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# N.T.T.C.

## BULLETIN

Theme of this Issue Early Clinical / Community Experience			
Sl. No.	Contents	Page No.	
<p><b>Patrons:</b> T.S. Ravikumar, Director, JIPMER and Project Director, NTTC, JIPMER</p> <p>K.S. Reddy, Director, Regional Cancer Centre and Dean, JIPMER</p> <p><b>Editor:</b> Santosh Kumar, Project Officer, NTTC &amp; Head, Dept. of Medical Education, JIPMER</p> <p><b>Editorial Board</b> P.H. Ananthanarayanan B. Vishnu Bhat Latha Chaturvedula D. Kadambari B. Gitanjali Debdutta Basu R.P. Swaminathan Z. Zayapragassarazan Sitanshu Sekhar Kar</p> <p><b>Correspondence and Contributions to:</b> The Editor, Bulletin of NTTC, Department of Medical Education, JIPMER, Puducherry-605 006</p> <p><b>Email:</b> nttc.jipmer@gmail.com</p>	1.	<p><b>LEAD ARTICLE</b></p> <p><b>Early Clinical / Community Experience</b></p> <p><i>Dr. Santosh Kumar and Mr. Z. Zayapragassarazan</i></p>	2
	2.	<p><b>Active Learning Methods</b></p> <p><i>Mr. Z. Zayapragassarazan and Dr. Santosh Kumar</i></p>	3
	3.	<p><b>Educational Projects Initiated During 64<sup>th</sup> National Course</b></p>	5
	4.	<p><b>Announcements</b></p>	7

## Early Clinical / Community Experience

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### What is Early Experience?

Experience has been defined as “authentic human contact in a social or clinical context that enhances learning of health, illness and/or disease and the role of the health professional.”<sup>1</sup> Authentic means real and not simulated.

The word “early” denotes the preclinical phase.<sup>1</sup> In Indian context it can include preclinical and clinical phases. Traditional MBBS curriculum has included preclinical, paraclinical and clinical phases in a sequential order (Figure 1). In the MBBS curriculum as per the Regulations on Graduate Medical Education, 1997, of Medical Council of India, clinical postings are made from 9 AM to 12 Noon alongwith teaching-learning of paraclinical subjects in the Phase II (Figure 2). Thus these clinical postings can be termed as early clinical experience in Phase II. Clinical experience can also be provided in Phase I (Figure 3) to enhance the effect of early clinical experience.

In a Best Evidence Medical Education (BEME) systematic review, it was found that the experience was provided in year 1 in 48% curricula, in year 2 in 18% curricula, in both years in 29% curricula and as a continuous strand over several years in 2% curricula and the remaining 3% were nonmedical curricula and were not comparable.<sup>1</sup>

In the same review, it was also found that 71% experiences took place in community and 28% experiences took place in hospital.<sup>1</sup>

### What are the Objectives of Early Experience?

Various objectives of early experience have been described.<sup>2</sup> Some of the important objectives are listed below.

1. To understand the needs of the society in various urban and rural settings
2. To understand the roles of a doctor in various urban and rural settings.
3. To understand the socioeconomic factors in health and disease.
4. To develop communication and clinical skills.

### What is Early Clinical Experience?

In early clinical experience students can play four types of roles.<sup>3</sup>

#### 1. Passive Observer

As passive observers the students only observe a complicated situation such as performance of a trocar suprapubic cystostomy for urinary retention.

#### 2. Active Observer

As active observers the students observe a simple situation such as performance of indwelling urethral catheterization in a female patient with urinary retention and also record their findings using a checklist.

#### 3. Actor in Rehearsal

As actors in rehearsal the students perform a task for learning such as performance of indwelling urethral catheterization in a female pelvic simulator.

#### 4. Actor in Performance

As actors in performance the students can assist a resident in performing an indwelling urethral catheterization in a female patient.

Early clinical experience can be provided in various tertiary care and secondary care settings. Students can also be attached to a single patient for gaining a long term view of chronic diseases.

### What is Early Community Experience?

Early community experience takes place outside the tertiary care and secondary care settings. The main objective of early community experience is to understand first contact care, socioeconomic factors in health and disease and methods of health promotion and disease prevention. Early community experience can take place in primary health centres, community health centres, in various social organizations such as factories and villages. Students can also be attached to a single family for gaining a long term view of health care problems in families. As urban/rural divide in health care is a widespread problem, curriculum has been developed for rural health care.<sup>4</sup>

### What are the Outcomes of Early Experience?

A consensus survey of staff, students and curriculum leaders has shown that early experience is a process of professional socialization.<sup>5</sup> It helps to cognitively deepen, affectively broaden, contextualise and integrate medical education.<sup>5</sup> Early experience in primary care may motivate students to later take up primary care specialities.<sup>1</sup>

### How to Organize an Early Experience?

Each experience should be preceded by a preparation phase in which the students are informed about the objectives and type of experience.<sup>6</sup> Each experience should be followed by a debriefing phase in which the students are encouraged to share their experiences, learning and other concerns about the experience.<sup>6</sup>

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Phase III	Clinical
Phase II	Paraclinical
Phase I	Preclinical

Figure 1. Traditional MBBS curriculum

Phase III	Clinical
Phase II	Paraclinical
Phase I	Preclinical

Figure 2. MBBS curriculum with clinical experience in Phase II (Regulations on Graduate Medical Education, 1997, of Medical Council of India)

Phase III	Clinical
Phase II	Paraclinical
Phase I	Preclinical

Figure 3. MBBS curriculum with clinical experience in Phase I and Phase II

## Active Learning Methods

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Effective learning involves providing students with a sense of progress and control over their own learning.

This requires creating a situation where learners have a chance to try out or test their ideas. This testing is ideally accomplished by connecting students' ideas to concrete experience and that's where the "active" part of the learning comes in.<sup>1</sup> Active learning involves providing opportunities for students to meaningfully talk and listen, write, read, and reflect on the content, ideas, issues, and concerns of an academic subject.<sup>1,2</sup> Students do not learn much just sitting in classes listening to teachers, memorizing prepackaged assignments, and giving out answers. They must talk about what they are learning, write reflectively about it, relate it to past experiences, engage themselves in learning by doing and apply it to their daily lives. The disadvantages of a traditional classroom are many. When it comes to learners and education, attempting to force all learners to learn in the same way is counter-productive to producing healthy, well-educated and all-rounded adults.<sup>3</sup> Modern classrooms and teachers are expected to take care of the individual differences of the learners and their learning styles so that no learner is left behind without learning at least all the "must know concepts and skills" and develop proper attitude towards their profession.

Present generation students are primarily active learners with varied learning experiences and lecture courses may not suit all their learning needs.<sup>3</sup> Chickering and Gamson,<sup>4</sup> early proponents of active learning, designated "encourage active learning" as one of important principles of good practice in higher education. Active learning a term popular in US education circles in the 1980s, encourages learners to take responsibility for their learning, requiring their experience in education to inform their process of learning.<sup>3</sup>

The basic activities or elements through which all students learn are talking and listening, writing, doing, reading and reflecting, and specific active learning strategies use one or more of these elements. There are four broad categories of learning strategies that one might use in an active learning classroom. They are individual activities, paired activities, informal small groups and cooperative student projects. The choice of these will depend on the size of the class, available physical space, objectives of the class, the amount of time the teacher can devote to the activity, and the comfort level of the teacher with the strategy. There are a wide range of learning strategies that promote and encourage active learning among adult learners.<sup>4,5</sup> This article briefly describes about some of the popular active learning strategies that have resulted in enhanced learning and are widely followed across the medical schools globally.

### Concept maps

Charts, diagrams, webs, maps, as well as pictures, can be used as visual examples of abstract concepts. Concept maps, in particular, are concerned with relationships among ideas. A concept map illustrates connections that exist between terms or concepts covered in course material. Students work in groups to construct concept maps by connecting individual terms by lines which indicate the relationship between each

set of connected terms. Most of the terms in a concept map have multiple connections. Developing a concept map requires the students to identify and organize information and to establish meaningful relationships between the pieces of information. They help students decide the important points and how they relate to each other. Students may be asked either individually or as groups, to develop one of these visual structures. Members of groups can be asked to come to a consensus and present one form to the class which can also be shared, discussed, and synthesized into new ones for better understanding.<sup>6</sup>

### **Collaborative writing**

A collaborative writing assignment can be organized in several ways especially by avoiding giving one person all the work. A group may be asked to break down a writing assignment into parts and each student will write his or her part and then brings it to the group for compilation and editing.<sup>7</sup>

### **Brainstorming**

The operant word in the definition of brainstorming is generating. In brainstorming, students are encouraged to generate as many ideas on the topic as possible without judgment or critique. Brainstorming is a process for developing creative solutions to problems. Brainstorming works by focusing on a problem, and then deliberately coming up with as many solutions as possible and by pushing the ideas as far as possible. One of the reasons it is so effective is that the brainstormers not only come up with new ideas in a session, but also initiate associations with other people's ideas by developing and refining them. Students can use this session as an opportunity to make connections, freely associate, and recognize that they have been engaging with the topic in ways they may not have been aware.<sup>7,8</sup>

### **Collaborative Learning**

Recent research suggests that individuals in small groups learn better than they do on their own or in isolation. In light of the research on active learning, this is not surprising, as a small group initiates collaborative learning and its resulting activities: students generate questions, discuss and arrive at conclusions, turn thought into written or oral language, etc. Any class size can benefit from collaborative learning. With some modifications, groups can be successful even in very large lecture classrooms.<sup>7</sup>

### **One Minute Paper/Free Write**

In this method participants are asked to write for 2-3 minutes on a topic or in response to a question developed by the faculty for the session. This is particularly useful in those moments where facilitators want the participants to move from one level of understanding to another, from presentation of new ideas to application of ideas, from considerations about self to situations involving others.<sup>9</sup>

### **Scenarios/Case Studies**

In this method participants discuss and analyze the scenario/case provided by facilitator, and deliver presentations on their findings to other small groups or

to the whole group or simply record ideas on an overhead/white board so that the facilitator can draw questions and synthesis from the material. Participants can also develop (individually, in pairs, groups) their own work-based case studies and exchange them with others for discussion and analysis.<sup>9</sup>

### **Problem-Based Learning**

Problem-based learning (PBL) begins with a problem prepared by the instructor that generally cannot be easily solved without data collection and mastery of subordinate skills. Students search for resources and faculty guide students to collect information and resources. Faculty help students learn to frame the right questions, formulate problems in clear and organized language, explore alternatives, and make effective decisions. The theory is that by solving problems students learn to generate procedures that they can use again when they encounter another, similar situation.<sup>9</sup>

### **Team-Based Learning**

Team based learning is a type of collaborative learning which is generally characterized by students working in groups in some sort of learning activity. The basic concept is that they will be able to help each other learn better than if they were to study alone. Team Based Learning is a method where the students study the material outside of class. When the students get to class, as individuals they take a readiness assessment test (RAT) over the material they were assigned to read. This is generally a multiple choice test over the reading content, which is collected when they finish. When everyone finishes, the pre-assigned group gets together, and they take the same test as a group, discussing the possible answers, and making a group decision on the best answer. Here they get immediate feedback whether their answer was correct or incorrect. Teams can also be given a critical thinking task to a problem that does not necessarily have a correct or incorrect answer. By applying the TBL technique a group decision on the best answer can be made by the teams. The teams can then present their answers and give a rationale for their solution.<sup>9,10,11</sup>

### **Case-based Instruction**

Case-based instruction (CBI) is different from PBL in which students are exposed to the content for the first time when they read the scenario. The scenario becomes part of the explanation of the lesson in PBL. CBI, by comparison, introduces cases after the students have completed lectures or lab units. They apply learned theories to real-life situations. The use of cases allows students to integrate and apply developing clinical and basic science knowledge and skills such as clinical reasoning, critical thinking, problem solving, and interpersonal ability to hypothetical or real case scenarios. Case studies provide a process of participatory learning that facilitates active and reflective learning.<sup>9</sup>

### **Panel Discussions**

In panel discussions students are asked to give presentations by working in groups and then receive questions from the rest of the class after the presentation. This could also be turned into a debate

where groups are given alternative positions to defend and the groups present their arguments, followed by whole class discussions on the topics.<sup>9</sup>

### Teaching to learn/Peer teaching

In this the students are helped to adjust to a new role by having them teach to a small group. Explain them of all the active teaching and learning techniques that they could use and give them enough preparation time. Students may be provided with clues on what facilitators are expecting from them. Topics that would supplement the class should be provided for teaching. Some of the more effective students to teach to the entire class should be selected for this method. Facilitators can also participate as students and ask helpful or follow-up questions that will help the student teacher to extend himself/herself.<sup>10</sup>

### Role Playing, Drama, and Simulations

Affective qualities such as empathy, as well as understanding of concepts can be stimulated through role plays. Putting all the theories into practice, simulation can be the students' first chance to face the realities of what they have learned and the attitudes they have connected to the learning. Simulation is a growing topic on the Internet and a search in the concerned discipline may show several simulations that one can use for his/her classes.<sup>11</sup>

### Conclusion

The benefits of active learning are widely acclaimed in higher education. There is some research evidence that this approach supports critical thinking and problem solving which are essential determinants of quality medical education.<sup>4</sup> Active learning promotes proper knowledge, attitude and skills among the students. The basic concept is that students will be able to learn better if they are subjected to active learning environments which also encourage learners to take responsibility for their learning.

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### Educational Projects Initiated during 64<sup>th</sup> National Course

The 64<sup>th</sup> National Course was held at JIPMER from 15<sup>th</sup> February to 25<sup>th</sup> February 2012. The following project proposals presented by the participants were approved. We wish them speedy execution of the project proposals and look forward to receiving the final reports.

Sl. No.	Submitted by	College	Title
1.	Dr. V.S. Dhanasree Naidu, Associate Professor of Physiology	Gandhi Medical College, Musheerabad, Secunderabad, Andhra Pradesh.	Implementation of OSPE for TL & assessment tool in physiology for 1 <sup>st</sup> year MBBS students
2.	Dr. W. Sandhya Manohar, Associate Professor of Forensic Medicine	Gandhi Medical College, Musheerabad, Secunderabad, Andhra Pradesh.	To evaluate small group discussion as a Teaching Learning method for problem learners in Forensic Medicine
3.	Dr. K. Sai Leela, Professor & HOD of Microbiology,	Kamineni Institute of Medical Sciences, Narketpally, Nalgonda, Andhra Pradesh.	Study of the influence of teaching learning method on motivation towards learning Microbiology
4.	Dr. M.D. Khaleel, Assistant Professor of Microbiology	Deccan College of Medical Sciences, Hyderabad, Andhra Pradesh.	Use of active learning in Microbiology through small group discussions amongst II yr MBBS students

5.	Dr. Manpreet Kaur J Tehalia, Professor of Obstetrics & Gynecology	B.L.D.E University's Shri B.M. Patil Medical College, Hospital & Research Centre, Bijapur, Karnataka.	To study the effect of addition of extension activities (ANC camps) to conventional, hospital based clinical teaching on the T-L outcomes in 8 <sup>th</sup> term MBBS students posted to OBG.
6.	Dr. Surekha Ulhas Arakeri, Professor of Pathology	B.L.D.E University's Shri B.M. Patil Medical College, Hospital & Research Centre, Bijapur, Karnataka.	Assessing learning outcomes in case based learning of cardiovascular & respiratory system by using problem based learning for second MBBS students
7.	Dr. Satish L Belagatti, Assistant Professor of Pathology	JJM Medical College, Davangere, Karnataka.	Validation of Pathology Theory Question Papers Set by Rajiv Gandhi University of Health Sciences, Bangalore
8.	Dr. Suneel Kumar Reddy, Assistant Professor of Pharmacology	JJM Medical College, Davangere, Karnataka.	Effectiveness of Handouts prior to Lecture classes
9.	Dr. Padmavathi G, Associate Professor of Anatomy	MVJ Medical College and Research Hospital, Dandupalya, Hosakote, Bangalore, Karnataka.	Evaluation of Question papers of RGUHS in the Speciality of Anatomy
10.	Dr. Ravi Kishore P, Assistant Professor of Biochemistry,	MVJ Medical College and Research Hospital, Dandupalya, Hosakote, Bangalore, Karnataka.	Impact of computer animation on learning Biochemical concepts in 1 <sup>st</sup> year MBBS students.
11.	Dr. Jose Joseph, Professor of Community Medicine	Government Medical College, Kottayam, Kerala.	Item analysis of 100 multiple choice questions in Community Medicine for the last 2 year Examinations in Medical College, Kottayam.
12.	Dr. Manjula V.D, Additional Professor of Community Medicine	Government Medical College, Kottayam, Kerala.	Effectiveness & Level of satisfaction of OSCE as a Teaching/Learning method for clinicosocial case study in community medicine at Government Medical College, Kottayam
13.	Dr. Annamma Kurien, Professor & HOD of Physiology	Government Medical College, Kottayam, Kerala.	Helping students with Learning problem by optimal use of Newer Teaching & Learning Method
14.	Dr. L. Kannan, Associate Professor of Community Medicine	Sri Ramachandra Medical College & Research Institute, Porur, Chennai, Tamil Nadu.	A Cross Section study on the assessment of Group Discussion and Lecture by feedback from Undergraduate Medical and Paramedical students of Sri Ramachandra University.
15.	Dr. Archana P Kumar , Assistant Professor of Physiology	Sri Ramachandra Medical College & Research Institute, Porur, Chennai, Tamil Nadu.	Development and standardisation of e-content module for physiology of anemia
16.	Dr. Nidhi Singh, Assistant Professor of Dermatology, Venereology & Leprosy	Sri Venkateshwaraa Medical College Hospital and Research Centre, Ariyur, Puducherry	Attitude of students towards chalkboard and powerpoint presentations
17.	Dr. Jasmina Begum, Assistant Professor of Obstetrics & Gynaecology	Sri Lakshmi Narayana Institute of Medical Sciences, Osudu, Agaram Village, Puducherry	Mentorship Programme to Improve Learning Outcomes in MBBS Students
18.	Dr. Pankaja .S.S, Assistant Professor of General Surgery	Sri Lakshmi Narayana Institute of Medical Sciences, Osudu, Agaram Village, Puducherry	Assessing the perception of faculty and students on the use and effect of video demonstration in acquiring clinical skills
19.	Dr. Sumeet Arvind Shende, Assistant Professor of Forensic Medicine	Sri Lakshmi Narayana Institute of Medical Sciences, Osudu, Agaram Village, Puducherry	Effective utilization of computer assisted learning and museum in Forensic Medicine and Toxicology
20.	Dr. Satish Pundlik Dipankar, Assistant Professor of Physiology	Sri Lakshmi Narayana Institute of Medical Sciences, Osudu, Agaram Village, Puducherry	Students Perception of Computer Assisted Learning (CAL) in Physiology Clinical Practical at SLIMS

21.	Dr. Niranjana G, Assistant Professor of Biochemistry	Mahatma Gandhi Medical College and Research Institute, Pillaiyarkuppam, Puducherry	Effectiveness of Team-Based Learning in Biochemistry for the first year MBBS students
22.	Dr. Rashmi Kumari, Assistant Professor of Dermatology & STD	JIPMER, Puducherry.	Need for leadership as a desirable quality in undergraduates: student and faculty perspectives
23.	Dr. Manikandan K, Assistant Professor of Obstetrics & Gynaecology	JIPMER, Puducherry.	Lesson Plan: Effect on the efficiency of lectures
24.	Dr. Murali Poduval, Additional Professor of Orthopedic Surgery	JIPMER, Puducherry.	To Evaluate the Acceptance and Utility of a Web based Audiovisual aid in Enhancing Self-Learning of Orthopedic Trauma amongst Medical Undergraduate Students
25.	Dr. J. Barath, Assistant Professor of Pediatrics	JIPMER, Puducherry.	Does an appraisal of learning styles promote a change in learning strategies among medical students?
26.	Dr. Devi Prasad Mohapatra, Assistant Professor of Plastic Surgery	JIPMER, Puducherry.	Use of Controlled Web Based learning for improving cognitive skills in Plastic Surgery for VI and VII semester MBBS Students of JIPMER
27.	Dr. Shyama Prem S, Assistant Professor of Radiotherapy	JIPMER, Puducherry.	Online versus onsite classroom teaching for eighth semester final year undergraduate students -a randomised controlled trial

## **ANNOUNCEMENTS**

### **JIPMER NTTC Alumni Association**

All medical teachers and allied health professional teachers who have attended the National Course on Educational Science for Teachers of Health Professionals of National Teacher Training Centre, JIPMER, Puducherry are requested to send the following information to **nttc.jipmer@gmail.com** to enable us to send the Bulletin of NTTC and facilitate communication.

1. Name, designation and full postal address
2. E-mail address

Secretary  
JIPMER NTTC Alumni Association

### **Medical Education – Principles and Practice**

Medical Education – Principles and Practice – a reference book published by JIPMER NTTC Alumni Association and popular among the Medical Teachers is available for sale. Interested medical teachers and institutions may send a crossed DD for Rs.325/- (including postal charges) in favour of Alumni Association of NTTC, JIPMER, payable at SBI, Puducherry, towards the cost of a single book to Secretary, JIPMER NTTC Alumni Association, C/o. Dept. of Medical Education, JIPMER, Puducherry-605 006.

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