



Innovative Teaching Methodologies

Department of Medical & Dental Education

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General Overview

1. Rashid Latif Medical & Dental College adheres to a learning approach that is modular for MBBS and traditional for BDS, following the guidelines set by the Higher Education Commission (HEC), Pakistan Medical and Dental Council (PMDC), and University of Health Sciences (UHS).
2. In line with our dedication to surpassing PMDC requirements and enhancing the quality of medical and dental education, Rashid Latif Medical & Dental College has implemented several innovative teaching methodologies. These methodologies are designed to exceed standard educational expectations and are detailed below.

Methodology	Description
Simulation-Based Learning	Realistic Scenarios: Our advanced simulation labs provide a controlled environment for practicing clinical skills, enhancing decision-making abilities and real-world readiness.
Flipped Classroom Model	Active Learning: Students review pre-recorded lectures before class. Class time is dedicated to interactive discussions and practical applications, fostering deeper understanding.
Gamification	Interactive Learning: Integration of educational games and quizzes to reinforce medical and dental concepts, increasing motivation and retention.
Artificial Intelligence (AI) Integration	Personalized Learning: Utilization of AI tools, such as ChatGPT, for personalized support and exploration of complex concepts.
Problem-Based Learning (PBL)	Critical Thinking: Students work on real-life medical and dental cases, developing critical thinking, problem-solving skills, and teamwork.
Team-Based Learning (TBL)	Collaborative Education: Encourages student collaboration to solve complex medical and dental challenges, emphasizing collective problem-solving and shared learning.
Interprofessional Education (IPE)	Holistic Approach: Collaborative projects with students from other healthcare disciplines to promote a comprehensive understanding of healthcare and patient care.
Continuous Assessment	Regular Feedback: Frequent evaluations and feedback sessions allow students to track progress, identify strengths and weaknesses, and make improvements. Regular grand tests are scheduled and displayed in the annual test schedule.
Peer-Assisted Learning	Knowledge Sharing: Students teach and learn from each other, fostering a supportive learning environment and enhancing understanding.
Counselling and Well-Being Programs	Holistic Care: Programs focused on stress management, resilience, and self-care support students' mental and emotional health, contributing to their academic success.

3. Rashid Latif Medical & Dental College is committed to advancing educational practices through innovative methodologies that not only meet but exceed standard requirements. Our approach is designed to enhance the learning experience and better prepare students for their professional careers. We take pride in our dedication to continuous improvement and the development of forward-thinking educational practices.



ONLINE TEACHING BACK-UP PLAN

4. The institution has established robust procedures to ensure continuity of education in the event of unforeseen circumstances, government directives, or university orders that may disrupt regular on-campus academic activities.
5. Rashid Latif Medical & Dental College has put in place a contingency plan to accommodate missed lectures and ensure uninterrupted learning. These measures include transitioning to online platforms when necessary.
6. The primary platform used for online teaching is Zoom. This platform supports live lectures, interactive sessions, and recorded content, allowing for real-time participation and asynchronous learning.
7. Course materials, including lecture slides and recorded sessions, are made available on Zoom and the institution's online learning management system.
8. **SOP for Online Teaching Backup Plan:**

Notification of Transition

Procedure:

- a. In the event of a disruption to on-campus activities, the institution will notify all students and faculty about the transition to online teaching to make-up for the missed lectures.
- b. Notifications will be sent to the relevant faculty and departments, posted on the online Learning Management System (LMS), and communicated through any other relevant channels.
- c. The notification will include detailed instructions on how to access online classes, including any specific Zoom links or LMS updates.

Responsibility:

- d. The Department of Student Affairs is responsible for drafting and sending notifications.
- e. The IT Department ensures that the LMS is updated with transition details.

Technical Support

Procedure:

- f. Technical support will be available to assist with issues related to Google Classroom and the LMS. Support includes troubleshooting, account assistance, and guidance on platform usage.

Responsibility:

- g. The IT Department is responsible for providing technical support.

Training and Resources

Procedure:

- h. Training sessions will be organized by the Department of Medical & Dental Education for faculty on using Zoom and other related online tools.

Responsibility:

- i. The HR Department will coordinate with faculty for training sessions.



Ethical Use of AI in Learning, Teaching, Assessment & Research

1. Purpose, Introduction & Overview

This policy establishes **Rashid Latif Dental College's** commitment to ensuring the ethical, transparent, and responsible use of Artificial Intelligence (AI) in learning, teaching, assessment, and research across the institution.

Artificial Intelligence (AI) in education refers to systems and tools that use algorithms, machine learning, large language models, and data analytics to automate, predict, adapt, or enhance educational processes. In this context, AI can support personalized learning, adaptive assessments, feedback systems, curriculum design, content generation, virtual patient simulations, and administrative decision-making.

When defining ethical challenges and contextualizing in Pakistan: "Ethical considerations in the integration of AI into higher education must be localized, since challenges differ across contexts such as Pakistan, where issues of infrastructure, regulation, and academic integrity are pronounced (Farooqi, Amanat, & Awan, 2024). **Rashid Latif Dental College** must therefore institute a robust policy that ensures AI is used responsibly, fairly, securely, and transparently, safeguarding student rights and institutional values.

2. Policy Statements on Ethical Principles & Guidelines

2.1 **Rashid Latif Dental College** affirms that all AI technologies used in educational and research settings must be implemented:

- **Responsibly:** with consideration for welfare, beneficence, and avoiding harm.
- **Transparently:** such that students, faculty, and other stakeholders can understand how and why decisions are made.
- **Fairly:** ensuring non-discrimination, equity of access, and representation in AI models and data.

AI applications must support, not replace, human academic judgment. Final decisions about assessment, promotion, and academic outcomes remain with human faculty.

The institution will periodically review AI use practices to ensure alignment with evolving ethical, legal, and regulatory standards within Pakistan and globally.

Rashid Latif Dental College commits to the following foundational ethical principles:

- **Privacy & Data Protection:** Safeguarding personal data as per applicable national and international laws.
- **Algorithmic Fairness & Non-Discrimination:** Ensuring training data and AI-driven decisions do not unfairly disadvantage any group.
- **Transparency & Explainability:** Systems should permit understandable rationales for decisions or recommendations.
- **Accountability & Responsibility:** Assigning oversight and consequences for AI outcomes; maintaining audit logs.

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Beneficence & Data Ownership: AI use should benefit students; students have rights and ownership over personal data they contribute.

- **Sustainability & Proportionality:** AI tools must be proportionate to their pedagogical purpose and mindful of resource use, including environmental, financial, and social costs.

Scope of this Policy

3.1 This policy applies to all faculty, students, researchers, administrators, and staff at **Rashid Latif Dental College** engaged in learning, teaching, assessment, academic support, research, and administrative tasks involving AI tools.

3.2 It covers all AI tools and platforms employed by the institution, including but not limited to: adaptive learning systems, automated/grading tools, generative content tools (e.g. ChatGPT), virtual patients or simulations, predictive analytics, feedback systems.

3.3 It extends to institutional networks, cloud services, platforms, and personal devices when used for institutional/academic purposes or processing institutional data.

4. Standard Operating Procedures (SOPs)

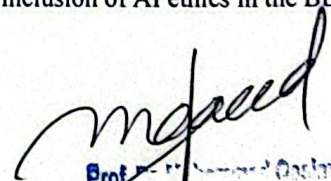
Data Collection and Management: Students must provide informed consent for both active and passive data collection, clearly informed of what is collected, for what purpose, how long, and with whom data may be shared. Failures in this have been flagged in studies of generative AI and LLM usage, which note misuse or opacity regarding user data (García-López & Trujillo-Liñán, 2025; Yan et al., 2023). Student data must be collected only with informed consent. Data shall be anonymized, securely stored, and used only for academic purposes. The IT Department shall enforce encryption, role-based access, and compliance with national data protection laws. Concerns around consent, privacy, and misuse of data have also been raised in systematic reviews in the South Asian academic context (Farooqi et al., 2024)

Use of AI in Assessment: AI-driven assessments must be valid, reliable, and free from algorithmic bias. Automated grading tools shall be supervised by faculty. Students must be informed of the limitations of AI-generated feedback. Literature has shown many educational AI tools suffer from algorithmic bias and unfair outcomes (Yan et al., 2023).

Conclusion & Future Considerations

Rashid Latif Dental College commits to embedding ethical AI use as fundamental to its educational mission—ensuring AI enhances, not undermines, learning, fairness, privacy, and academic integrity. **Rashid Latif Dental College** must continue revising and contextualizing its AI policy

Future considerations include exploring policies on virtual patients and simulations' rights, transparency reporting of AI models used, environmental sustainability of AI infrastructure, and inclusion of AI ethics in the BDS curriculum.


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