



## Fostering Professional Development During Preclinical Years of MBBS curriculum

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### ABSTRACT

Feedback is the most powerful tool available to shape the professional behavior expected in a medical graduate which needs to be nurtured from the initial preclinical years. Effective feedback is FAST-frequent, accurate, specific and timely. This model of immediate group formative feedback following self and peer assessment, and subsequent revision of the learning goals and outcomes had been adopted and practiced, with the aim of instilling reflective practice. With newer and generative learning, learning of competencies of 'hidden curriculum', and professionalism was documented in addition to academic improvement. The programme remains to be evaluated after three years for presentation at national forum of higher professional educators.

### KEYWORDS

formative feedback, assessment, professionalism, professional development

### Introduction:

Professionalism in medical education is an issue not included in the instructional design of the undergraduate medical curriculum. The skills of professionalism were expected to 'rub on', through the years of medical training as 'unconscious learning'. There has been a distinct lack of explicit commitment to values that a physician must possess as a custodian of the health of the society viz. empathy, compassion, altruism, ethical behavior and an objective perspective in the curriculum.

Medical professionalism is declared a competence to be achieved by "The Accreditation Council of Graduate Medical Education (ACGME)" which is imperative to be taught and assessed as a form of medical morality and constitutes of a different set of skills than the domain based skills (1).

As defined by the Royal College of Physicians of London's Working Party. Medical Professionalism is 'a set of values, behaviors and relationships that underpin the trust the public has in doctors, with doctors being committed to integrity, compassion, altruism, continuous improvement at the profession, excellence and teamwork(2).

Professional development is a continuous process throughout the curriculum. Personal and Professional development go hand in hand and for which existence of a supportive, conducive and non threatening environment is needed (3). Since professional skills are included in 'hidden curriculum', it is important to include professionalism within the instructional design itself, aiming at experiential and transformative learning (4).

Feedback is the process of helping the student achieve that standard of success within the specific time frame by way of providing repeated formative assessment opportunities.

Colin had reported gradual decline in the attributes of professionalism as a result of stressful training period. Personal and environmental factors are also responsible in development of a professional (5).

The felt need was that, since habits sow the seed of the personality, modification and innovation in the curriculum from the very initial years of medical education, would lay foundation of professional development.

A narrowing of professional identity is often the result of non reflecting attitude. With the exceptional few (those with inherent aptitude for the profession) end up treating the patients as mere objects in need of medical career (6). This study was conceived in order to design a feasible structured framework of curriculum which could contribute to development of the competencies and attitude of professionalism since the initial preclinical years.

**Aims and Objectives:** to provide scope for

- Assessment driven learning and readiness to learn
- Establish and nurture feedback seeking behavior, self-directed and lifelong learning
- Learning of professional attributes

**Methodology:** The study was conducted in Northeastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong in the department of Physiology. The annual intake of students being fifty in number, all the students were uniformly exposed to the teaching, learning/instructional methods adopted.

The students were divided into small batches of ten. The groups were formed in a random manner. All academic activities were carried out in the groups viz. weekly assignments, projects, forming questions etc. Logbook of all activities and a portfolio was maintained by each group which was to be presented at the end of the semester for evaluation and assessment. A Class test was conducted every third week as a part of formative assessment on cognitive skills as well as practical demonstration skills. The test questions were objective, problem based, ranging from recall, enumerate, matching, true/false, fill in the blanks, compare and contrast, justify to problem solving and application of concepts in real life situations. The answers were displayed at the end of the test for self correction followed by peer correction. The answers were discussed in great detail. Debates and peer teaching were encouraged in presence of teacher in the classroom. In the same sitting, academic performance, all group activities, assessment process were also discussed and a three way feedback generated mainly concerning academics, learning skills, study habits, personal development and emotional intelligence and professional attributes. All conflicts, doubts and apprehensions were discussed in an open environment. This was followed by future goal setting

and formulation of action plan by the groups. At the end of the year, student's opinions and perceptions were gathered through a researcher constructed validated questionnaire. Facilitator's observations were also noted at the end of the programme. The responses were analyzed and a Focus Group Discussion was conducted concerning what went well and what did not and how the deficiencies could be bridged.

**Results and Observation:**

Initial resistance to the programme was observed in the form of noncompliance, absenteeism, denial and excuses, and irregular maintenance of logbook. By the third month, the average attendance of students was over 75 - 80% on the test days. The logbooks demonstrated regular group interaction, twice a week on the average at the end of the third month. The performance of the individual group members with below 50% marks in the initial three months, demonstrated gradual gradual improvement.

**Total number of tests conducted was 09; each of 30 marks with pass marks of 15**

Table 1: Attendance and scores in the tests

Test no.	No. of Students attended	No. of Students failed	Mean Score	Maximum Score	Minimum Score	Pass Percentage
1	20	8	16	27	5	60
2	24	13	15	26	6	45.8
3	36	8	19	28	10	77.7
4	48	4	20	28	11	91.6
5	49	3	20	29	11	93.8
6	46	3	20	29	11	93.4
7	46	5	22	30	12	89.1
8	50	5	22	29	13	90
9	50	2	23	30	14	96

Fig1: score distribution

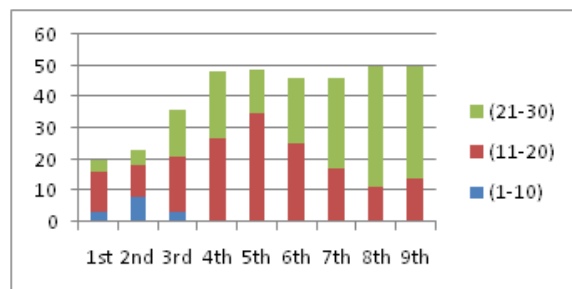


Fig2: Motivating factors

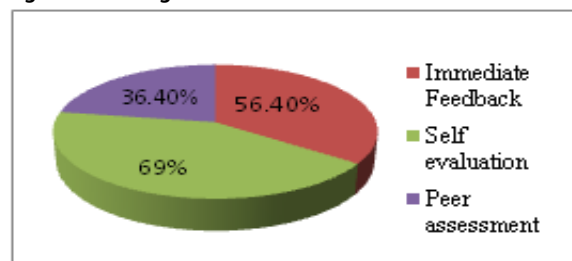


Fig 3: attendance and academics

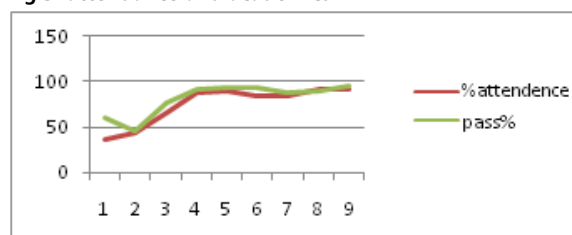


Table2: Students opinion on soft skill developed

- Concentration
- Ability to perform in a team
- Self expression
- Effective time management
- Conflict management
- Internal motivation and desire to excel
- Respect to other's opinion
- Cooperation and handholding
- Use of precise language and vocabulary
- Ethical behavior
- Patience
- Empathy
- Compassion

**Focus Group Discussion:** The issue of acceptability was discussed and response from the participants was noted.78% of the students actively participated in the FGD. Programme acceptability rate was 84%.

Table3: Acceptability Criteria

- Immediate feedback aimed at correction and reinforcement
- Self assessment an opportunity to rectify
- Peer assessment, healthy competition
- Tutorial and post test discussions
- Non Intimidating approach
- Least stressful environment for tests
- Presence of teacher lends authenticity
- Healthy competition
- Accountability and ownership of their own performance
- Decreased sense of guilt than on being notified of only the marks

Table4: Major motivating factors

- Immediate feedback
- Self evaluation(reflection)
- Peers assessment

Table5:Facilitator Observation

- More disciplined
- Increased interactions
- Less procrastination habits
- More organized, timely
- Reflective attitude
- Feedback seeking

**Discussion:**

In this study, assessment was used as instructional design to stimulate learning (7).The results of the study were indicative of increased group activity, peer mentoring and handholding. The test and the feedback sessions were found to be increasingly livelier with increased participation and interactive discussions, often beyond academics and professional issues. Towards the end of the year, the students were even prepared to sit for extempore tests. This was reflective of a feedback seeking behavior. Since professionalism could not be imparted through didactic lectures, we aimed to incorporate as many attributes of professionalism through first hand learning experiences. The framework was designed keeping adult learning principles in mind. For maximal effectiveness, group feedback practice was taken recourse to, keeping the fact in mind that without feedback, a group cannot learn.

Feedback was generated from all group members in reviewing their goals and future goal setting , evident in gradual improvement in academic performance especially of the slow learners. Small group interaction promoted the spirit of teamwork, encouraged cooperation and collaboration in the learners. This also served as introduction to leadership roles .The group members got an opportunity to share their apprehensions, and difficulties as they worked towards a feasible solution, as well as an exercise at group dynamics. The academic improvement of the slow learners demonstrated activity of handholding, peer mentorship and empathy for fellow group members. Behavioral group learning in the form of improved time management, organizing ability, discipline, teamwork, leadership, respect and compassion was noteworthy (8).Group learning was found to be beneficial in inculcating a sense of responsibility towards the group's performance and the wellbeing of the group members. Each group member was accountable to contribute towards the

integrity of the group as a whole. Feedback on performance enables good practices to be reinforced while rectifying and correcting the faulty ones, aligning the learner's performance in reaching his goal in the most perfect manner within the stipulated time frame, to bring about professional development (9). Multi level learning of all the three types viz. adaptive, generative and transformative occurred during the exercise. The processes involved were group learning with group feedback, self directed learning and assessment driven learning. All the three attributes of assessment i.e. assessment for learning, assessment as learning and assessment of learning were utilized as assessment plays a major role in the learning process and motivation to learn. Self assessment and self regulation resulted in a feedback seeking behavior which was instrumental for development of a reflective attitude in a self directed learner. Socialization and active interactions allow the student to reflect on their individual achievement and behavior. reflection, being an integral factor in development of professionalism, relevant clinical exposures/patient contact was also advocated (10). The role of the teacher cannot be denied as a role model and mentor, as a strong motivating factor for an improved performance. Integration, application and synthesis of knowledge is tested with repeated formative assessment (11). Formative assessment also useful for providing awareness of the weakness in learning and teaching and as an instructional method (12). Feedback on performance enables good practices to be reinforced while rectifying and correcting the faulty ones, aligning the learner's performance in reaching his goal in the most perfect manner within the stipulated time frame to bring about professional development. Students become aware and conscious of their behavior, academic or otherwise through formative assessment and feedback as well as self and peer assessment. (13). Self-assessment exercises, personal goal setting and meta-cognitive attitude make learning more effective. Assessment could be included in the instructional design of the curriculum in order to stimulate learning of the finer, hidden competencies. Feedback is beneficial when details regarding of how to improve the answer are provided, rather than whether the student's work is correct or not. Elaborated, response-specific feedback is found to enhance student achievement and learning efficiency (14). Critical reflections were most effective in increasing the level of professionalism in a small-group. Importance of teamwork is a byproduct of peer evaluation and providing insight to their professional behavior as well as interpersonal skills (15). Six domains in which evidence of professionalism can be expected are : ethical practice; reflection/self-awareness; responsibility for actions; respect for patients; teamwork, and social responsibility. Reflection on experience was considered for development of practical wisdom as a marker of professionalism along with professional's evolving knowledge and skills base. omit Curricula aimed at development of meta-skills foster the acquisition and maintenance of professionalism (16).

### Conclusion:

Frequent formative assessment with immediate group feedback, is a highly effective in enhancing academic performance. Immediate corrective measures can be planned to check future mistakes. Group feedback, in the presence of a teacher serving as role model, serve as an internal motivating factor for further assessment driven learning. Self assessment and evaluation leads to formation of a reflective attitude and personality which is necessary in a self directed learner. It also develops feedback seeking behavior. Group learning is most effective in learning skills of professionalism (hidden curriculum). Presence of a conducive, supportive and nonthreatening environment is necessary to nurture the attitudes and skills of professionalism.

### Limitations of the Study:

Shortage of staff was the principal obstacle we had to overcome.

### Recommendation:

Keeping in mind the effectiveness of group learning and feedback, the need for improved role modeling and better assessment of student behavior was stressed upon by educators

(17). The academic environment, for shaping professional development should be relaxed, with plenty of freedom of expression.

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