Views of Teachers, Intern doctors and Students regarding Feedback on Formative Assessment during MBBS Course in Bangladesh

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Abstract
Objective(s): To explore the present status of feedback following formative assessment during MBBS course in Bangladesh.

Methodology: This study was conducted in eight (4 govt. and 4 non govt.) medical colleges in Dhaka and outside Dhaka. The study period was July 2014 to May 2015. Total 50 teachers, 150 intern doctors, 250 students participated in this study. Different structured, self-administered questionnaire were used to collect data from the teachers, intern doctors and students.

Result: Majority of the teachers (58%), intern doctors (89%) and students (87%) disagreed about return of written answers script to the students after formative assessment, while few teachers (12.5%) teachers used to return those , out of their own interest. In this study, 80% teachers, 60% intern doctors and 50% students mentioned that individual feedback was not practiced on SOE/Oral examinations after formative feedback. Most (62.3%) of the intern doctors and students (63%) opined that the feedback they received after formative assessment were not uniform from all departments. Majority (56%) of the teachers pointed that, the timing of providing feedback was uncertain and 48% teachers declared that they gave feedback after formative assessment by marks/grade in groups whereas only 6% teachers provided it personally. Teachers (76%) added that through formative assessments followed by feedback they could identify the learning gaps and weaknesses of the students. According to teachers (86%), intern doctors (74.5%) and students (59.2%), it helped to reduce the fear in subsequent assessment. All of the respondents (teachers, intern doctors and students) figured out the factors responsible for inadequate feedback after formative assessment as compact class schedule (58%, 44.8%, 56.5% respectively), frequent assessment (48%, 44.8%, 56.5% respectively), frequent assessment (48%, 44.8%, 48.1% respectively) and inadequate number of stuff (44%, 31.2%, 37.7% respectively). Teachers, intern doctors and students suggested that training of the teachers on feedback process, appointing more teachers, limiting the number of classes and formative assessments, ensuring the feedback after each formative assessments may improve the present situation of feedback in MBBS course.

Conclusion: In our country context feedback following formative assessment during MBBS course are not being given following any standard manner. In this study it was figured out that different types of formative assessment are important at different phases of MBBS course. On the basis of respondents’ (Teachers, Intern doctors and students) opinion, it can also be concluded that feedback is not being provided in time after formative assessment. Individual feedback is not also being practiced on SOE and practical/clinical examinations after formative assessment, rather it is being provided by some teachers' own interest but not uniformly by all the departments.

Key Words: Intern doctors and Students regarding Feedback on Formative Assessment

Introduction
Learning is the act of acquiring new, or modifying and reinforcing, existing knowledge, behaviors, skills, values, or performances and may involve synthesizing different types of information. Learning sessions are usually judged by taking different assessments in different level. These assessments systems are organized in different fashions and feedback fulfill the inert importance of assessments (Wagnar, 2011).

Feedback is defined, as information given to a student describing his or her performance, the information intended to be used to guide future performance (White, Tiberius, 1991). Feedback can be described as a process which comprises communication of information followed by reactions to such communication. It has been defined as specific information about the difference between a trainee's observed performance and a given standard with the target of achieving improvement in performance of the trainee (Rubak, cited in srivastava, 2014)

The term “feedback” is exercised with assessment. After formative assessment if proper feedback is provided, the outcome of summative assessment becomes better. So, we have to know about the concept of formative assessment. Formative assessment is described as “The process of appraising judging or evaluating student's work or performance and using this to shape and improve student's competence." (Taradi ,S.K 2005).

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Feedback is related with formative assessments. Black and Wiliam (1998) defined formative assessment as "all those activities undertaken by teachers, and/or by their students, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged".

Formative assessment is a process through which assessment elicited evidence of student learning is gathered and instruction is modified in response to feedback (Cauley, 2010). Formative assessment has a central role in the evolving learning process. (Mateo & Sangra, 2007)

Feedback in medical education is an integral and important constituent of teaching as it encourages and enhances the learners' knowledge, skills and professional performance. Feedback has to be delivered in an appropriate settings. It should focus on the performance and not on the individual; should be clear and specific; delivered in non-judgmental language; should emphasize positive aspects; be descriptive rather than evaluative; and should suggest measures for improvement. (Srivastava, 2014)

When formative assessments are used in conjunction with summative assessment, the potential exists to improve outcomes for all students (Stiggins, 2002)

Feedback needs to be personal and and its needs to be fast. Educators are beginning to refocus their attention on relevant, practical feedback for students during lesson or very soon after (Hicks, 2014). Formative assessment followed by feedback improves student's achievement; it is one of the most effective instructional tools that influence student's achievement.

Feedback should always be focused on helping students to develop their skills, knowledge and understanding, both subject-specific and transferable, and to identify areas for improvement. Formative feedback should be multidimensional, non-evaluative, supportive, timely, specific, credible, infrequent and genuine (Brophy, Schwartz & White, cited in Shute, 2008). When a student receives clear and descriptive feedback on their work, they have the opportunity to analyze what they have done well and which part(s) need improvement. Assessment and feedback given is also a source of information to the teacher about how much (and what) the students have learned (Nicol & Macferlane dick, 2006).

Feedback has to be given as soon as possible after the completion of the learning task. Students also need to see that feed forward comments can be incorporated into subsequent performance and overall influence the quality of their learning in positive way (Spiller, 2009).

From above information, it is clear that, feedback should be given after formative assessments to achieve the best performance after summative assessments. The present study has been conducted to get the real picture of feedback in undergraduate medical education in Bangladesh.

### Methodology

The Cross sectional type of descriptive study was done during 12 months (01.07.2014 - 30.06.2015), in 4 Government medical colleges & 4 Non Government medical colleges. Study population was Phase III students, intern doctors and all level teachers (Professors, Associate professor, Assistant professor) of selected medical colleges.

Each phase III student, each Intern doctors, each teachers (Professor, Associate professor, Assistant professor) of different departments of those selected medical colleges was study unit. Phase III students, intern doctor and teachers, of the selected medical colleges who were willing to participate in the study as respondents were included and Professor, Associate professor, Assistant professor of those selected medical colleges, who are involved in teaching the students & guiding the enrolled interns Students, teachers and intern, who have left the medical college and were not available during the study period and who were not willing to participate in the study as respondents were excluded.

250 phase III students, 150 Intern doctors, 50 Teachers (Professor, Associate professor, Assistant professor) of the selected medical colleges were taken as sample and it was Convenient sampling. Separate predesigned structured questionnaire for students, intern doctors and teachers were prepared to collect data. Permission from the respective college authorities (Principles and Director) was taken first. Then explanation was given to the students, intern doctors and teachers about the title and objectives of the study. As there is no previous study on formative feedback in detail, so this study may be considered as base line study and can be used as basic foundation for further elaborate and analytic research. After receiving their permission, questionnaires were distributed and completed questionnaires were collected in different settings.

Data were checked and edited after collection and then were processed and analyzed by using SPSS computer package. If necessary some data were handled manually with the help of calculator and Microsoft Excel program. Data were presented in the forms of tables and graphs.

Anonymity and confidentiality of respondents were maintained and informed consent was taken from all the respondents. Prior permission was taken from concerned authority. Limitation of the study was that the medical colleges were selected purposively as per convenience. All medical colleges of Bangladesh could not be included.

### Results

Table 1 reflects that most of the teachers (58%) disagreed and 26% strongly disagreed about returning written answer script to students. Only a few (12%) teachers agreed that they returned written answer scripts with feedback. No teachers was found to be strongly agreed about returning written answer scripts to the students after formative assessment.
Table 1: Distributions of teachers based on their regarding the return of written answer script to the students after formative assessment (n=50)

<table>
<thead>
<tr>
<th>Different departments return the written scripts to the students after each formative assessment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total n-50</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly disagree (%)</td>
<td>Disagree (%)</td>
<td>Undecided (%)</td>
<td>Agree (%)</td>
<td>Strongly agree (%)</td>
<td></td>
</tr>
<tr>
<td>Teacher's Opinion</td>
<td>13 (26)</td>
<td>29 (58)</td>
<td>2 (4)</td>
<td>6 (12)</td>
<td>-</td>
<td>50</td>
</tr>
</tbody>
</table>

Table 2 reveals that 60% teachers strongly disagreed and 20% disagreed regarding feedback after SOE examinations. Some (20%) teachers agreed that they gave feedback after oral/SOE.

Table 2: Distribution of teachers according to their opinion regarding the feedback after SOE examination (n=50 )

<table>
<thead>
<tr>
<th>Feedback were given after SOE examination</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total n-50</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
<td>Strongly agree</td>
<td></td>
</tr>
<tr>
<td>Teacher's Opinion</td>
<td>30 (60)%</td>
<td>10 (20)%</td>
<td>-</td>
<td>10 (12)%</td>
<td>-</td>
<td>50</td>
</tr>
</tbody>
</table>

Table 3: reveals that 58% students strongly agreed and 37% agreed that proper feedback on formative assessments help to identify the learning gaps. 59% strongly agreed and 31.3% agreed that, it reduces fear in professional examinations. Most of the students (50%) strongly agreed and 41% agreed with "Further improvement in subsequent assessment". Near 43% agreed and 39% strongly agreed that, "Provide proper guideline to the students by the teachers."

Table 3: Distributions of students according to their opinion regarding importance of proper feedback on formative assessment (n-250)

<table>
<thead>
<tr>
<th>Area of importance of proper feedback on formative assessment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total n-50</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly disagree (%)</td>
<td>Disagree (%)</td>
<td>Undecided (%)</td>
<td>Agree (%)</td>
<td>Strongly agree (%)</td>
<td></td>
</tr>
<tr>
<td>It helps to I identify the learning gaps/weakness</td>
<td>7 (2.9)</td>
<td>9 (3.7)</td>
<td>3 (1.2)</td>
<td>89 (36.9)</td>
<td>142 (58.2)</td>
<td>250</td>
</tr>
<tr>
<td>Fear in professional examination reduced</td>
<td>7 (2.9)</td>
<td>6 (2.5)</td>
<td>10 (4.2)</td>
<td>78 (31.3)</td>
<td>149 (59.2)</td>
<td>250</td>
</tr>
<tr>
<td>Further improvement in subsequent assessment</td>
<td>4 (1.7)</td>
<td>3 (1.3)</td>
<td>11 (4.2)</td>
<td>99 (40.8)</td>
<td>133 (50)</td>
<td>250</td>
</tr>
<tr>
<td>Increase level of confidence</td>
<td>7 (2.9)</td>
<td>7 (2.9)</td>
<td>29 (12.1)</td>
<td>113 (42.9)</td>
<td>94 (39.2)</td>
<td>250</td>
</tr>
<tr>
<td>Provide proper guideline to the students by the teacher</td>
<td>4 (1.7)</td>
<td>17 (7.1)</td>
<td>43 (17.1)</td>
<td>99 (40.8)</td>
<td>87 (33.3)</td>
<td>250</td>
</tr>
<tr>
<td>Improve relationship of the students with the teachers</td>
<td>11 (4.6)</td>
<td>24 (10.4)</td>
<td>43 (17.1)</td>
<td>99 (40.8)</td>
<td>73 (30.3)</td>
<td>250</td>
</tr>
</tbody>
</table>

Table 4 shows that 34% intern doctors agreed and 35% strongly agreed "to increase number of teachers", but 19% disagreed and 7% undecided. 68% intern doctors strongly agreed, 23% agreed "To provide training of teachers", 33% intern doctors agreed, 20% strongly agreed and 34% disagreed but 12% undecided about "To decrease number of assessment". Most (34%) of the intern doctors agreed, 22% strongly agreed and 17% undecided "To reduce content of course". 39% strongly agreed, 20% agreed but 21% intern doctors disagreed "Increased percentage of score of formative assessment should be added in professional examination."

Table 4: Distribution of Intern doctors based on their opinion regarding the suggestions of improved methods of feedback (n=150)
Intern doctors opinion regarding the suggestions of improved methods of feedback

<table>
<thead>
<tr>
<th>Suggestion</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>To provide training of teachers</td>
<td>7 (4.9)</td>
<td>29 (19.8)</td>
<td>10 (6.9)</td>
<td>52 (34.7)</td>
<td>52 (34.7)</td>
<td>150</td>
</tr>
<tr>
<td>To decrease number of assessment</td>
<td>3 (2.1)</td>
<td>8 (4.9)</td>
<td>3 (2.1)</td>
<td>37 (22.9)</td>
<td>99 (68.1)</td>
<td>150</td>
</tr>
<tr>
<td>To decrease number of assessment</td>
<td>2 (1.4)</td>
<td>31 (21.7)</td>
<td>19 (12.6)</td>
<td>55 (36.4)</td>
<td>42 (28)</td>
<td>150</td>
</tr>
<tr>
<td>To reduce contents of course</td>
<td>3 (2.1)</td>
<td>48 (33.6)</td>
<td>19 (11.9)</td>
<td>47 (32.9)</td>
<td>33 (22.9)</td>
<td>150</td>
</tr>
<tr>
<td>Provide proper guideline to the students by the teacher</td>
<td>6 (4.2)</td>
<td>40 (28.2)</td>
<td>24 (16.9)</td>
<td>49 (34.2)</td>
<td>31 (21.8)</td>
<td>150</td>
</tr>
<tr>
<td>Increased percentage of score of formative assessment should be added in professional examination</td>
<td>14 (9.8)</td>
<td>30 (21)</td>
<td>16 (10.5)</td>
<td>31 (19.6)</td>
<td>59 (39.2)</td>
<td>150</td>
</tr>
</tbody>
</table>

**Discussion**

This study was designed to explore the current status of feedback following formative assessment of undergraduate medical students in Bangladesh. Most of the opinion were rated using 5 point Likert scale. Information were collected from 50 teachers, 150 intern doctors, and 250 students following convenient sampling.

The majority of the intern doctors, 30% disagreed and 29% strongly disagreed that the feedback received after formative assessment was effective. But in case of students 32% agreed that the feedback they received was effective. A certain percentage (intern doctors 10% and students 11%) remained undecided about the statement.

From the teacher's opinion it was found that returning the written scripts to the students after their examinations is not a usual practice in different medical institution. Most of the teachers (58%) disagreed about return of written scripts. Many of intern doctors (46%) and 47% students strongly disagreed and 43% intern doctors and 40% students disagreed about returning written scripts to the students. This finding almost similar to Alam, (2008) study, it was found that 61% teachers did not return the written scripts to the students after formative assessment. This findings also match with Assaduzzaman (2008) study, where 81% of respondents (teachers, intern doctors, students) mentioned that written script was not given back. Alam, Begum, 2009, got in their study that, 73% students never received feedback after written. But these findings are controversial to JN Medical, Maharashtra, India, where, they found 81% students got written scripts back with comments and it was encouraging (Srivastava, 2014)

Only 12% teachers agreed that they used to return the written answers script after formative assessment. This study explored that among these 12% teachers, all of them used to return back of written answers scripts in hoping that students would find out their knowledge gap, 67% pointed towards improved teacher-students relationship. Only 33% percent teachers revealed that it was teachers own interest that had driven them in doing this. Alam,(2008) found in his study that 89% teachers agreed that if written answers are given back to the students after the examination the students will find out their weakness.JN Medical, India study explored that, return of written script help the learner to align with the learning goal.

Majority of the research reports on formative assessments have mentioned that feedback is most important issues in formative assessment, in other word without feedback formative assessments are useless (Black, 2004; Chappuis & Chappuis, 2008).

In this study, 80% teachers, 60% intern doctors and 50% students mentioned that individual feedback was not practiced on SOE/ Oral examinations after formative feedback. A number (22.6% agreed, 3.4% strongly agreed) of Intern doctors, (29% agreed, 9.8% strongly agreed) of students received feedback after SOE but it was very negligible and inappropriate and was also not under proper guideline.

During feedback after SOE, most of the teachers opined that they, rarely (53%) gave guideline regarding "Appropriate answers of the question to the student" and "Delivering the way of appropriate answers". Most (43%) of the Intern doctors received feedback regarding "appropriate way of delivering the answers" at sometimes basis. Majority (45.8%) of teachers often took measures for avoidance of nervousness from examination Regarding avoidance of nervousness Intern doctors were divided in their opinion,(41.3% Sometimes, 25.3% often,24.7% rarely) and students opinion matched with intern doctors (25.5% sometimes, 25.1% rarely, 22.3% often). Majority of (48%) teachers rarely gave relevant extra information about the topics. Intern doctors (36.7% rarely and 32.7% sometimes) and students (31.8% sometimes and 21.6% rarely) gave opinion regarding feedback about relevant extra information about the topics.

In the present study, received status of feedback after practical/clinical examination (OSCE/long case, Short case/Bed side examinations) was very poor. Most of the
teachers disagreed (50% strongly disagreed and 35.5% disagreed) about providing individual feedback following OSPE. In long case, most of the teachers (51.4% strongly disagreed and 31.4% disagreed) disagreed regarding individual feedback.

Intern doctors and students were disagreed with receiving individual feedback in OSPE (75% intern doctors and 66% students), long case (76% intern doctors and 63% students), and bed side examination (70% intern doctors and students 59.6%). No teacher was found to be agreed strongly with providing feedback individually following clinical examinations. Kianmehr et al, 2010, Salam et al, 2011, observed in their study that, constructive feedback on bed side teaching is more effective in developing clinical skill, communication skill and professional bed side manner, (Srivastava)

Most of the intern doctors disagreed (44% strongly disagreed and 18% disagreed) and students disagreed (37% disagreed and 25% strongly disagreed) that all departments provided feedback regularly. 54% of the students agreed, 25% strongly agreed and 49% intern doctors agreed 39% strongly agreed that they received feedback by some teachers' personal effort. Sadler, 1998, told that dialogic feedback brings higher quality learning outcome, feedback reduces the student's uncertainty about his or her performance and progress and it gives better outcome when properly delivered (Ashford, 1986; Ashford, Blatt, & Vandewalle, 2003).

In this study, it was found that process of feedback was not standard. Some of the (42%) Intern doctors agreed and 35% strongly agreed that feedback was provided only to those students who performed badly. Some of the students (32% strongly agreed and 21% agreed) also agreed with that. Most (50%) of the intern doctors agreed and 29% strongly agreed that they received feedback only after personal communication with the teachers. Providing feedback generally to all students was commonly practiced in studied medical colleges (90% intern doctors agreed and 74% students agreed). This study finding is almost same in Pakistan, by, Hamid & Mahmud, 2010. They explored deficient concept of feedback process and its significance.

There is no instruction regarding timing of feedback during formative assessment either in curriculum or from institution in Bangladesh for undergraduate medical education. In this study 56% teachers opined that the timing of provided feedback was uncertain. Only 38% teachers told that they gave immediately after formative assessment. There are a lot of study regarding timing of feedback. Supporters of immediate feedback theorize that the earlier corrective information is provided, the more likely it is that efficient retention will result. (Phye & Andre, 1989). The superiority of immediate over delayed feedback has been demonstrated for the acquisition of verbal materials, procedural skill, as well as some motor skills (Anderson, Magill & Sekiya; Brosvic & Cohen; Corbett & Anderson; Dihoff, Brosvic, Epstein & Cook; cited in Shute 2007).

In our country providing feedback after formative assessment is rarely practiced. Whatever the minimum rate of practiced feedback is in the medical colleges, the intern doctors and students mentioned how they got feedback and teachers told how they delivered. In this study, quite large number of the teachers (48%) gave feedback by regular in groups, 24% by only grade/marks, while only 6% gave individual feedback regularly. But we know feedback should be specific to the learner need targeting to close his/her learning gaps, R huston (2005). Alam, K.K (2008) study found that 11% teachers had given feedback in common classes like in lecture or in tutorial classes. Respondent by their opinion regarding students' fear for summative assessments reduced markedly by formative assessment" most of the teachers (86%), intern doctors 74%, students 60% were in agreement with the issue. This study is consistent with the finding, of Alam KK (2008) in which the students agreed that formative assessment enhance their learning and ensure better performance and their fear of examinations also reduces. It is similar to study of Shakhawat (2009), where 85% teachers and 53% intern doctors strongly agreed in favor of this opinion. Another study was conducted upon 28 medical students by Townsend (2001) in faculty of medicine and health science of United Arab Emirat and was found that there was significant improvement in the performance of all OSCE station when appropriate feedback provided after formative exam. 37% students and 40% intern doctors told that proper feedback can improve relationship between teachers and students. 40% students agreed that appropriate feedback can provide proper guideline by the teachers to the students.

In this study, respondent (teachers, intern doctors, students) by their opinion regarding, importance of feedback after formative assessment, most of the (55% students strongly agreed and 37% agreed; 64% intern doctors strongly agreed and 31.3% agreed; 76% teachers strongly agreed and 24% agreed) that proper feedback after formative assessments can help to find out the learning gaps and weakness. In other study by Alam, K.K, 2008 showed that students agreed that formative assessment enhance their learning and ensures better performance in professional examination. Sakhawat (2009) studied that most of the teachers and intern doctors agreed that the result of formative assessments greatly influence the professional results. Majority of teachers (86%), intern doctors (75%) and students (60%) strongly agreed that proper feedback after formative assessment eliminates fear in professional examinations. Most of the teachers (78%), intern doctors (62%) and students (50%) strongly agreed that further improvement is possible in subsequent assessment.

Among the teachers 58% agreed that compact class schedule was responsible for inadequate feedback, but 48% strongly agreed to frequent assessment, 44% to inadequate number of teaching stuff and 44% agreed to students negative attitude as cause of providing inadequate
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