MEdRC EduTech

Digital Approach to Medical Education

The growing demand for quality education in the healthcare sector and the need for standardized content and delivery mechanisms pose a great challenge and is being addressed by MEdRC through its Digital Approach to Medical Education.

MEdRC

The Heart of Learning

Medical Education Research Centre for Education Technologies

MEdRC

The Heart of Learning

Dr. D.M. Vasudevan
Professor & Head
Dept. of Biochemistry & Principal
Amrita Institute of Medical Sciences
Kochi

"This is a very innovative project and I was very enthusiastic to be a part of this because, not even in western countries has such an innovative program even been thought of. This will give a very good exposure to all students throughout the country."

Dr. K. Lakshman
Consultant Surgeon
Bangalore

"I came to Hyderabad and saw for myself what MEdRC has done. The vision is indeed great. MEdRC has setup a very good system, where they carry out several aspects of eTeaching completely indigenously with a staff of very talented technicians and thinkers in the field of I.T. to create a completely professional product. Honestly, this is the first of its kind experience for me and I think all of us teachers should use it to put our teaching expertise across to the students of this country."

Medical Education Research Centre (MEdRC)

MEdRC at Hyderabad has been doing pioneering work in developing standardized rich multimedia based interactive e-Learning modules to address the education needs of medical and healthcare professionals both during training and for continuous professional development.

Digital Modules for Medical Education

MEdRC has converted the entire MBBS curriculum (as prescribed by the M.C.I.) into a series of multimedia enhanced digital modules. The modules have lectures delivered by senior Professors from various medical colleges across India. MEdRC's panel of over 750 contributing doctors work with a team of technical professionals to add multimedia elements in the form of slides, graphics, illustrations, 2D and 3D animation.

Ready for Implementation

MEdRC has already completed the entire e-Learning Courseware for 1st and 2nd MBBS course comprehensively covering all subjects thereby making it possible to implement the project nation wide from current academic year. We are on the verge of finishing the digital courseware for the 3rd MBBS course so as to complete the entire MBBS curriculum.

In addition MEdRC is developing e-Learning Courseware for Pharmacy, Dental, Nursing, Paramedical, Hospital Staff Training, and for Village Health Workers (in various Indian languages as per NRHM Task Force recommendations on Medical Education).

MEdRC also captures and delivers modules for Continuing Medical Education (CM) through tie ups with various medical teaching organizations such as IMA, API, NIMS and KREST.

MCI Approved

While calling MEdRC's effort in this regard as a "praiseworthy attempt towards capacity building of medical students", the M.C.I. has, vide a circular dated 31st December 2007, recommended MEdRC's UGMed program as standard reference material to be procured and used by medical education units of all medical colleges under its affiliation.

"MEdRC's mission has been cited as an example of innovation in specialized up gradation of education in UNESCO's global report "Developments and Trends in the Application of ICT in Education" by Glen Mc Farell.

Advantage e-Learning

This method of teaching allows 70% of the teachers' time to be released from giving repetitive didactic lectures delivering factual information and involve them in teaching requisite skills. This approach is a great supplement for effective and meaningful understanding of concepts and ideas in a modular, yet integrated manner. MEdRC's lecture-on-demand system also allows slow learners who are currently unable to cope up, to catch up and learn at their own pace using a simple interactive interface.

Objective Type Assessment

MEdRC has a bank of over 100,000 multiple-choice questions each referenced and with explanation answers. The SmarTeach® Learning Management System can allow periodic objective type assessments by tracking a student's performance from the day they join medical college till the date they pass out ensuring uniformity and quality of teaching.

Delivery Mode

The entire courseware shall be delivered on an on-campus network at all medical colleges where:

(1) Teachers can use the rich media to enhance their classroom teaching with interactive whiteboards.

(2) Reputed Professors are projected to deliver lessons enhanced with graphics and animations.

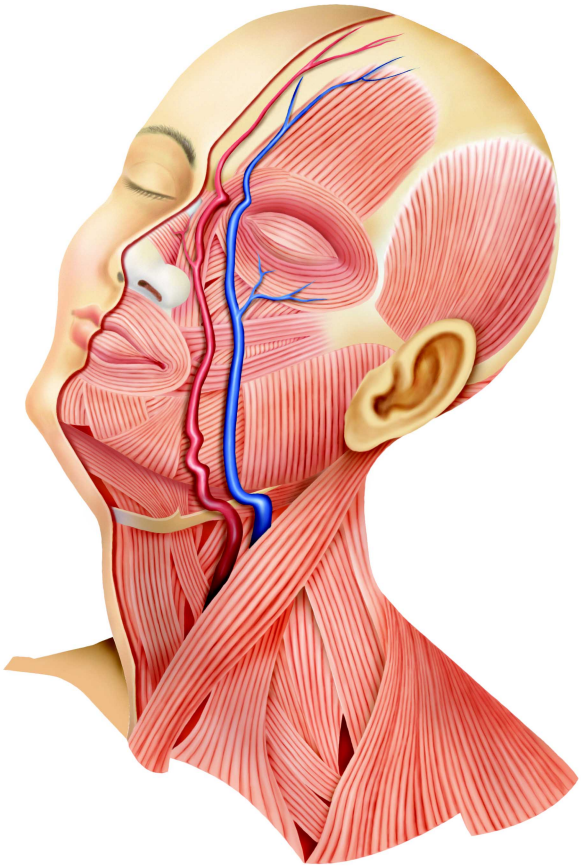
(3) Students can self-learn at their own pace at a Digital Library with M.C.I. approved e-Learning content structured as per curricular needs.

(4) Every student will be provided with a SmarTeach® laptop as part of uniform e-enablement.

The ultimate aim underpinning this massive effort is to support and promote the expansion of lifelong learning at all levels of practicing healthcare professionals, particularly in the form of continuing professional development.

Dr. Harivansh Chopra
Associate Professor
Dept. of Community Medicine
L L R M Medical College
Meerut

"I wish that I would become a medical student and learn again with this technology. This is my dream. Ultimately this is going to benefit the people at large, because with this, you will be able to produce good doctors and good doctors ultimately will do a good job for the people."



Member
WORLD AHEAD PROGRAM
in collaboration with
intel Leap ahead™
powered by
SmarTeach™
Member
ISB
K-Hub Winner's Club

Dr. Neeraj Raj
Founder & CEO

Graduated in 1988 from Osmania as Best Outgoing Student with University Gold Medals in Anatomy and Pathology, and topped General Medicine with distinctions in Pathology and Community Medicine.

Pioneered the use of multimedia and animation technologies in India and is considered a re-nowned expert having contributed significantly to this industry.

As a passionate entrepreneur, has successfully led creative teams to develop several innovative products that are not only economically viable but socially relevant.

Faculty and speaker at several national and International forums on Digital Enablement in Medical and Healthcare Education.

Chaired the session on "e-Learning Implementation in Medical Education" at the International Conference of the Association of Medical Educators of Europe at Norway.

Special invitee to address the Steering Council Meeting of the International Virtual Medical School (IVIMEDS) at Amsterdam.

Expertise

Domain Knowledge: The medical expertise at MEdRC begins with a cadre of in-house MDs and a larger network of expert physicians and key opinion leaders—all of whom are well connected, published, and respected. These experts are involved in the program at every step from inception to completion—from lesson planning, outline, draft, to sound instructional design, graphics conceptualization, media development, quality assurance, deployment, and measurement.

Multimedia & Animation Expertise: MEdRC teams its physician subject experts with award-winning medical illustrators and graphic designers, 2D and 3D animators and software programmers. Together, they generate medically accurate, descriptive graphics brought to life by leading-edge animation technology.

Technology Platform: MEdRC has put in several man years of effort and has created a common Learning Management System (LMS) and Learning Content Management System (LCMS) to manage the education process that paves the way for establishing widespread use of I.T. and promote e-Learning throughout any medical institutional campus.

Management Team

Dr. Neeraj Raj
Founder & CEO
Doctor / Multimedia Expert

P. Narendra
Promoter Director
CEO, Pragati Art Printers

Dr. Shyam Raj
Promoter Director

Y. Vijayalakshmi
VP Administartion

E. Sreenivas Rao
VP Technical

D. Yugandhar Reddy
Country Head, Operations

Academic Team

Dr. Hariprasad Chegu, *Dean*
Ex. Principal & Dean,
Sri Ramchandra Medical College, Chennai

Dr. V. Balasubramanyam
Director, e-Learning
HOD Anatomy St. Johns, Bangalore

Dr. B. Chandrakanth Rao
Director, Dental e-Learning

M. Venkat Reddy
Director, Pharmacy e-Learning
Member, Pharmacy Council of India

Dr. Chandrabhushan
Director, Medical 3D Animation

Dr. Vyakarnam Nageshwar
Director, Health Education

Dr. G. Omkarnath
Consultant, Exam Orientation

MEdRC's team of Doctors
Instructional Designers
Management Experts
Content Developers
Graphic Designers
Programmers
Animators

Prof. Hariprasad Chegu
the *Dean, MEdRC's Virtual Medical Education programme.*

Dr. Chegu has 38 years of rich academic experience as a Medical Biochemist and post-graduate teacher both in India and abroad. He was the Principal and Dean of Sri Ramachandra Medical College & Research Institute (SRMC) at Chennai where he retired after 17 long years. He has more than 30 publications in various national & international journals, has given over 40 presentations on Practicing Preventive Cardiology at various places in India and during his 7 visits to the USA.

Dr. V. Balasubramanyam
Director, e-Learning

Dr. Balu leads medical content production for MEdRC's Virtual Medical Education programmes. Apart from being the Professor and Head of the Department of Anatomy at St. John's Medical College, Bangalore, he is an expert on Instructional Design and multimedia development. He recieved the Sir Sriram Memorial Award for his work on computer applications in medical education.

Infrastructure

Physical Infrastructure

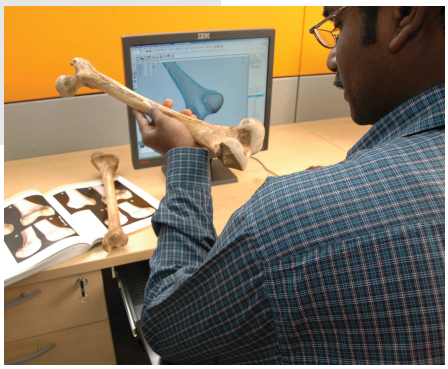
- Over 7,500 square feet of air-conditioned workspace at Rajbhavan Road in Hyderabad.
- Over 5,000 square feet of space at the SmarTeach® e-Learning Academy.
- 3 acoustically treated air-conditioned television studios equipped with comfortable cold lighting.
- Sophisticated video shooting equipment, audio and video editing equipment, TV and LCD prompters on which speaker notes or PowerPoint slides are projected during shoots.
- Outdoor units with video crews to capture knowledge outside the studio such as case discussions at hospitals, operative procedures, conference proceedings, etc.

Technology Infrastructure

- 80 IBM and 40 DELL workstations, both fixed and mobile.
- High-end 3D Graphics workstations with Maya.
- IBM and DELL Media Servers, Database Servers and Storage Servers.
- Gigabit LAN. and redundant Wi-Fi connectivity.
- Internet Web Servers deployed in data centers at Reliance and City Onlines.

Academic Infrastructure

MEdRC has libraries with all prescribed text books and reference books and collections of CD's in addition to its own archive of over 150,000 slides and learning resources built over 15 years.



MEdRC's Television Studio, 3D animation and Digital Post-Production Facilities

SmarTeach™ UGMed

Digital Approach to UG Medical Education

e.Lectures | Synched Slides | Medical Animations | Question Banks

Dr. Satish Kadam
Consultant
Anaesthesiologist

"It is an amazing project. Till now, medical education used to be primarily in classrooms or libraries with books. People can now access this at any point from anywhere... tomorrow perhaps even with Palmtops and Pocketops. Learning medicine is made so simple with this gadgetry."

What students say:

"I love medicine but I am unable to cope up with the fast paced lectures. Now I can rewind my teacher ...its like having a TV remote in class"

"This allows me to listen to Great Teachers that I could only imagine"

"The animation of the cortico spinal tract made me understand the topic so well... earlier I could never remember... now I can never forget!"

About SmarTeach UGMed

- SmarTeach® UGMed is a digital version of the MBBS classroom where students can see and hear virtual lectures delivered by medical teachers from all over the country.
- In contrast to traditional classroom lectures, SmarTeach® UGMed lectures have a large amount of multimedia components to enhance the meaning and understanding of the subject. Included in these lecture enhancements are hundreds of relevant text slides, colour stills with labels, 2D and 3D animations, audio and videos.
- Although designed as per the curriculum prescribed by the Medical Council of India and adopted by medical colleges all over India, it is usable for undergraduate medical curricula of other countries. Some of the lectures are very useful for paramedical courses.

Salient Features

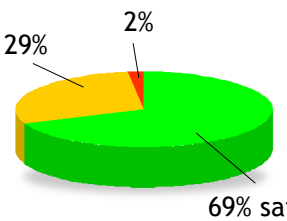
- Access any topic, anytime - convenient to students.
- Actual classroom lectures that have been missed can now be compensated by viewing these digital lectures.
- Ideally suited for pre-examination review so that the student can have a last minute brush up of the topics.
- A student can replay lecture parts till the topic is well understood.
- This can trigger group discussions among students so that they exchange ideas and discuss with their teacher, the finer aspects of the topic.
- Large database of questions asked in the university examinations.
- Facility for the student to bookmark specific segments of a running lecture for later use and ability to add own notes for later review.

Results of Pilot Study

Conducted at Mediciti Institute of Medical Sciences, Ghanpur, AP between April 07 and March 08

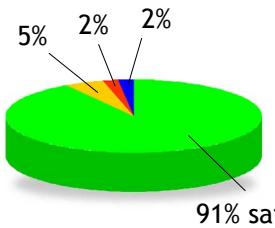
YES | YES with minor changes | NO | Not Sure

Did you identify specific objectives for each lesson?



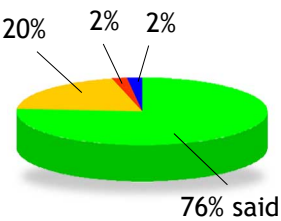
69% said YES

Each topic is divided into specific modules. Do you find this useful?



91% said YES

Is the content suitable for understanding difficult concepts easily?

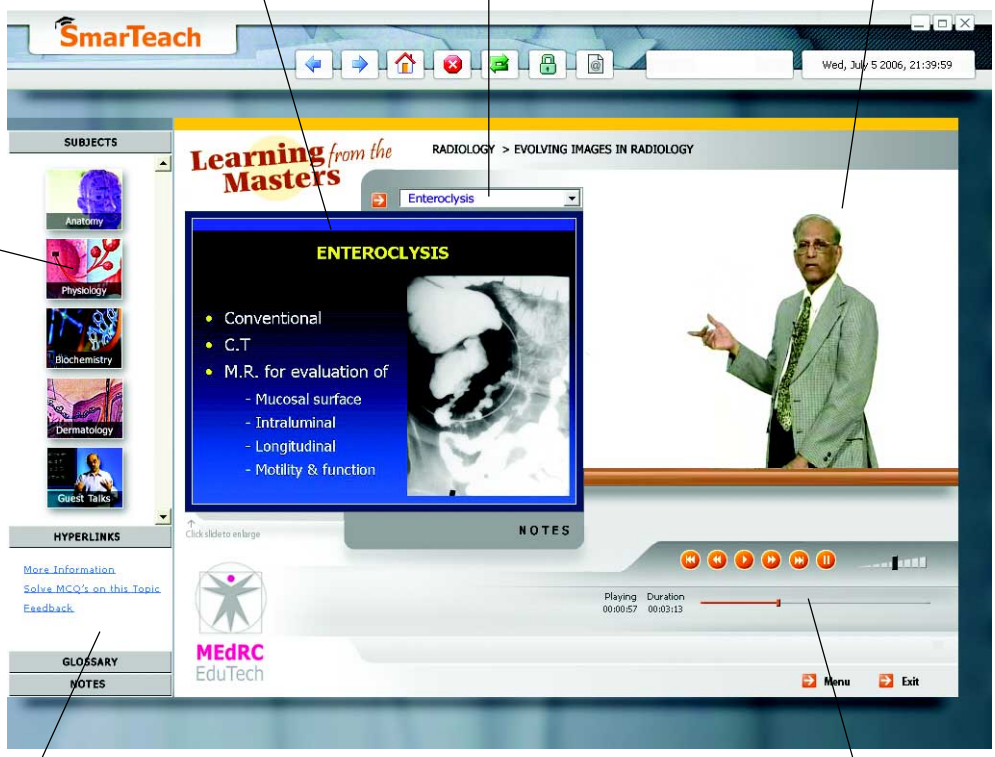


76% said YES

Slides, illustrations, 2D and 3D animations are automatically synchronized to the talk

Jump to any topic within the lesson

Expert teacher delivers a video lesson comprehensively covering the topic



Choose any Subject from list of Channels

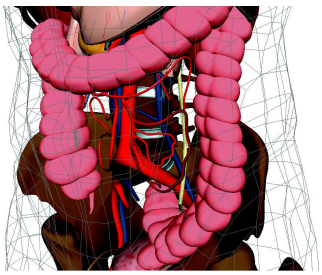
Choose any lesson from the subject

Search through the Lecture Catalogue

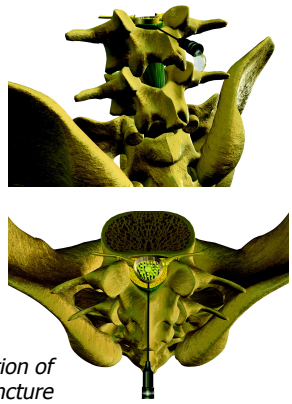
Write and Share notes relevant to each lesson component.

Every lesson is annotated with Additional Learning Resources such as Text, Charts, Animations, etc.

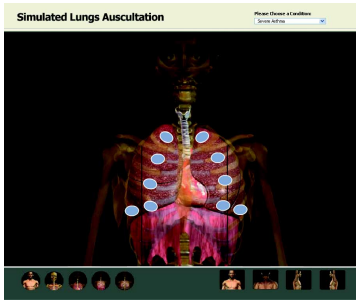
Easy Navigation allows you to Pause/Play, Rewind/Forward, Skip/Review and Bookmark anywhere in the lesson.



3D Anatomical Walkthroughs

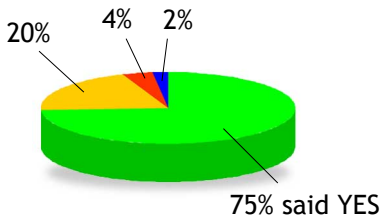


3D Animation of Lumbar Puncture

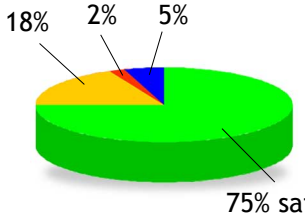


Interactive Virtual Case Databases

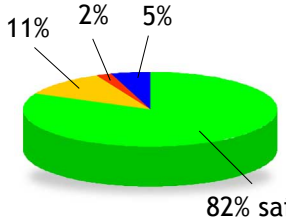
Did you find the content to be academically accurate?



Did you find the content helpful as review material for exams?



Is the interface easy to use, intuitive and attractive?



from **medico** *to* e.medico

A comprehensive package consisting of a Student Laptop bundled with 5 years of access to the SmarTeach® UGMed content at a medical college e-campus. Fully financed by a bank allowing students to take the package when they join college and pay later when they start earning as doctors!

Interactive e-Learning on Campus

- Over 2000 e-Lectures covering all MBBS subjects
- Developed as per the prescribed MCI syllabus
- Delivered by professors from all over India
- Content peer reviewed by renowned experts
- Concepts illustrated with 2D / 3D Animations
- Clinical case discussions and simulations
- e-Lectures by guest NRI faculty

I.T. Enabled e-Education

- Basic training in use of computers
- Training in medical applications of I.T.

Value addition to regular MBBS curriculum

- e-Lectures on Medical Ethics
- e-Lectures on Soft Skills for Doctors
- Integrated learning across all subjects
- Integration with Problem Based Medicine
- Introduction to Evidence Based Medicine
- Essentials Courses: Emergency Medicine in India
- Continuing Medical Education Courses

Question Banks

- Short Notes, Long Questions, Viva Voce,
- Over 100,000 MCQ's
- Each question with authentic references
- Explanatory answers to difficult questions

Pay When You Earn Scheme

Fully Financed Education Bank Loan

- Provided by Bank of India and other banks
- Convenient EMI starts after 5 years

SmanrTeach Laptop
WiFi Enabled

Genuine Microsoft Software
Windows XP
Microsoft Office

WiFi Access on campus
Access to campus LAN
Access to Internet

Basic IT training
Certificate Course on Basic I.T.
Medical Applications of I.T.

5 years of Access to Interactive e-Learning Material
Interactive or Tutorial mode
Self-paced learning

In partnership with:

WORLD AHEAD PROGRAM

intel Leap ahead™

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Advantages to Student

- Take any lesson from any subject
- Listen to lectures by well published expert faculty nominated from all medical colleges across India – include authors of books
- Synchronized Slides, Graphics and 2D/3D Animations
- Allows Self paced learning
  - View, Review, Pause, Skip, Repeat, Bookmark
  - Book, Web and Journal References, Notes
- Interactive self assessments
  - Know own strengths and weaknesses
  - Know where to devote more attention
- Weaker students can take as tutorial several times
- Collaborate and Learn on the Intranet

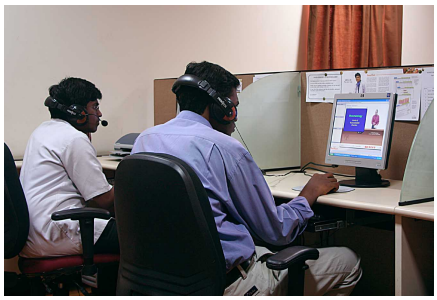
Advantages to College

- Content developed as per prescribed M.C.I. syllabus
- Readymade lesson plans for each lecture with clear objectives
- Empowers a teacher to explain abstract concepts
- Standardized peer reviewed teaching material developed by experts
- Library of Repurposable Learning Objects:
  - Slides
  - Medical Illustrations
  - 2D and 3D animations
- Faculty can engage students more effectively through active learning
- Customizable: Upload your own slides, notes, questions, media
- Optional Assessment and Tracking Modules:
  - Question papers for assessment
  - Access data on individual student / group progress

The Bangalore Medical College Digital Library

Dr. Sanjay Zodpey
Professor of Community Medicine & Director, Public Health Foundation of India, New Delhi

"The experience has been wonderful. As I look at the various activities and projects that are going on, it seems that its a long term project and a viable activity that will be useful to the students. Here the idea is that to get high caliber teachers from across the country having authority on a particular topic to speak and the material is subsequently used as a part of e-learning. I would say every thing was nicely organized from hospitality to all academic, business and everything."



Students using MEdRC's content at a Digital Library.

Dr. V.V. Pillay
Professor & Head
Dept. of Forensic Medicine
Amrita Institute of Medical Sciences, Kochi

"The project is very unique, very innovative, and of tremendous magnitude. I am really amazed that something like this could actually be conceived and also executed so flawlessly. I am sure the project will capture the imagination of our medical fraternity and the impact on medical education in India will be totally revolutionary."

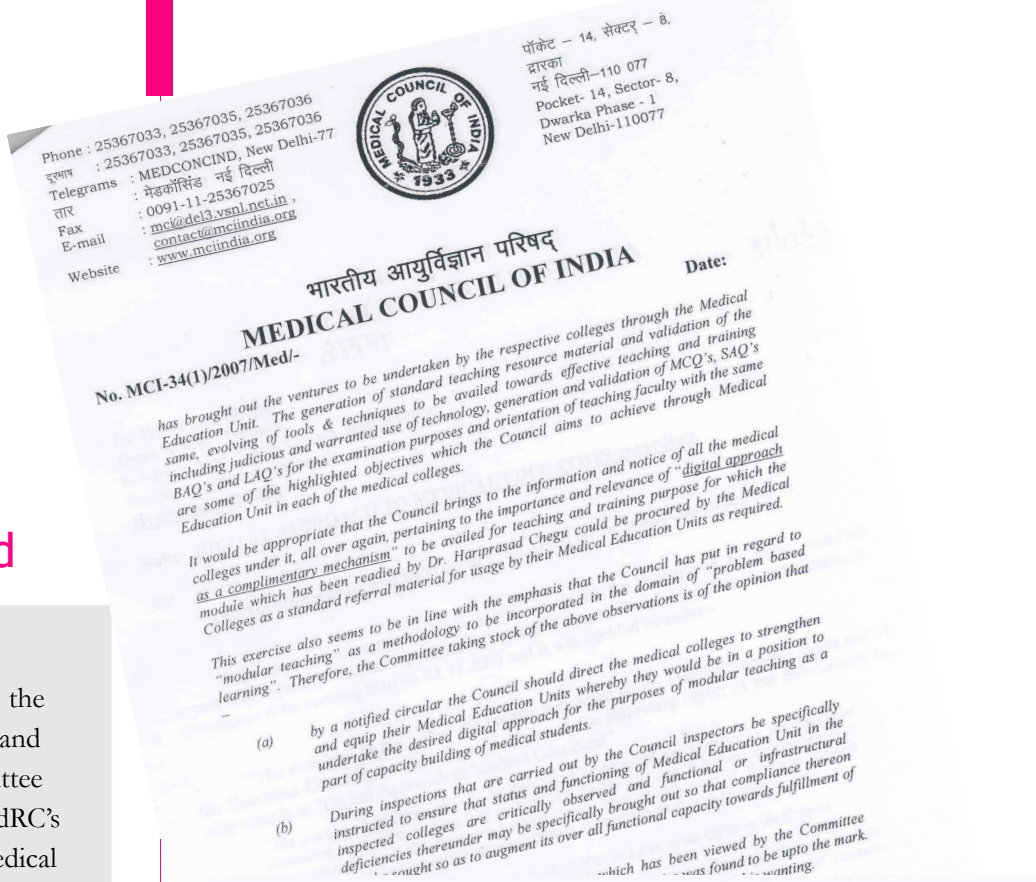
M.C.I. Approved

Members of the Adhoc Committee appointed by the Hon'ble Supreme Court and of the Executive Committee of M.C.I. evaluated MEdRC's "Digital Approach to Medical Education" program.

The Committee approved MEdRC's program, describing the project as "praiseworthy". Calling the judicious use of technology in formulating tools & techniques in medical education as the need of the hour, the Committee lauded MEdRC's effort as definitely a positive step in that direction.

The M.C.I. has strongly brought forth the importance and relevance of the Digital Approach to Medical Education and all colleges will be required to set up a digital library with content specifically tailored to meet MBBS curricular needs.

M.C.I. also recommended MEdRC's UGMed content as "Standard Reference Material" for teaching and training purposes to be procured from MEdRC for use by medical education units of all medical colleges affiliated under it.



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Fax : 0091-11-25367025
E-mail : mci@del3.vsnl.net.in , contact@mciindia.org
Website : www.mciindia.org

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New Delhi-110077

भारतीय आयुर्विज्ञान परिषद्
MEDICAL COUNCIL OF INDIA

No. MCI-34(1)/2007/Med/- Date:

has brought out the ventures to be undertaken by the respective colleges through the Medical Education Unit. The generation of standard teaching resource material and validation of the same, evolving of tools & techniques to be availed towards effective teaching and training including judicious and warranted use of technology, generation and validation of MCQ's, SAQ's BAQ's and LAQ's for the examination purposes and orientation of teaching faculty with the same are some of the highlighted objectives which the Council aims to achieve through Medical Education Unit in each of the medical colleges.

It would be appropriate that the Council brings to the information and notice of all the medical colleges under it, all over again, pertaining to the importance and relevance of "digital approach as a complimentary mechanism" to be availed for teaching and training purpose for which the moduie which has been readied by Dr. Hariprasad Chegu could be procured by the Medical Colleges as a standard referral material for usage by their Medical Education Units as required.

This exercise also seems to be in line with the emphasis that the Council has put in regard to "modular teaching" as a methodology to be incorporated in the domain of "problem based learning". Therefore, the Committee taking stock of the above observations is of the opinion that

(a) by a notified circular the Council should direct the medical colleges to strengthen and equip their Medical Education Units whereby they would be in a position to undertake the desired digital approach for the purposes of modular teaching as a part of capacity building of medical students.

(b) During inspections that are carried out by the Council inspectors be specifically instructed to ensure that status and functioning of Medical Education Unit in the inspected colleges are critically observed and functional or infrastructural deficiencies thereunder may be specifically brought out so that compliance thereon sought so as to augment its over all functional capacity towards fulfillment of

which has been viewed by the Committee was found to be upto the mark. wanting.

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Website : www.mciindia.org

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भारतीय आयुर्विज्ञान परिषद्
MEDICAL COUNCIL OF INDIA

No. MCI-34(1)/2007/Med/- 25595 Date: 31/12/07

Dr. Hariprasad Chegu,
Dean, MedRC Edutech,
6-3-1089/A/13, Lalita Towers, Asif Avenue,
Rajbhavan Road, Somajiguda,
Hyderabad-500082.

Sub:- DIGITAL APPROACH TO MEDICAL EDUCATION-regarding.

Sir,

This has reference to your letter dated 01.07.2007, on the subject noted above.

I am directed to convey that the matter alongwith the minutes of the Sub-Committee report with regard to "Digital Approach to Medical Education" was considered by the Executive Committee at its meeting held on 03.11.2007 and it was decided as under:-

"The members of the Adhoc Committee appointed by the Hon'ble Supreme Court and of the Executive Committee of the Council approved the following report of the Sub-Committee with regards to "Digital Approach to Medical Education".

"The present Committee came to be constituted in terms of the decision by the Executive Committee taken at its meeting held on 24.8.2007 for the purposes of looking into the merits of communication from Dr. Hariprasad Chegu, Dean, Medical Education & Research Edutech, Hyderabad in regard to incorporation of "Digital Approach to Medical Education".

The meeting of the Committee was held on 25.10.2007 at 1 p.m. in the Office of the Council.

It was noted that Dr. Hariprasad Chegu in his communication dated Ist July, 2007 has brought out that as of now he is overseeing a project entitled UGMED, a venture of MEdRC Edutech, Hyderabad.

In the present project, the entire MBBS curriculum as prescribed by the Medical Council of India is being converted into a series of digital lectures. These lectures are delivered by experienced teachers with effective communication skills and are captured in the video and then enhanced using state of the art multimedia like still graphics, 2D and 3D animations and audio/video. The end result is a teaching-learning software which could be a great supplement for effective and meaningful understanding of concept and ideas in an integrated manner. The entire software for the first MBBS covering Anatomy, Physiology and Biochemistry as included in the CD has been viewed by the Committee.

The underlining concept in the entire exercise as has been deciphered by the Committee is that it is a good attempt towards capacity enhancement of medical students. The emphasis is on introduction of technology enabled learning for medical students. This will mean that the medical colleges will be required to set up a Digital library with content tailored specifically to meet the MBBS curricular needs.

The Committee is of the considered opinion that the project undertaken by Dr. Hariprasad Chegu is praiseworthy. The software in regard to the curriculum of the Ist MBBS for all the three subjects namely Anatomy, Physiology and Biochemistry in terms of the topicality has by & large covered the entire curriculum. Undoubtedly, judicious use of technology in formulating tools & techniques in medical education is need of the hour. The present effort is definitely a positive step in that direction.

Former Karnataka Minister for Medical Education, Shri. V.S. Acharya speaking at the inaugural ceremony of MEdRC's content at the Bangalore Medical College Digital Library.

Signing of the Agreement between MEdRC and Intel

The Vice Chancellor of the Dr NTR University of Health Sciences, Dr. Krishnam Raju inaugurating MEdRC's UGMed program at the University Digital Library at Vijayawada, in Andhra Pradesh.

Signing of the Agreement between MEdRC and MediCiti Institute of Medical Sciences

'ఇ-లెర్నింగ్' ప్రారంభం

'ఇ-లెర్నింగ్'ను పరిశీలిస్తున్న వీసీ డాక్టర్ కృష్ణంరాజు, తదితరులు

Virtual PG courses for aspiring doctors

Mock online tests for PGEE

Medical Education Research Centre to open its branch in city

'Audio-visual teaching beneficial'

MEdRC will benefit students: Deshmukh

MEdRC launches e-learning courses at BMC

Quality medical education thro' e-learning

Online aid for med students

E-learning course material for Medical students

MEdRC city centre to be inaugurated today

Smart way to prepare for t

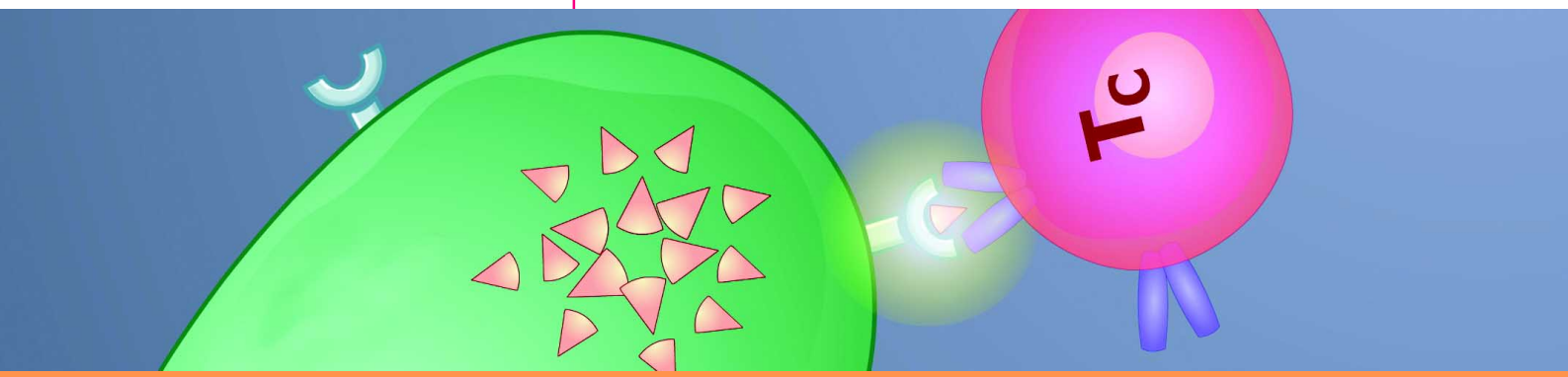
Perfect dose of knowledge

Virtual classrooms to impart medical education

e-learning modules for first-year MBBS students

MEdRC Edutech provided the modules to the digital library of NTR Health University

NTR University of Health Sciences vice-chancellor AV Krishnam Raju launching a e-Learning module at the university's digital library in Vijayawada on Thursday. University registrar T Venugopala Rao and Medical Education and Research Centre managing



MEdRC

The Heart of Learning

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