Report on the Five-Day Faculty Development Program (FDP)

Pravaah: AI and Virtual Labs Integration in Teaching-Learning Pedagogy

Organized by: Association of Indian Universities (AIU)-Vivekananda Global University (VGU)-Academic and Administrative Development Centre (AADC) in collaboration with Faculty of Basic & Applied Sciences (FBAS), VGU

Date: 6th – 10th January 2025

Venue: Vivekananda Global University, Jaipur

Total No. of Participants: 38

Institutions: VGU, Kanoria PG Mahila Mahavidhyalaya Jaipur, Subodh College Jaipur

Introduction

The 5-day Faculty Development Program (FDP) titled "AI and Virtual Labs Integration in Teaching-Learning Pedagogy" was designed to empower educators with the knowledge and skills required to integrate Artificial Intelligence (AI) and Virtual Labs into teaching practices. The sessions focused on AI's role in personalized learning, automated assessments, virtual experiments, and intelligent tutoring systems to enhance student engagement and learning outcomes.

The FDP brought together eminent scholars, industry experts, and academicians to deliberate on cutting-edge AI applications in education and provide hands-on exposure to virtual labs and AI-driven tools for effective pedagogy.

Day 1: 6th January 2025

Inaugural Session (10:00 AM – 11:00 AM)

The FDP commenced with a formal inaugural ceremony. The session began with an introductory speech by Ms. Simnu Bhatia, followed by the lamp lighting ceremony.

Key Addresses:

Prof. (Dr.) Kailash Agarwal, Dean, FBAS, VGU, highlighted the growing significance of AI and Virtual Labs in modern education, emphasizing their role in transforming traditional classroom teaching into interactive digital learning experiences.

Dr. Boola Chaudhary, Centre Head, AIU-VGU-AADC, outlined the objectives of the FDP, stressing interdisciplinary learning, integration of AI into pedagogy, and the importance of research in digital learning methodologies.

Prof. (Dr.) Mridula Purohit, Associate Dean, FBAS, extended a vote of thanks, acknowledging the organizers, speakers, and participants for their contributions to the event.

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Session 1: Introduction to AI in Education (11:00 AM – 1:00 PM)

Speaker: Dr. Manju Kaushik, Amity University, Jaipur

- Provided an overview of AI in education, tracing its history, evolution, and applications.
- Explained types of AI, classified based on capability and functionality.
- Discussed machine learning, deep learning, and natural language processing (NLP) and their implications for teaching and learning.

Session 2: Interactive Activities on AI in Education (1:00 PM – 3:00 PM)

Group Discussion: Participants engaged in small group discussions to explore the benefits and challenges of AI in education.

Debate: A thought-provoking debate on "Artificial Intelligence— A Boon or Bane?" encouraged critical reflections on ethical and practical considerations of AI implementation in education.

Day 2: 7th January 2025

Session 1: Virtual Labs and Simulations (10:00 AM – 1:00 PM)

Speaker: Dr. Harsh Pandey, Manipal University, Jaipur

- Explained how AI enables virtual experiments and simulations, providing students with real-world scientific experiences in a digital environment.

- Demonstrated how Virtual Labs can replace expensive and hazardous physical experiments in educational settings.

Session 2: Hands-on Demonstration of Virtual Labs (2:00 PM – 4:00 PM)

- Practical demonstration of a Virtual Laboratory.
- Addressed data security concerns and accessibility challenges associated with AI-driven education technologies.

Day 3: 8th January 2025

Session 1: AI in Continuous Assessment & Feedback (10:00 AM – 1:00 PM)

Speaker: Dr. Mahipal Jadeja, MNIT, Jaipur

- Explored how AI-driven tools revolutionize student assessments by providing real-time feedback, personalized learning paths, and continuous evaluation.
- Highlighted the potential of adaptive AI in enhancing learning engagement and outcomes.

Session 2: AI in Online Assessment & Evaluation (2:00 PM – 4:00 PM)

Speaker: Dr. Neha Choudhary, MUJ

- Discussed AI-powered evaluation methods, particularly in fields like medical education and STEM subjects.
- Demonstrated AI-based assessment tools for automatic grading, plagiarism detection, and feedback analysis.

Day 4: 9th January 2025

Session 1: AI-ML in Education and Healthcare (10:00 AM – 1:00 PM)

Speaker: Dr. Deepak Ranjan Nayek, MNIT, Jaipur

- Introduced Machine Learning (ML), Deep Learning, and AI applications in education and healthcare.

- Explained feature extraction, classifiers, and optical character recognition (OCR) in AI.

- Showcased AI applications in medical imaging, robotics, and disease outbreak prediction.

Session 2: MATLAB for Research & Analytics (2:00 PM – 4:00 PM)

Speaker: Mr. Deepak, VGU

- Provided hands-on training on MATLAB for mathematical modeling, graphical representations, and AI-driven analytics.

- Demonstrated how MATLAB supports research and problem-solving in scientific domains.
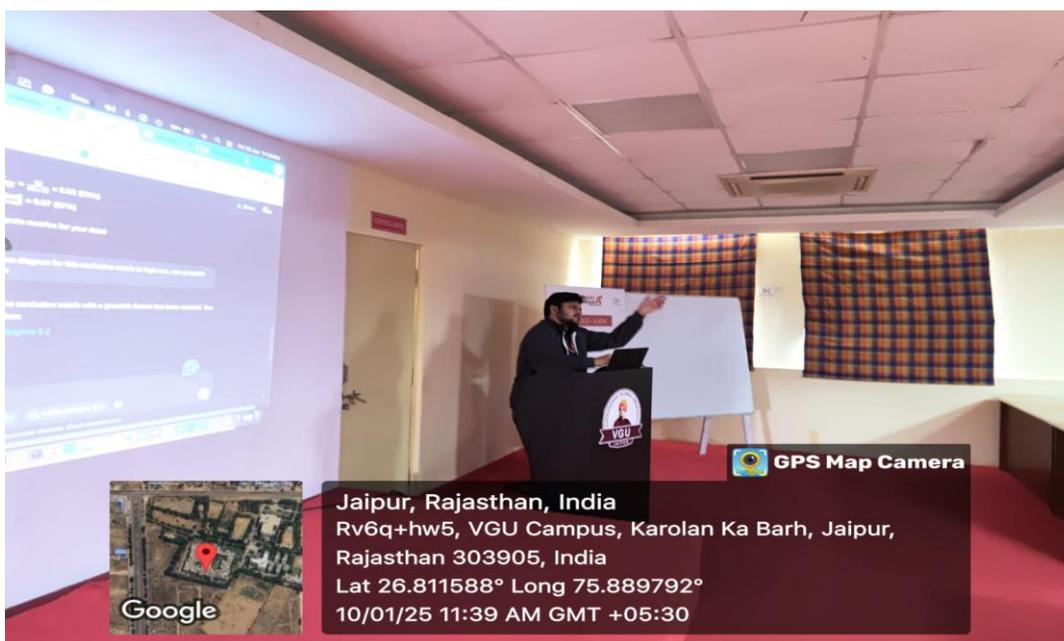
Day 5: 10th January 2025

Session 1: Strategies for AI & Virtual Lab Implementation (10:00 AM – 1:00 PM)

Speaker: Mr. Narayan Vyas, Vivekananda Global University

- Discussed strategies for implementing AI and Virtual Labs in education, focusing on:
- Curriculum integration
- Identifying potential barriers and solutions
- Leveraging AI-driven analytics for educational planning

Session 2: Exit Test, Feedback & Valedictory Ceremony (2:00 PM – 4:00 PM)

Exit Test: Participants attempted an online assessment covering key FDP topics.

Feedback Session: Participants shared their insights and suggestions for future FDPs.

Certificate Distribution: Dignitaries presented certificates of participation to faculty members.

Conclusion

The 5-day Faculty Development Program on "AI and Virtual Labs Integration in Teaching-Learning Pedagogy" successfully provided in-depth knowledge and hands-on training to educators on the application of AI in teaching. Participants actively engaged in discussions, practical demonstrations, and curriculum design exercises, gaining valuable insights into AI-driven pedagogy and virtual learning tools.

The program concluded with commitments from faculty members to incorporate AI and Virtual Labs into their teaching methodologies, ensuring a more interactive, engaging, and future-ready education system.

The AIU-VGU-AADC and Faculty of Basic & Applied Sciences, VGU expressed their gratitude to all the resource persons, organizers, and participants for making this FDP a resounding success.