

## Educational Innovations/Programmes For 1 Mbbs Batch- 2012-13 Under Regional Training Centre, Smt.Nhl Municipal Medical College, Ahmedabad

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**Abstract :** Context or Setting: The undergraduate MBBS curriculum needs revisions like active learning, exposure to newer teaching techniques, adding some new elements as suggested by MCI in its document Vision 2015. Need for innovation: Traditional teaching-learning process is perceived by students as boring and less relevant to their future goal. So we need to think of methods like integrated teaching and objective assessment methods like structured viva. Learners also need to have some hands on training for skills and active participation in important issues related to their careers. We tried to introduce some of these to First MBBS students. Description of innovation: Vertical And Horizontal Integration (Coordinated Program), Session On “Cardiopulmonary Resuscitation”, Structured Viva, Session On “Time And Stress Management”, Programme Evaluation, Written Feedback Was Obtained From Students After Each Session. Lessons learnt : First MBBS students perceive innovative methods interesting and effective. They improve teaching-learning experience and hence should be encouraged. [Mahjan R et al NJIRM 2013; 4(5) : 159-163]

**Key Words:** Innovation, Structured, Viva Integration, Stress Management, First MBBS

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**Introduction: Context or setting:** In India, 5 and half years of MBBS course is divided into following parts:

First MBBS which is of one year duration includes subjects like Anatomy, Physiology, Biochemistry and part of Community Medicine;

Second MBBS which is of one and half years duration includes subjects like Pharmacology, Pathology, Microbiology, Forensic Medicine and part of Community Medicine;

Third MBBS- part 1 which is of one year duration includes subjects like Community Medicine, Ophthalmology and Otorhinolaryngology;

Third MBBS- part 2 which is of one year duration includes subjects like Medicine, Surgery, Gynaecology and paediatric;

Internship (rotating housemanship) of one year duration.

This is as per Medical Council of India Regulation on Graduate Medical Education, 1997. <sup>(6)</sup> Amendment of the regulations on graduate medical education notified by Government of India from time to time:

- a. Gazette Notification dated 29.05.1999.
- b. Notification no. MCI-37 (2)/2001/Med-922, dated 12.04.2001.

c. Notification no. MCI-26 (3)/2003/Med-18503, dated 26.09.2003.

d. Notification no. MCI-26 (3)/2003/Med-20958, dated 15.10.2003.

Thus, for the sake of simplicity, this course is divided into pre-clinical (1<sup>st</sup> MBBS), para-clinical (2<sup>nd</sup> MBBS) and clinical (3<sup>rd</sup> MBBS parts- 1 and 2) subjects. Students’ evaluation in form of external exam conducted by university is done at the end of one year (end of 1<sup>st</sup> MBBS), two and half years (end of 2<sup>nd</sup> MBBS), three and half years (end of 3<sup>rd</sup> MBBS-part 1) and four and half years (end of 3<sup>rd</sup> MBBS-part 2).

Like many other institutions across Asia, most of the curriculum time is spent on traditional lectures.<sup>(1)</sup> Hardly ever, if at all any, there is inter disciplinary integration or integration between different subjects. Teachers deliver lectures and concentrate only on their subject. The students study before examination with an aim to pass and qualify.

**Need for innovation:** The pyramid of average learning retention rates are lectures 5%, reading 10%, audio-visual 20%, demonstration 30%, group discussion 50%, practice by doing 75%, and teaching others 90%.<sup>(2)</sup> Lectures are criticized as

'spoon feeding' and being overloaded with information that may not be relevant. Tutorials, expected to supplement learning in small groups help only if the students come prepared with prior study.

First MBBS students often face difficulties also because of time constrain, stress because of different reasons, lack of integration and co-ordination among different subjects for related topics, lack of hands-on experience in clinical settings etc.

These issues should be addressed in proper methodical ways for better teaching-learning experience in first MBBS. Traditional way of teaching is found to be ineffective in solving the problems mentioned above.

In the West, attempts to stimulate student interest in medical subjects, particularly basic sciences have resulted into two suggestions, (a) early exposure to patients to create an awareness of the final objective of their study and (b) the use of integrated teaching.<sup>(2)(3)</sup> So we also need to think of innovative ideas like integrated or co-ordinated teaching programmes that save time, give broader knowledge and make topics interesting.

Occasional reports have been published on successful trial of integrated teaching in India based upon the feedback received from the students.<sup>(4),(5)</sup> Aim of this paper is to share innovative methods used and student feedback on innovation.

#### Description of innovation

**1. INTEGRATED & CO-ORDINATED TEACHING PROGRAMME on Autonomic nervous system (A.N.S.)** by departments of Anatomy, Physiology and Pharmacology. Lectures were organized by three departments on the same topic i.e. ANS and teaching was done by experienced faculty from the point of view of the particular subject. (Table 1) Feedback of the students was obtained regarding their experience about integrated teaching. (Table 4)

**Table 1: Integrated & Co-Ordinated Teaching Programme On ANS**

S. NO.	Topic	Anatomy	Physiology and Pharmacology
1	Autonomic nervous system (A.N.S.)	Anatomy of ANS	Physiology of ANS followed by Pharmacology of ANS

**2. INTEGRATED TEACHING PROGRAMME on Physiology & Biochemistry of Skeletal Muscle** by departments of Physiology and Biochemistry (Table 2)

**Table 2: Integrated Teaching Programme On Skeletal Muscle**

S. No.	Topic	Physiology	Biochemistry
1	Physiology & Biochemistry of Skeletal Muscle	Muscle Contraction and Energy expenditure	Myoglobin, T.C.A. cycle

**3. CO-ORDINATED TEACHING PROGRAMME on Cerebral cortex, Thalamus and Basal ganglia** by department of Anatomy and Physiology (Table 3)

**Table 3: Co-Ordinated Teaching Programme On Cerebral Cortex, Thalamus And Basal Ganglia**

S.NO.	TOPIC	ANATOMY	PHYSIOLOGY
1	Cerebral cortex	Anatomy of Frontal lobe and Parietal lobe	Physiology of Frontal lobe and Parietal lobe
2	Cerebral cortex	Anatomy of Temporal lobe and Occipital lobe	Physiology of Temporal lobe and Occipital lobe
3	Thalamus	Anatomy of Thalamus	Physiology of Thalamus
4	Basal ganglia	Anatomy of Basal ganglia	Physiology of Basal ganglia

**Table 4: Feedback Of Integrated And Coordinated Teaching Programme**

Question	Average score	Interpretation
How did you like this session? (1-5)	3.76	Liked
Rate the session for the following (1-5) (1=minimum, 5= Maximum)	Content	3.77
	Presentation	4.03
	Usefulness	4.02
How frequently would you like to learn by integrated teaching? (1-6)	5.02	Once in a month

**4. Session on “CARDIOPULMONARY RESUSCITATION”** Hands on Workshop was organised with the help of Department of Anaesthesia Shardaben Hospital from 3<sup>rd</sup> Dec to 7<sup>th</sup> Dec between 2-5 pm at physiology lecture hall. Lectures were given on basics of cardio-pulmonary

resuscitation and students had hands on experience of CPR on mannequins under guidance of experienced faculty. Pre-test & post test were conducted and feedback was taken. (Table 5, Figure 1)

**Table 5: Feedback Of CPR Programme**

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Q1- Was the presentation informative and easy to understand?	143	1	5	4.23	.719
Q2- Was the demonstration visible and clear?	143	1	5	4.31	.824
Q3A- After the hand on training can you carry out CPR without any mistake?	143	1	5	3.71	.918
Q3B- Were the instructions learned in hand on training, you find helpful	143	1	5	4.30	.823
Q3C- After the hand on training, are you rate yourself confident to carry out CPR in future?	143	1	5	4.15	.799
Q4- Should the training be included in 1 st MBBS curriculum?	143	1	5	4.53	.853
Valid N (list-wise)	143				

**Figure-1- Student Performing CPR On Mannequin**

**5. STRUCTURED VIVA- Organized By Department Of Physiology Under RTC :** Structured viva included predetermined different sets of questions. For that, question pool was made of questions of different difficulty levels determined by experienced faculty members of the department. After that, different sets of question papers were made with same number of questions and similar difficulty level. Intended answers/ answer key was prepared with the guidance of the faculty members.

A student selected a set and answered questions of that particular set only. Each question carried specific marks and thus evaluation of viva voce test

was made more objective rather than subjective. Anonymous feedback was obtained from the students. (Table 6)

**Table 6: Feedback Of Structured Viva Programme**

Sr No.	Questions	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Do you think that given time duration (15 min) for structured viva is sufficient	75 (51.02%)	60 (40.82%)	10 (6.80%)	2 (1.36%)	0 (0%)
2	Do you think that given questions are adequate in number and adequate in content of the course	59 (40.14%)	57 (38.78%)	26 (17.69%)	5 (3.40%)	0 (0%)
3	Do you think that Any subjective or objective bias is minimum in structured viva	40 (27.21%)	51 (34.69%)	36 (24.49%)	19 (12.93%)	1 (0.68%)
4	Do you think that structured viva is more effective than traditional viva	56 (38.10%)	55 (37.41%)	26 (17.69%)	8 (5.44%)	2 (1.36%)
5	Are you Satisfied with the pattern of this viva	67 (45.58%)	55 (37.41%)	18 (12.24%)	7 (4.76%)	0 (0%)

**6. Session On “TIME AND STRESS MANAGEMENT” Organized By Regional Training Centre:** It provided better insight to managing time and stress through different examples followed by group activities.

(Table 8) Anonymous feedback from the participating students was obtained after the session.

**Table 8: Time And Stress Management Programme**

Question		Session- A (Time)	Session- B (Stress)
1. How did you like this session? (1-5)		4.31	4.09
2. Rate the session for the following (1-5) (1=minimum, 5= Maximum)	2.1.-Content	4.08	3.84
	2.2.- Presentation	4.23	4.14
	2.3.- Usefulness	4.37	4.18
3. Do you think this workshop should be done for 1 MBBS students every year (Yes/No)		All Yes	All Yes
4. Any other suggestion or remark-			

**Lessons Learnt:** Innovative ideas are generally well received and accepted among first MBBS students. Tests conducted before and after such sessions and feedback received from students prove that such sessions are interesting and more effective as compared to traditional teaching, saves time and provides holistic idea of the topic. So such innovative ways of teaching should be encouraged.

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