Learning Environment Facilities

ARMY COLLEGE OF DENTAL SCIENCES

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NAAC Accredited 'A' & Certified ISO 9001 : 2015 & ISO 14001 : 2015

Student-centric methods are used for enhancing learning experiences

Response:

Army College of Dental Sciences – Learn to Excel. With this tagline, the college aims to engage students with a comprehensive curriculum with a strong focus on Professionalism and Fitness to Practice. The college's curriculum is outcome-driven and student-centric. The following student-centric methods are used for enhancing learning experiences.

1) Experiential Learning

A well-known model of education is experiential learning. The institution adheres to Kolbe's concept of experiential learning. It is part of our everyday curriculum to get students acquainted with a wide variety of cases. The Institution also conducts outreach programs to underserved areas, as well as motivates them to take on cases aside from those related to routine dental treatment.

2) Integrated /Interdisciplinary Learning

It has become imperative for healthcare professionals, including dentists, to work in interprofessional teams given the increased awareness of oral-systemic relationships. ACDS always strives to provide holistic treatment to patients by consulting all departments about the case.

3) Participatory Learning

The Institution attempts to engage learners as actively as possible in the learning process. An intentional sequence of activities such as healthy debates and journal clubs helps the learner achieve the specified objective or desired result.

4) Problem-Solving Methodologies

Learners are presented with real-time clinical situations and episodes of live patient care. They are then asked to analyze and apply appropriate solutions. Facilitators can optimize different approaches for case scenarios, so that learners can devise an appropriate treatment plan instead of receiving direct instruction, thus making them better clinicians.

5) Self Directed Learning

As part of the curriculum, the institute facilitates students to conduct seminars, formulate plans and identify the tools, resources, and strategies they need for learning on their own.

6) Patient-Centric and Evidence-Based Learning

A widely accepted form of clinical practice that is patient-centric and based on evidence has been included in the program using Case-Based Discussion. As a result of these discussions between students and clinical teachers, students gain valuable feedback on inpatient care they are planning or have provided.

7) Project-Based Learning

Project-based learning involves active exploration, investigation, and response to an authentic clinical scenario presented by teachers.

8) Roleplay

Clinical teachers are uniquely placed in real-world professional settings to serve as role models for their students. A small clinical team also allows students to take on various roles.

The ability of students to appreciate the importance of patient-centered care is influenced by peers and clinical teachers.

Principal

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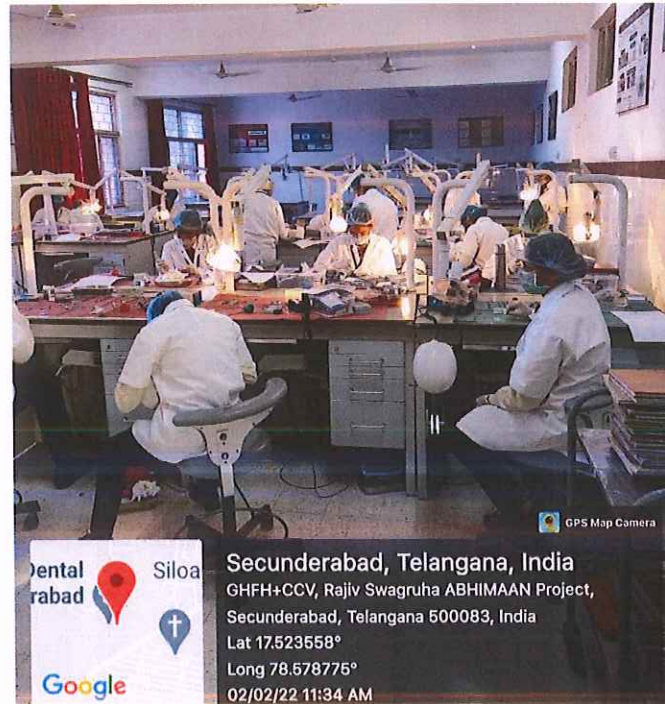# Learning Environment Faclities with Geotagged Photographs

Experiential learning: Pre-Clinical Laboratory

Undergraduate Clinic

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Integrated / Interdisciplinary learning: Clinical Society Meetings

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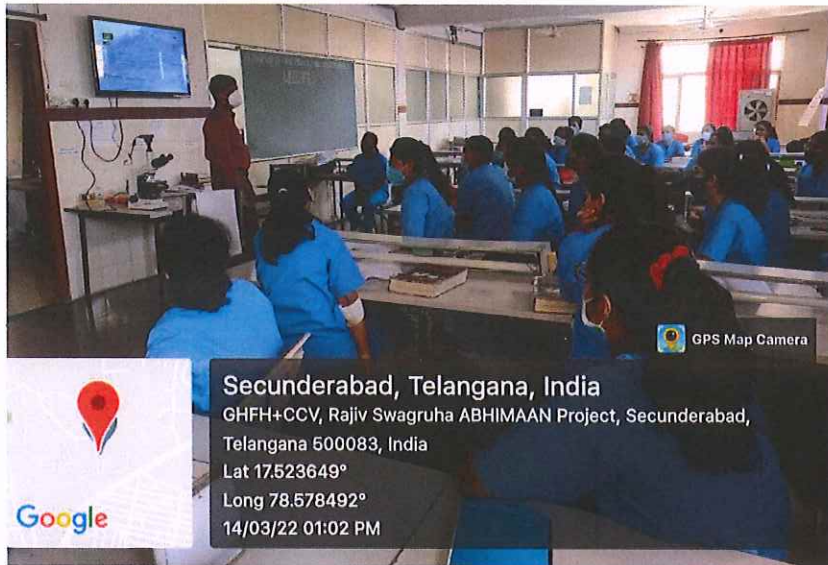
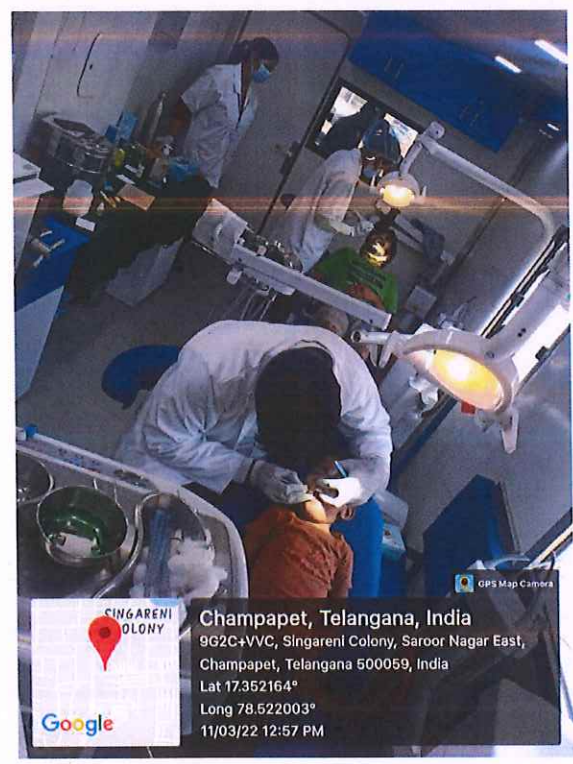**Participatory Learning: Lectures & Group Discussions**

Problem-solving methodologies: Case-based-learning (CBL)
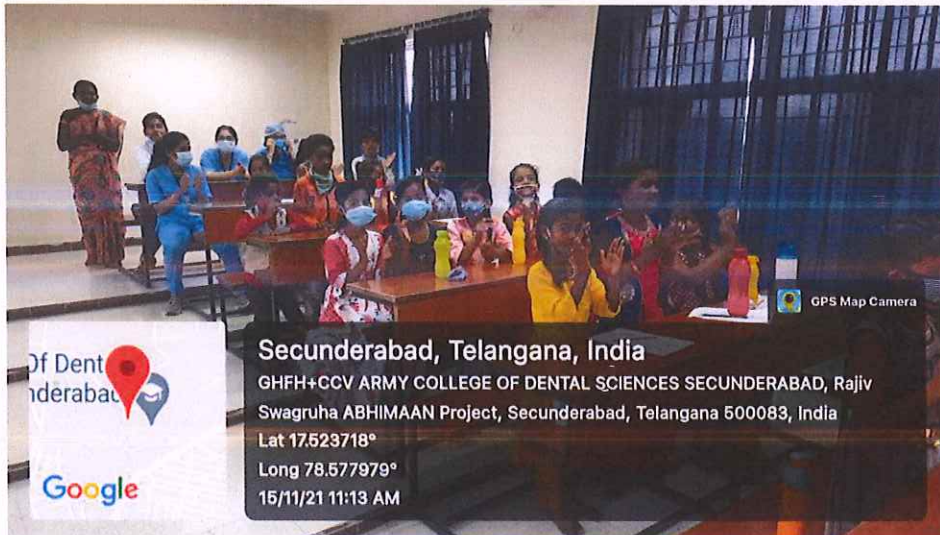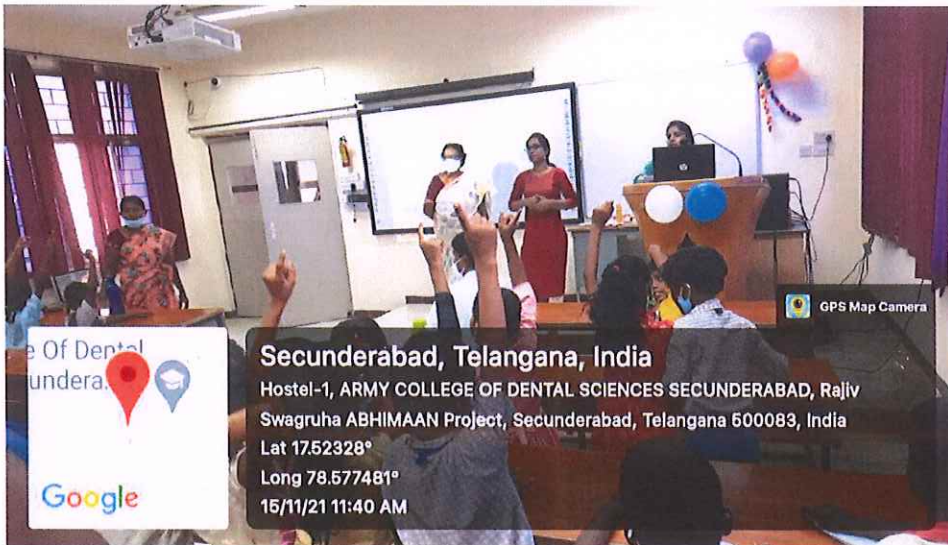

Self-directed learning (SDL): Utilization of Library

Patient-centric and Evidence - based learning: Pathology laboratories
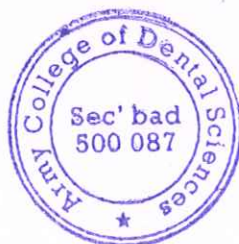
Humanities: Mobile Dental Van for Conducting camps and Community visits

Project-based Learning: Tabletop presentations

Role play - Childrens' Day Celebration

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The educational model for delivering the content is changing. Student-centered approaches to learning are the main stay of education. It is important to build capacity, leadership, critical thinking skills, and complex problem solving in our students so that they outshine in this competitive era and provide ethical and quality service to the society. Thus, utilization of the strategies discussed here can help in making the students ready to face the world.

1. **Experiential learning:**

   - Clinical Case Presentations (History taking, General and oral examinations, evidence-based discussions on diagnosis and comprehensive management)
   - Peer-Assisted learning
   - Think-Pair-Share
   - Projects, Research discussions
   - Ethical and clinical society meetings
   - Simulations and simulation labs
   - Seminars and journal clubs
   - Internship

2. **Integrated / inter-disciplinary learning:**

   - Vertical and horizontal integrated teaching
   - Centralized clinical meetings
   - Literature and clinical case reports presentations
   - Discussions and input by various departments

3. **Participatory learning:**

   - Problem based learning
   - Lectures
   - Students Led Objective Tutorials (SLOT)
   - Group discussions on clinical scenarios
   - Clinical meetings
   - Seminars
   - Role plays

- Community outreach activities
- Oral Health camps
- Disaster management rescue missions in fire accidents
- Blood donation camp

4. **Problem-solving methodologies:**

- Journal Club
- Problem-Based-Learning (PBL)
- Case-Based- Learning (CBL)
- Group discussions
- Lectures

5. Self-directed learning (SDL):

- Maintenance of log books and record books on given assignments.
- Procedural skills: Under directly observed procedural skill (DOPS).
- SDL in form of literature search from e-resources, CD and DVDs
- Utilization of e-library

6. Patient-centric and Evidence - based learning:

- Clinical Postings: exposed to OPD and OT.
- Basic Life Support (BLS)
- Advance cardiac life support (ACLS)
- Pathological laboratories.
- Chair-side clinics
- OSCE
- Clinico-pathological correlations (CPC)
- Journal club
- Clinical society meetings

7. Humanities:
Students are trained in:
- Personality development
- Communication skills
- Professionalism
- Value- based education by incorporating topics of Bioethics (Patient privacy, Autonomy, Confidentiality, Right to health)
- Gender sensitization
- Oral Health awareness through community visits.
- POSH
- Placement Interviews
- Psychologist assistance for mental health

8. Project-based learning:

- Research projects (ICMR-STS projects)
- Dissertations/Thesis
- Scientific paper writing
- Research Methodology workshop
- Table top presentations

9. Role Play:

- Resident as a teacher workshops
- Doctor Patient relationship
- Informed consent
- Communication skills
- World Oral Health Day
- World Tobacco Cessation Day
- Children's Day
- Teachers Day

Difference between Teacher Centred and Student Centered Approach

ELEMENTS	TEACHER-CENTERED	STUDENT-CENTERED
KNOWLEDGE	Transmitted from Instruction	Constructed by Students
STUDENT PARTICIPATION	Passive	Active
ROLE OF LECTURER	Leader/Authority	Facilitator/Partner in Learning
ROLE OF ASSESSMENT	Few Tests, Mainly for Grading	Many Tests, for Ongoing Feedback
EMPHASIS	Learning Correct Answers	Developing Deeper Understanding
ASSESSMENT METHOD	One-Dimensional Testing	Multidimensional Testing
ACADEMIC CULTURE	Competitive, Individualistic	Collaborative, Supportive
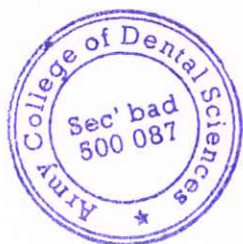
Principal

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CURRICULUM DESIGN FOR CCC MODULE

The Dental curriculum as set down by the DCI and the Army College of Dental Sciences recommends that the dental graduate fulfill competencies that include general skills, diagnosis, treatment planning, communication, community resources and practice management. The implementation of the curriculum has left more to be achieved, particularly in the practice of evidence based dentistry. The dental student may be made more industry ready on graduation by incorporating the newer learner centric methods of education technology such as Problem based learning(PBL), Clinical Decision Making(CDM), Critically appraised Topics(CAT) and community outreach programs. This module on 'continuous curriculum concept (CCC)' is intended to complement outcome based education that is practiced at SRDCH. CCC will be pivotal in providing pragmatic educational system that will allow application of robust scientific and humanistic values to clinical practice. The syllabus of the CCC is designed to provide training that will enhance the cognitive, affective and psychomotor domains and thus provide integrated and holistic development.

The curriculum of the CCC module has been outlined on the basis of the needs assessment that indicates a gap in curriculum implementation in the inculcation of applied integrated knowledge among stakeholders.

NEEDS ASSESMENT:

1. Integration of theoretical knowledge and clinical skills through evidence based dentistry for clinical decision making.
2. Imbibe a spirit of lifelong learning and innovation.
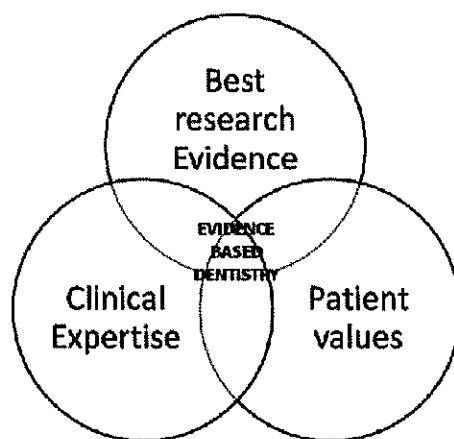
References:

Rao LN, Hegde MN, Hegde P, Shetty C. Comparison of dental curriculum in India versus developed countries. Nitte University Journal of Health Science. 2014 Jun 1;4(2):121.

Elangovan S, Allareddy V, Singh F, Taneja P, Karimbux N. Indian dental education in the new millennium: challenges and opportunities. Journal of Dental Education. 2010 Sep 1;74(9):1011-6.

LEARNING GOALS:

To provide dental and oral health education that is grounded in the principles of critical thinking and empathy, empowering the graduate to achieve holistic professional expertise.

STEPS IN EVOLUTION OF CURRICULUM:
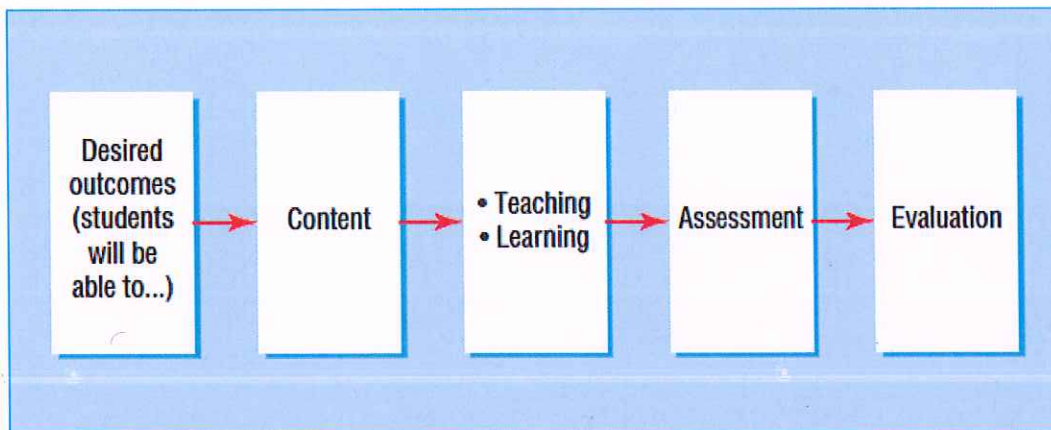
COURSE/ MODULE OUTCOMES:

1. To integrate theoretical learning with clinical training through the application of scientific methods of enquiry for problem solving
2. To evaluate clinical scenarios in a systematic manner to arrive at a scientific and ethical decision for patient management
3. To imbibe empathetic understanding of patient's health needs and wellness in context of real life situations.
4. To develop life skills as a core guidance system to enhance the clinical capabilities and originality of the students.

SPECIFIC LEARNING OUTCOMES:

1. To understand and apply the principles of evidence based dentistry.
2. To apply integrated knowledge for clinical decision making (CDM) in practice.
3. To participate in problem based learning for self directed learning methods.
4. To appraise a clinical topic based on current research and formulate conclusions during clinical sessions.
5. To practice interpersonal relationship management through exposure to experiential environments & outreach programmes.

6. To foster originality in evaluating and developing new strategies and equipment for use in dentistry

PERSONNEL INVOLVED:
1. All faculty will facilitate the implementation of CCC on a rotational basis
2. The undergraduate students, postgraduate students and interns will be part of a vertically integrated group to allow for opportunities that will foster peer learning and team work.

EDUCATIONAL STRATEGY:

1. Small group teaching
2. Experiential learning (LBD- Learning by Doing) during learning sessions
3. Chair side teaching during clinical postings

DURATION: Annual pattern

TEACHING HOURS: 60 to 100 hours/year

SYLLABUS:

OVERVIEW

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                ┌─────────────────────┐
                │  EVIDENCE BASED     │
                │  DENTISTRY (EBD)    │
                └─────────────────────┘
        ┌───────────────────┴───────────────────┐
┌─────────────────────┐           ┌─────────────────────┐
│ Interpersonal Skills│           │   Life Skills       │
│   (Co Curricular    │───────────│   (Innovation,      │
│   Activity- CCA)    │           │   Behavioral)       │
└─────────────────────┘           └─────────────────────┘
   ┌──────────────────────┬──────────┴──────────┬──────────────────────┐
┌──────────────────┐  ┌────────────────────┐  ┌──────────────────┐
│ Problem Based    │  │ Critically Appraised│ │ Clinical Decision│
│ Learning(PBL)    │  │   Topic (CAT)      │  │ Making(CDM)      │
└──────────────────┘  └────────────────────┘  └──────────────────┘
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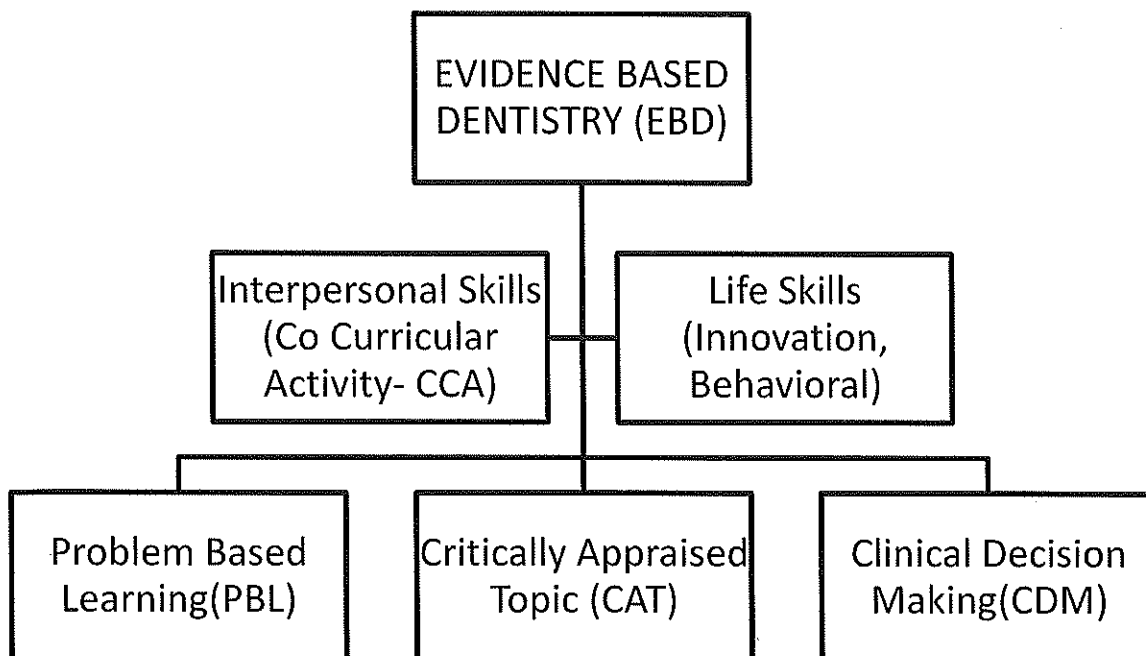
Topic	Method of teaching	Learning domain	PO	Assessment
Evidence Based Dentistry (EBD)	Research, Chair side	CAP		
Problem Based Learning(PBL)	Concept mapping	CA		MM rubric
Clinical Decision Making (CDM)	Mind mapping, Case based discussion	CAP		Work based Assessment(Mini-CEX, OSCE)
Critically Appraised Topic (CAT)	Small group discussions, Research, Experential learning	CA		Summary, report submission
Co-curricular Activity for Interpersonal Skills(CCA)	Experiential learning	AP		Participation Annual project reports Reflective thinking
Life skills – academic know how, innovation, Conduct	Experiential learning/ analytical thinking	CAP		Records Participation

Problem Based Learning (PBL): (20 hours)

i)   Two topics per year

ii)   A session will/may include upto 10 hours per topic

iii)   Steps in PBL

        1) Clarify terms and concepts not readily comprehensible.
        2) Define the problem.
        3) Analyze the problem (brainstorming).
        4) Resolve issues based on prior knowledge (inventory of explanations)
        5) Formulate learning objectives
        6) Information gathering, (self-study)
        7) Synthesize and test the newly acquired information.

iv)   Assessment

Critical Appraised Topic (CAT): (20 hours)

i)   Two topics per year

ii)   A session will/may include upto 10 hours per topic
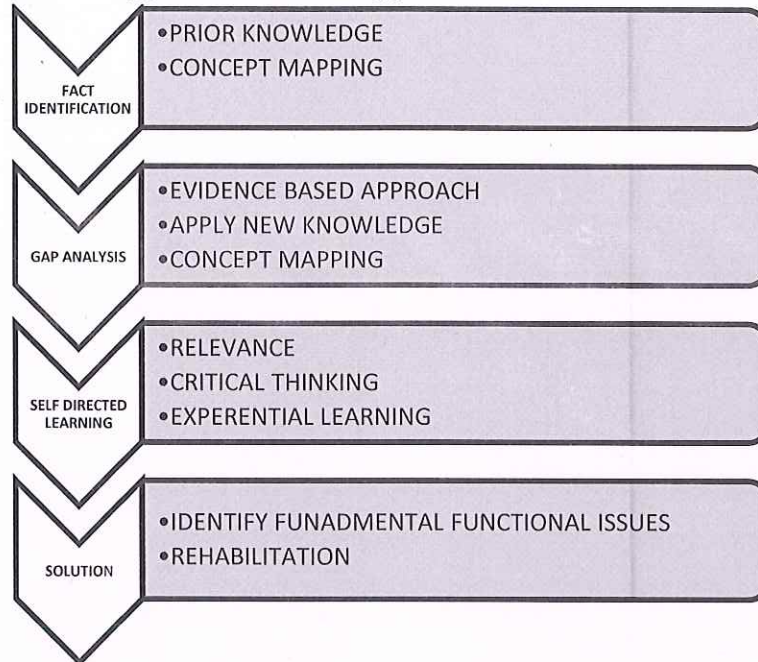
iii)   Steps in CAT

> Introduction to Evidence-Based Dentistry (EBD)
> - Formulating Focused Clinical Questions (PICOs)
> - Locate faculty mentor & submit PICO for approval
> - Sources of Scientific Literature, Research Design & Hierarchy of Evidence
> - Write CAT with faculty mentor
> - Finding the Best Evidence: PubMed & Trip Searches
> - Submit CAT
> - How to Appraise and Use an Article About Treatment or Prevention
> - How to Appraise and Use an Article About Diagnosis
> - Publish in CATs Repository
> - How to Use a Systematic Review/Meta-Analysis
> - Critical Summaries & Practice Guidelines
> - Writing Skills
> - Writing a Critically Appraised Topic (CAT)

iv)   Presentation of the CAT and maintenance of the CAT repository

v)   Assessment: Rubric(Components)

Clinical Decision Making (CDM): 20 hours

i)   Clinical application of PBL approach-

FACT IDENTIFICATION
- PRIOR KNOWLEDGE
- CONCEPT MAPPING

GAP ANALYSIS
- EVIDENCE BASED APPROACH
- APPLY NEW KNOWLEDGE
- CONCEPT MAPPING

SELF DIRECTED LEARNING
- RELEVANCE
- CRITICAL THINKING
- EXPERENTIAL LEARNING

SOLUTION
- IDENTIFY FUNADMENTAL FUNCTIONAL ISSUES
- REHABILITATION

ii)   Topics: Treatment options and outcome, Risk and benefits, Patient preferences, difficult decisions, Shared decision making, Core skills of CDM (communication skills, critical thinking, evidence based approach- team work, sharing reflection & pattern recognition)

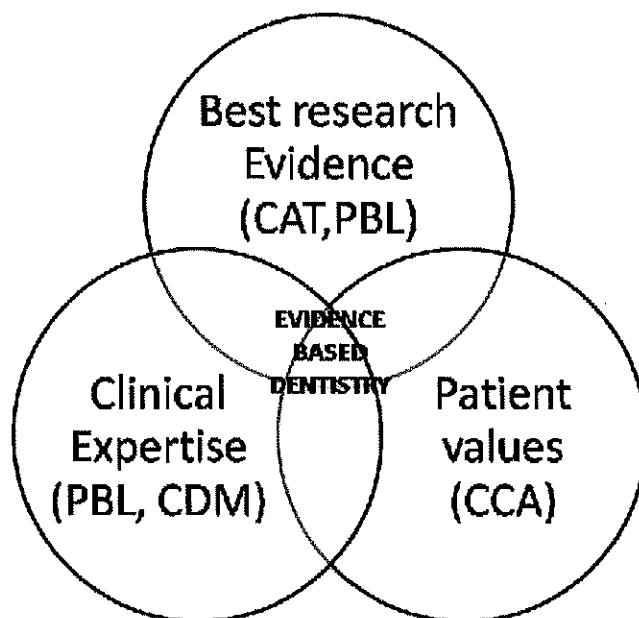iii)   Assessment :   Work based assessment

Interpersonal Skills (CCA): (20 hours)

i)   Group participatory activity; Internships
ii)   CCA-10 different centres or areas of operation as identified along with NGO
iii)   CCA-Roster based activities
iv)   CCA-One activity per group per month
v)   Assessments: three – participation, annual project reports, Reflective thinking

Life Skills (Innovation, Behavioral):

i)   Seminar/ Project day, Participatory activities (16 hours)
ii)   Assessment

SUMMARY OF THE CCC MODULE:

Best research
Evidence
(CAT,PBL)

Clinical
Expertise
(PBL, CDM)

EVIDENCE
BASED
DENTISTRY

Patient
values
(CCA)

References:

Kern, David E. and Patricia A. Thomas, Donna M. Howard, Eric B. Bass. Curriculum Development for Medical Education: A Six-Step Approach. Johns Hopkins University Press: Baltimore and London, 2006.