sup>

Despite the varied reports, student feedback is most useful and effective when it contains a lot of information.<sup>9</sup> Consequently, student feedback should provide enough details to allow the teacher to gain insight into the strengths and weaknesses of the teaching methods employed, pointing at opportunities to make suitable changes and reinforcing functional behavior.<sup>10</sup> This is because feedback that is brief, indistinct or not constructive may have deleterious effect leading to negative perceptions of the quality of instruction, poor appreciation of the teaching quality, disinterest and poor performance of students in assessments.

Notwithstanding the strong evidence that student feedback affects the quality of teaching, there is scarcity of literature about its use in Nigerian medical schools. Although several studies have assessed the perceptions of Nigerian medical students about the learning and teaching environment of their medical schools, not much work has been done about the particular domain of student feedback in our country.<sup>11-13</sup> This appears to be common in other low to middle income countries, and hopefully, more research interest may stimulate growth in this area.<sup>14,15</sup>

Thus, this study aimed to assess the clinical students' perspective on the effect of feedback on quality of teaching in four teaching hospitals in South East Nigeria with a view to improving the quality of learning experience, serve as a basis for future improvement initiatives while contributing to the knowledge and understanding of feedback practices in medical education and enable medical educators/administrators develop practical feedback practices that will contribute considerably to the quality of teaching in the medical schools in South Eastern Nigeria.

## **METHODOLOGY**

### **Setting**

This cross-sectional study was conducted amongst fifth year (5<sup>th</sup> year) medical students, purposively selected from the 4<sup>th</sup> to 6<sup>th</sup> year medical students; during the 2022–2023 academic year from four medical schools in South Eastern Nigeria namely: Enugu State University Teaching Hospital (ESUTH), Parklane, Enugu; Nnamdi Azikiwe University Teaching Hospital (NAUTH) Nnewi; Alex Ekwueme Federal University Teaching Hospital, Abakaliki (AEFUTHA); Imo State University Teaching Hospital (IMSUTH) Orlu.

### **Data Collection**

Self-administered, pre-validated questionnaires<sup>14</sup> were given to fifth year (5<sup>th</sup> year) medical students who consented to participate in the study between 7<sup>th</sup> – 21<sup>st</sup> July 2023. The study variables were collected into the relevant sections of the questionnaire.

In the first section, predictor variables which included sociodemographic features of participants such as age, sex, marital status, religion, source of funding and accommodation were collected.

The second section of the questionnaire collected information that assessed the respondents' level of knowledge of student feedback. The parameters that assessed the knowledge of student feedback included: (i) awareness of the use of feedback as a factor of teacher evaluation (categorized as yes or no), (ii) awareness of any medical school in Nigeria where students provide feedback on their teachers (categorized as yes or no), (iii) awareness of any teacher evaluation systems (categorized as yes or no), (iv) name of known teacher evaluation systems (information provided by the respondent).

The third section of the questionnaire collected information that assessed the degree of importance of the domain of relevance of attributes of a teacher in a feedback survey using 17

items. Each item was rated on a five point Likert scale from 1 to 5, where 5 = Very Important, 4= Important, 3= Moderately Important, 2= Slightly Important, 1= Not Important.

The fourth section of the questionnaire collected information assessing students' perception of providing feedback using 14 items. Each item was rated on a five- point Likert scale from 1 to 5, where 1 = strongly disagree, 2 = disagree, 3 = unsure, 4 = agree, and 5 = strongly agree.

### **Ethical Considerations**

Ethical approval was obtained from the Ethics and Research Committee of the ESUTH, Enugu (REF NO: ESUTHP/C-MAC/RA/034/VOL4/42). Informed consent was obtained from the students. Participation in the study was entirely voluntary and no financial inducement whatsoever was involved. All information was handled with strict confidentiality.

### **Statistical Analysis**

Data collated was analyzed using SPSS version 26.0 for windows. Descriptive statistics, including frequency and percentages, were used to summarize categorical variables while means and standard deviations were obtained for continuous variables. Mean responses of the 5 Likert scale greater than the criterion mean of 3 indicated positive response and vice-versa. Means of continuous variables were compared using t test, ANOVA and Duncan multiple range test. P-value < 0.05 was considered significant and results were presented in tables.

### **Results**

Table 1: Demographic characteristics of the respondents

	Frequency	Percent (%)
<b><i>Age group</i></b>		
20 - 24	175	47.3
25 - 29	170	45.9
30 - 34	18	4.9
≥35	7	1.9
<b><i>Sex</i></b>		
Male	196	53.0

Female	174	47.0
<b>Marital status</b>		
Single	337	91.1
Married	29	7.8
Separated	1	0.3
Others	3	0.8
<b>Religion</b>		
Christian	359	97.0
Muslim	4	1.1
Others	7	1.9
<b>Source of funding</b>		
Parent	314	84.9
Scholarship	6	1.6
Self	25	6.8
Others	25	6.8
<b>Accommodation</b>		
Hostel	190	51.4
Off-campus	180	48.6
<b>University Teaching Hospital</b>		
AEFUTHA*	93	25.1
NAUTH**	85	23.0
ESUTH***	120	32.4
IMSUTH****	72	19.5

\*Alex Ekwueme Federal University Teaching Hospital, Abakaliki; \*\*Nnamdi Azikiwe University Teaching Hospital Nnewi; \*\*\*Enugu State University Teaching Hospital, Parklane, Enugu; \*\*\*\*Imo State University Teaching Hospital Orlu.

Table 1 shows that most of the respondents (93.2%) are between the age range of 20 and 29 years. The mean age is  $25.08 \pm 3.18$ , the minimum age is 20 and the maximum age is 48. There were more male student participants (53%) than females (47%). The respondents are predominantly single (91.1%) and Christians (97%). Their parents (84.9%) are their major source of funding while more than half of them (51.4%) have accommodation in the hostel.

Table 2: Knowledge of student feedback

	Frequency	Percent
<b><i>Are you aware of the use of student feedback as a factor of teacher evaluation</i></b>		
Yes	275	74.3
No	95	25.7
<b><i>Do you provide feedback on your lecturers in your school</i></b>		
Yes	89	24.1
No	281	75.9
<b><i>Do you know any medical school in Nigeria where students provide feedback on their teachers?</i></b>		
Yes	68	18.4
No	302	81.6
<b><i>Are you aware of any teacher evaluation systems</i></b>		
Yes	43	11.6
No	327	88.4
<b><i>If yes, specify</i></b>		
Student achievement measures	39	90.7
On- the- job evaluation	3	7
Marzano model	1	2.3

Table 2 shows that 74.3% of the respondents are aware of the use of feedback as a factor of teacher evaluation. However, just 24.1% of the students indicated that they provide feedback in their school. Out of 43 (11.6%) students that were aware of other teacher evaluation systems, 39 students (90.7%) mentioned student achievement measures, three students (7%) mentioned on- the- job evaluation and one student (2.3%) mentioned the Marzano model.

Table 3: Relevance of attributes of a teacher in a feedback survey

S/N	Attributes of a teacher	Not Important n (%)	Slightly Important n (%)	Moderately Important n (%)	Important n (%)	Very Important n (%)	Mean $\pm$ SD
1	Organization and preparedness of the classes	0 (0.0)	4 (1.1)	5 (1.4)	59 (15.9)	302 (81.6)	4.78 $\pm$ 0.51
2	Promptness in conducting classes	0 (0.0)	4 (1.1)	12 (3.2)	94 (25.4)	260 (70.3)	4.65 $\pm$ 0.59
3	Punctuality to lectures	0 (0.0)	3 (0.8)	11 (3.0)	83 (22.4)	273 (73.8)	4.69 $\pm$ 0.57
4	Appropriate use of different teaching aids (ppt, chalkboard, etc.)	3 (0.8)	5 (1.4)	22 (5.9)	90 (24.3)	250 (67.6)	4.56 $\pm$ 0.74
5	Clarity in presentation	0 (0.0)	6 (1.6)	12 (3.2)	64 (17.3)	288 (77.8)	4.71 $\pm$ 0.61
6	Communicates effectively	0 (0.0)	3 (0.8)	7 (1.9)	47 (12.7)	313 (84.6)	4.81 $\pm$ 0.49
7	Recommends additional learning resources (books, journals, websites etc.)	5 (1.4)	23 (6.2)	57 (15.4)	117 (31.6)	168 (45.4)	4.14 $\pm$ 0.98
8	Provides timely feedback on student's performance	3 (0.8)	4 (1.1)	41 (11.1)	131 (35.4)	191 (51.6)	4.36 $\pm$ 0.78
9	Creates comfortable learning environment for the students	1 (0.3)	7 (1.9)	17 (4.6)	78 (21.1)	267 (72.2)	4.63 $\pm$ 0.69
10	Encourages extracurricular activities (cultural, sports, social activities)	8 (2.2)	17 (4.6)	69 (18.6)	112 (30.3)	164 (44.3)	4.10 $\pm$ 1.00

11	Provides assistance and counseling on the subject and is available for after class consultation	3 (0.8)	6 (1.6)	30 (8.1)	125 (33.8)	206 (55.7)	4.42 ± 0.78
12	Interact and encourages students to ask question/participation	3 (0.8)	4 (1.1)	12 (3.2)	104 (28.1)	247 (66.8)	4.59 ± 0.69
13	Maintains discipline in the class	1 (0.3)	10 (2.7)	32 (8.6)	110 (29.7)	217 (58.6)	4.44 ± 0.78
14	As a role model	8 (2.2)	20 (5.4)	49 (13.2)	110 (29.7)	183 (49.5)	4.19 ± 1.00
15	Has a reward system/incentive for the students	8 (2.2)	14 (3.8)	68 (18.4)	128 (34.6)	152 (41.1)	4.09 ± 0.97
16	Dressing	6 (1.6)	12 (3.2)	37 (10.0)	145 (39.2)	170 (45.9)	4.25 ± 0.88
17	Eloquence	2 (0.5)	7 (1.9)	26 (7.0)	128 (34.6)	207 (55.9)	4.44 ± 0.75

Table 3 shows that the students agree that feedback is very important for all relevant attributes of a teacher. This is indicated by very high mean response values greater than the Likert scale's criterion mean of 3 and a standard deviation value very close to the mean, indicating low response variability.

Table 4: Perception of students on providing feedback

S/N	Perception	Strongly Disagree n (%)	Disagree n (%)	Neutral n (%)	Agree n (%)	Strongly Agree n (%)	Mean ± SD
	<b>Do you think feedback will improve the quality of teaching viz:</b>						
1.	Teachers' teaching skills	3 (0.8)	5 (1.4)	20 (5.4)	104 (28.1)	238 (64.3)	4.54 ± 0.73
2.	Marking schemes for	4 (1.1)	16 (4.3)	40 (10.8)	134 (36.2)	176 (47.6)	4.25 ± 0.89

	examinations						
3.	Punctuality of teachers to classes	5 (1.4)	13 (3.5)	35 (9.5)	113 (30.5)	204 (55.1)	4.35 ± 0.89
4.	Preparedness of the teacher	4 (1.1)	7 (1.9)	20 (5.4)	102 (27.6)	237 (64.1)	4.52 ± 0.78
5.	Performance of students in examinations	5 (1.4)	10 (2.7)	40 (10.8)	101 (27.3)	214 (57.8)	4.38 ± 0.88
6.	Curriculum development	4 (1.1)	9 (2.4)	36 (9.7)	129 (34.9)	192 (51.9)	4.34 ± 0.83
7.	Overall image of the school	4 (1.1)	10 (2.7)	56 (15.1)	113 (30.5)	187 (50.5)	4.27 ± 0.89
8.	Student feedback will give teachers insights into the unique challenges experienced by their students.	3 (0.8)	3 (0.8)	11 (3.0)	106 (28.6)	247 (66.8)	4.59 ± 0.67
9.	Student feedback should be recommended for all schools	4 (1.1)	6 (1.6)	18 (4.9)	102 (27.6)	240 (64.9)	4.54 ± 0.76
	<b>What are your perceived setbacks in providing feedback about your teacher:</b>						
10.	It may lead to victimization of students by teachers	20 (5.4)	44 (11.9)	55 (14.9)	101 (27.3)	150 (40.5)	3.86 ± 1.22
11.	It may lead to victimization of teachers by students	34 (9.2)	80 (21.6)	80 (21.6)	98 (26.5)	78 (21.1)	3.29 ± 1.27
12.	It may discourage interest in teaching	38 (10.3)	119 (32.2)	93 (25.1)	68 (18.4)	52 (14.1)	2.94 ± 1.22
13.	The school may not act on the feedback	10 (2.7)	19 (5.1)	68 (18.4)	121 (32.7)	152 (41.1)	4.04 ± 1.02
14.	The teachers may ignore the feedback	11 (3.0)	20 (5.4)	64 (17.3)	131 (35.4)	144 (38.9)	4.02 ± 1.02

Table 4 shows that the students strongly agree that feedback will improve Teachers' teaching skills (4.54), Marking schemes for examinations (4.25), Punctuality of teachers to classes (4.35), Preparedness of the teacher (4.52), Performance of students in examinations (4.38), Curriculum development (4.34), Overall image of the school (4.59), teachers insights into the unique challenges experienced by their students (4.59) and Student feedback should be recommended for all schools (4.54). These were indicated by mean response values greater than the criterion mean of 3.

The students perceive the following setbacks to providing feedback about their teachers. They include leads to victimization of students by teachers (3.86), lead to victimization of teachers by students (3.29), school may not act on the feedback (4.04) and the teachers may ignore the feedback (4.02). However, the students disagree that feedback may discourage interest in teaching as indicated by a mean response value of 2.94 less than the criterion mean of 3.

Table 5: Comparison of the importance of feedback to teachers' attributes among the Socio-demographic factors

	Mean $\pm$ SD	t/F	P value
<b>Age</b>			
20 – 24	4.48 $\pm$ 0.42	0.613	0.540
$\geq$ 25	4.45 $\pm$ 0.52		
<b>Gender</b>			
Male	4.39 $\pm$ 0.52	3.203	0.001
Female	4.54 $\pm$ 0.39		
<b>Marital status</b>			
Single	4.47 $\pm$ 0.47	1.789	0.074
Married	4.32 $\pm$ 0.51		
<b>Source of funding</b>			
Parent	4.48 $\pm$ 0.47	1.707	0.165
Scholarship	4.40 $\pm$ 0.36		
Self	4.28 $\pm$ 0.51		

Others	4.38 ± 0.45		
<b>Accommodation</b>			
Hostel	4.53 ± 0.41	3.058	0.002
Off-Campus	4.38 ± 0.52		
<b>School</b>			
AEFUTHA	*4.41 ± 0.48	6.022	0.001
NAUTH	*4.44 ± 0.43		
ESUTH	4.60 ± 0.32		
IMSUTH	*4.33 ± 0.65		

\*Duncan Multiple Range test indicating means not significantly different

Table 5 shows that the female participants consider feedback more important to teachers' attributes than the male participants as indicated by a significantly higher mean response score ( $t = 3.203$ ,  $p = 0.001$ ). Similarly, the participants that live in the hostel consider feedback more important to teachers' attributes than those that live off-campus as indicated by a significantly higher mean response score ( $t = 3.058$ ,  $p = 0.002$ ). Students in ESUTH consider feedback more important to teachers' attributes than those from other schools ( $F = 6.022$ ,  $p = 0.001$ ). The Duncan Multiple range test indicates no significant difference in the mean response of students from AEFUTHA, NAUTH and IMSUTH.

Table 6: Comparison of perception of providing feedback among students' socio-demographic characteristics.

	Mean ± SD	t/F	P value
<b>Age</b>			
20 – 24	4.12 ± 0.50	0.613	0.540
≥ 25	4.15 ± 0.55		
<b>Gender</b>			
Male	4.09 ± 0.59	1.548	0.123
Female	4.18 ± 0.43		
<b>Marital status</b>			
Single	4.15 ± 0.54	1.566	0.118

Married	4.00 ± 0.37		
<b>Source of funding</b>			
Parent	4.15 ± 0.54	0.146	0.664
Scholarship	4.06 ± 0.63		
Self	4.08 ± 0.46		
Others	4.03 ± 0.38		
<b>Accommodation</b>			
Hostel	4.22 ± 0.44	3.173	0.002
Off-Campus	4.05 ± 0.59		
<b>School</b>			
AEFUTHA	<sup>#</sup> 4.05 ± 0.47	3.395	0.018
NAUTH	*4.12 ± 0.58		
ESUTH	*4.25 ± 0.37		
IMSUTH	<sup>#</sup> 4.07 ± 0.69		

\*<sup>#</sup>Duncan Multiple Range test indicating means not significantly different

Table 6 shows that students living in hostels had a significantly better positive perception of providing feedback than those living off-campus, as indicated by a significantly higher mean response score ( $t = 3.173$ ,  $p = 0.002$ ). ESUTH and NAUTH students had significantly better positive perception of providing feedback than students in AEFUTHA and IMSUTH ( $F = 3.395$ ,  $p = 0.018$ ). The Duncan Multiple range test indicates no significant difference in the mean response of students from ESUTH and NAUTH, and AEFUTHA and IMSUTH.

## Discussion

Teacher evaluation is integral part of medical education and the use of feedback from students is one of such evaluation systems or methods.<sup>16</sup> The index study shows that majority of the respondents are aware of the use of student feedback as a method of teacher evaluation. This finding is similar to reports from other studies in the area of medical education.<sup>1-3</sup> However, the use and practice of student feedback was found to be low in the medical schools and is consistent with noted patterns in low to middle income countries.<sup>14,15</sup> This may be due to factors that

impede effective implementation such as inadequate funding, poor teaching and learning facilities, shortage of qualified teachers and poor motivation of teachers, amongst others.<sup>17</sup>

There are several teacher evaluation systems some of which include “student achievement measures” also known as the “value-added model”(VAM), “on the job evaluation”, the “Marzano model”, information from peers, information from administrators, and teachers self evaluation.<sup>14,18</sup> Our study revealed that a greater majority of the respondents mentioned student achievement measures (specifically, student testing) when asked about other teacher evaluation systems known to them. This is not surprising considering the fact that student testing, whether formative or summative assessment, is a compulsory component of our medical curriculum. It is therefore cheaper to operate, less time consuming and can serve indirectly as a reflection of the performance of teachers. Unfortunately, this system has drawbacks. For instance, it could be influenced by the students assigned to teachers rather than by their own teaching ability, and also it only allows you to see the best and the worst teachers, but it’s hard to define those who land in-between.<sup>18</sup> Be that as it may, our focus is the perspective of our clinical students about their own feedback as a tool for teacher evaluation. Thus evaluating other teacher evaluation systems is beyond the scope of this study, though it could be an area for further research.

Majority of the students agree that feedback is very important for all relevant attributes of a teacher and that feedback will improve the quality of teaching. However, the students disagree that feedback may discourage interest in teaching. This is probably because student feedback ideally should lead to instructional gains if more specific behavioural items are used, and when a knowledgeable faculty member is involved in counselling on ways to improve instruction.<sup>19</sup>

Our study revealed that the female participants consider feedback more important to teachers’ attributes than the male participants as indicated by a significantly higher mean response score ( $t = 3.203$ ,  $p = 0.001$ ). This is probably because females are considered better communicators, as supported by the fact that language functions are represented more bilaterally in the female brain than in the male brain.<sup>20</sup>

Similarly, the participants that live in the hostel consider feedback more important to teachers’ attributes than those that live off-campus as indicated by a significantly higher mean response score ( $t = 3.058$ ,  $p = 0.002$ ). A similar finding was reported by Husain and Khan.<sup>14</sup> The reasons

for this are not clear but there are multiple factors that may influence student perception about their lecturers, such as personality, expectations, and experience to name a few.<sup>21</sup> These may be explored in future research.

A limitation of this study is that it was done for one set or class of students. Hopefully it can be replicated for all classes of medical students for overall medical education improvement.

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