



K.R. MANGALAM UNIVERSITY
THE COMPLETE WORLD OF EDUCATION

विकसित भारत
अभियान
1947 TO 2047



IQAC
Internal Quality Assurance Cell



Five-Day Faculty Development Programme **on**

“Science of Learning for Evidence-Based Teaching”

Date: 01-05 June 2026

Time: 10:00 A.M. onwards

Mode: Onsite/Offline

Event Type: Faculty Development Programme

Organized by: Association of Indian Universities – Academic and Administrative Development Centre (AIU-AADC) & Internal Quality Assurance Cell (IQAC), K.R. Mangalam University

In Collaboration with: Association of Indian Universities (AIU)

Number of Participants: 97 faculty members

Organizing Committee:

1. Prof. (Dr.) Tania Gupta

Director IQAC, & Nodal Officer AIU AADC, K.R. Mangalam University

2. Dr. Megha Garg

Associate Professor, School of Legal Studies, K.R. Mangalam University

3. Dr. Pooja Verma

Assistant Professor (Senior Scale), School of Education, K.R. Mangalam University

4. Dr. Kanchan Khatreja

Assistant Professor (Selection Grade), School of Education, K.R. Mangalam University

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5. Dr. Saleem Ahmed

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1. Introduction

The Internal Quality Assurance Cell (IQAC), K.R. Mangalam University, in collaboration with the AIU–Academic and Administrative Development Centre (AADC) and the Association of Indian Universities (AIU), successfully organized a **Five-Day Faculty Development Programme (FDP) on “Science of Learning for Evidence-Based Teaching”** from **01-05 June 2026**.

The programme was designed to bridge the gap between teaching practices that appear effective and instructional approaches supported by research in cognitive science, educational psychology, and neuroscience.

The FDP enabled faculty members to translate the Science of Learning into everyday classroom practice. Through expert-led sessions, demonstrations, reflective workshops, peer learning, and hands-on activities, participants explored cognitive architecture, cognitive load management, the forgetting curve, retrieval and spaced practice, assessment redesign, artificial intelligence in education, educational technology, differentiated instruction, and Universal Design for Learning.

Effective teaching in contemporary higher education requires more than disciplinary expertise. Faculty members need a sound understanding of how learners process, retain, retrieve, and transfer knowledge. The programme addressed this institutional need by connecting research-backed principles with practical course design, classroom instruction, assessment, inclusive education, and technology-enabled academic workflows.

2. Objectives of the Faculty Development Programme

- To develop an understanding of the Science of Learning and evidence-based pedagogy.
- To apply Cognitive Load Theory and principles of human cognitive architecture in instructional design.
- To integrate retrieval practice, spaced practice, dual coding, and other high-impact learning strategies into teaching.

- To redesign assessments and learning experiences using research-backed approaches.
- To strengthen the responsible use of AI tools for teaching, assessment, and academic workflow.
- To promote inclusive classrooms through Universal Design for Learning and Differentiated Instruction.

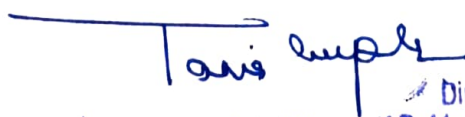
3. Resource Persons

S. No.	Resource Person	Designation / Expertise
1	Shraddha Rawat	Executive Director & Founder, Learning Design Collaborative (LDCollab)
2	Praveen Kumar Naidu	Senior Learning Experience Designer, Pedagogy Trainer & Visiting Faculty, Azim Premji University
3	Mr. Anand Krishnaswamy	Educational Innovator & Leadership Coach; Expert in Science of Learning and Learning Pedagogy
4	Mr. Anoop Garg	Co-Founder, Zenith School of AI & Programming Pathshala
5	Prof. Shravan Kumar	Professor & Dean, School of Liberal Arts, K.R. Mangalam University
6	Prof. Tania Gupta	Professor & Dean, School of Education; Director IQAC & Member Secretary, AIU-AADC, K.R. Mangalam University

4. Programme Schedule

Date	Time	Session	Distinguished Speaker
01 June 2026	10:00–11:30 A.M.	Inaugural Session & Foundations of Cognitive Architecture	Shraddha Rawat
	11:45 A.M.–1:00 P.M.	Human Cognitive Architecture	Shraddha Rawat
	1:30–2:45 P.M.	Forgetting Curve & Memory	Shraddha Rawat
	3:00–4:00 P.M.	Reflection Workshop	Shraddha Rawat

02 June 2026	10:00–11:30 A.M.	Instructional Strategies	Praveen Kumar Naidu
	11:45 A.M.–1:00 P.M.	Instructional Illusions	Praveen Kumar Naidu
	1:30–2:45 P.M.	Retrieval Practice	Praveen Kumar Naidu
	3:00–4:00 P.M.	Rosenshine's Principles of Instruction	Praveen Kumar Naidu
03 June 2026	10:00–11:30 A.M.	Evidence-Based Teaching	Mr. Anand Krishnaswamy
	11:45 A.M.–1:00 P.M.	Dunlosky Learning Techniques	Mr. Anand Krishnaswamy
	1:30–2:45 P.M.	Assessment Redesign	Mr. Anand Krishnaswamy
	3:00–4:00 P.M.	Peer Reflection	Mr. Anand Krishnaswamy
04 June 2026	10:00–11:30 A.M.	AI in Education	Mr. Anoop Garg
	11:45 A.M.–1:00 P.M.	AI Use Cases and Prompt Engineering	Mr. Anoop Garg
	1:30–2:45 P.M.	EdTech Tools for Inclusive Education & Differentiated Instruction	Prof. Shravan Kumar
	3:00–4:00 P.M.	Reflection and Institutional Adoption	Prof. Shravan Kumar
05 June 2026	10:00–11:30 A.M.	Inclusive Education	Prof. Tania Gupta
	11:45 A.M.–1:00 P.M.	Differentiated Instruction	Prof. Tania Gupta
	1:30–2:45 P.M.	Universal Design for Learning	Prof. Tania Gupta
	3:00–4:00 P.M.	Valedictory Session	Vice Chancellor & All Resource Persons



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5. Day-Wise Report of the Capacity Building and Training Programme

DAY 1 – 01 June 2026

Theme: Foundations of Cognitive Architecture

The programme commenced with the inaugural session and an introduction to the foundations of cognitive architecture. Shraddha Rawat explained how information moves from sensory input to working memory and long-term memory, and why the limited capacity of working memory has direct implications for teaching. Cognitive Load Theory was discussed through the distinction between intrinsic, extraneous, and germane cognitive demands. Participants examined common features of instructional materials that may overload learners and reflected on ways to simplify explanations, sequence content, and scaffold complex tasks.



Figure 1. Expert session on Foundations of Cognitive Architecture.

The sessions on the forgetting curve and memory highlighted the rapid loss of information when learning is not revisited. Spaced practice, deliberate review, and retrieval opportunities were introduced as practical ways to promote durable learning. During the reflection workshop, participants audited their lesson plans, presentations, and classroom routines and identified specific redesign priorities.

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DAY 2 – 02 June 2026

Theme: Instructional Strategies

Praveen Kumar Naidu led the second day, focusing on evidence-based instructional strategies and common instructional illusions. Participants critically examined beliefs such as the effectiveness of learning styles, repeated rereading, excessive highlighting, and minimally guided discovery.



Figure 2. Faculty activity on evidence-based instructional strategies.

The discussion emphasized that teaching effectiveness should be evaluated through evidence of learning and retention rather than through ease, familiarity, or immediate learner satisfaction alone.

The sessions introduced retrieval practice, attention management, and Rosenshine's Principles of Instruction. Faculty explored low-stakes quizzes, exit tickets, concept mapping from memory, worked examples, guided practice, review of prior learning, and presenting new content in small steps.

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Figure 3. Interactive session on retrieval practice.



Figure 4. Participants applying dual coding and cognitive load principles.

Practical activities enabled participants to redesign slides and classroom tasks using dual coding and cognitive load principles.

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Figure 5. Faculty participants during the evidence-based teaching session.



Figure 6. Participants engaged in activity-based learning on assessment redesign.

DAY 3 – 03 June 2026

Theme: Evidence-Based Teaching and Assessment

Mr. Anand Krishnaswamy facilitated the third day on evidence-based teaching, learning pedagogy, and assessment redesign. The sessions highlighted high- and low-utility learning

techniques identified in educational research. Participants examined the relative value of practice testing, distributed practice, interleaving, elaborative interrogation, self-explanation, summarisation, highlighting, and rereading.



Figure 7. Reflection exercises and action planning.

A major focus was the alignment of assessment with intended learning outcomes and the design of tasks that require retrieval, application, explanation, and transfer.



Figure 8. Expert session on evidence-informed teaching.

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Faculty members reviewed existing examinations, assignments, presentations, and projects, then redesigned selected components using evidence-based principles. Peer reflection provided structured opportunities for interdisciplinary feedback and refinement.



Figure 9. Collaborative reflection and implementation planning.

DAY 4 – 04 June 2026

Theme: Artificial Intelligence, EdTech and Academic Workflow

Mr. Anoop Garg introduced participants to practical applications of artificial intelligence in teaching, assessment, content development, academic research, and workflow management. The session emphasized responsible use, human oversight, academic integrity, data privacy, and the need to verify AI-generated output. Participants practised prompt engineering by improving the clarity, context, constraints, and expected format of prompts for academic tasks.


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Figure 10. AI in Education session by the resource person.

Prof. Shravan Kumar subsequently demonstrated educational technology tools and their role in improving participation, formative assessment, accessibility, and inclusive learning. The day concluded with reflection on institutional adoption, including the importance of policy, faculty capacity building, ethical safeguards, and purposeful integration rather than technology use for its own sake.

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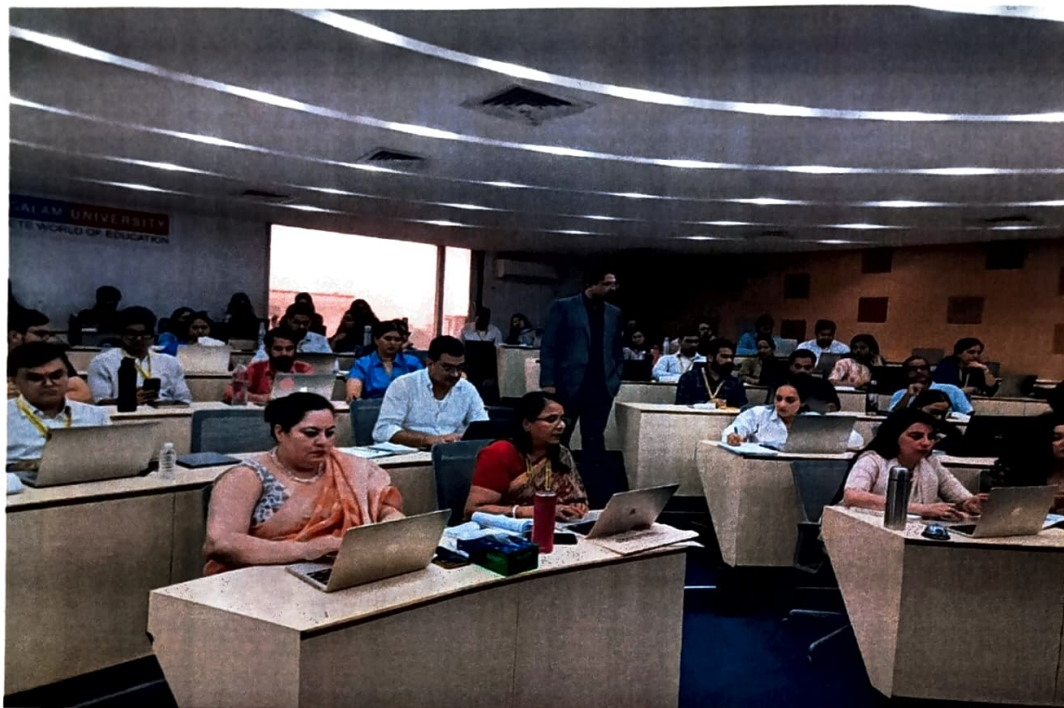


Figure 11. Demonstration of educational technology tools.

DAY 5 – 05 June 2026

Theme: Inclusive Education and Valedictory Session

Prof. Tania Gupta led the final academic day on inclusive education, Differentiated Instruction, and Universal Design for Learning. The sessions emphasized that inclusion involves proactively designing learning environments that provide multiple ways for students to engage with content, access information, demonstrate learning, and receive appropriate support. Participants explored differentiation of content, process, product, and learning environment while maintaining clear and rigorous learning outcomes.


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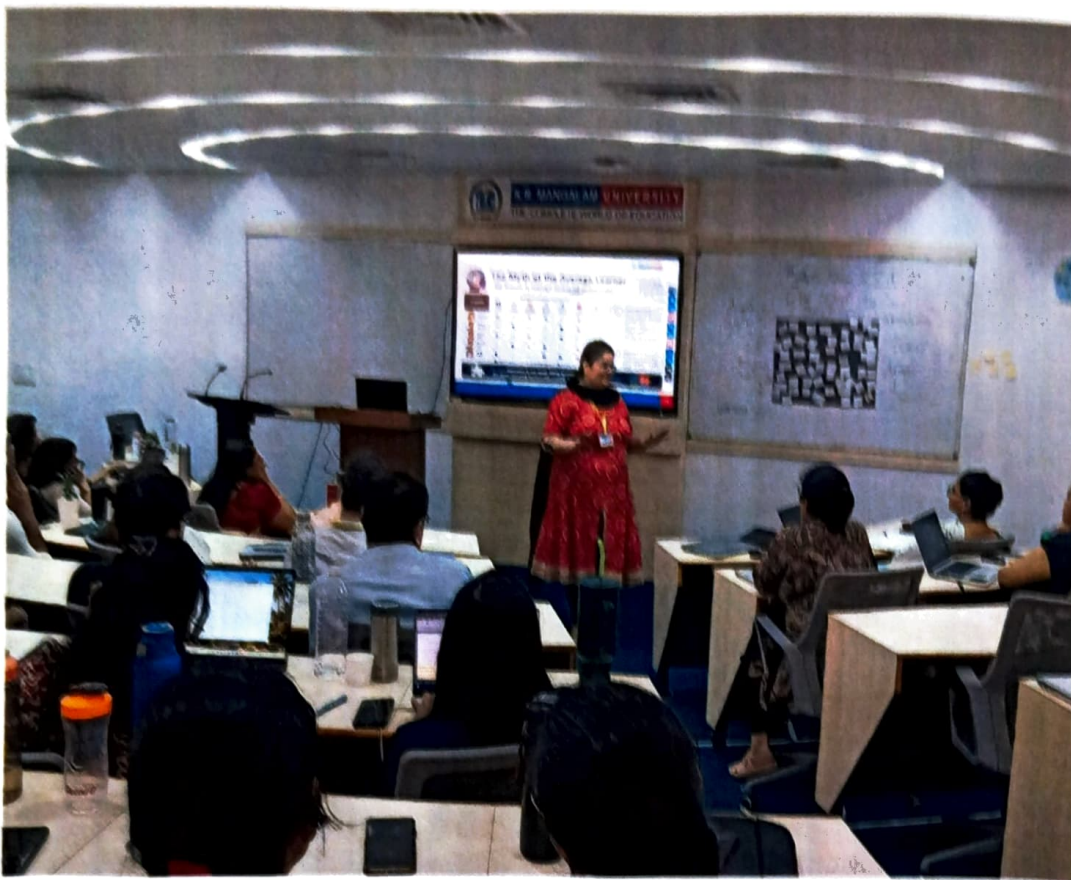


Figure 12. Session on Differentiated Instruction and Universal Design for Learning.

Faculty members developed inclusive lesson and assessment plans suited to diverse learner readiness, interests, abilities, and learning needs. The valedictory session marked the formal culmination of the programme.

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Figure 13. Faculty engagement during learning activities.

Participants reflected on their learning, shared implementation commitments, and acknowledged the contribution of the resource persons and organizing team.



Figure 14. Participants engaging with AI-enabled teaching practices.

Certificates were awarded to participants who fulfilled attendance and programme requirements.



Figure 15. Interactive classroom activity on evidence-based instructional strategies.

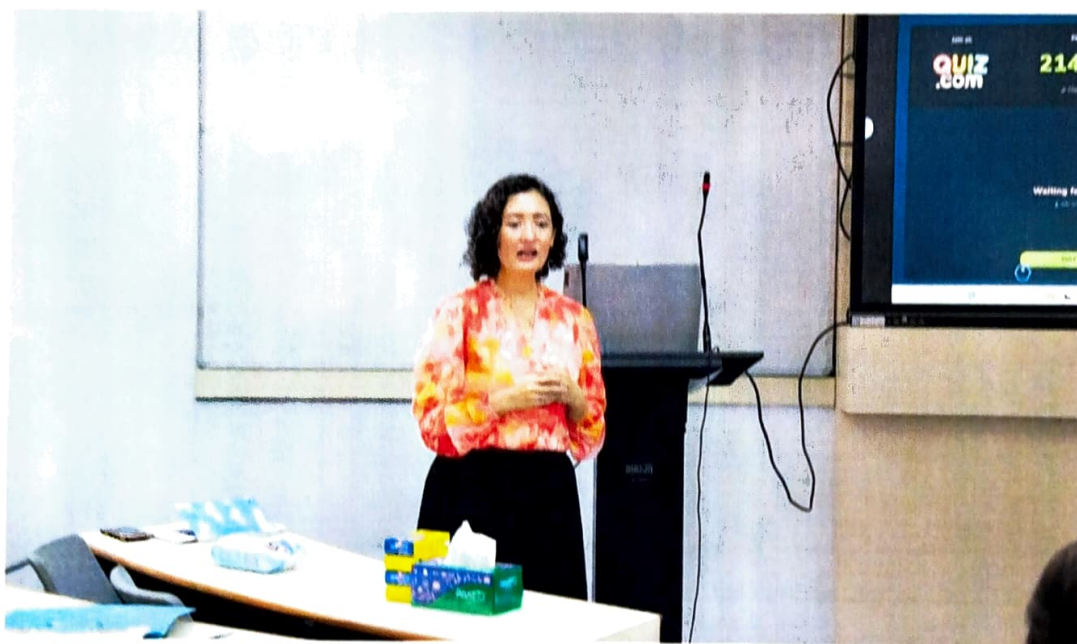


Figure 16. Practical application of evidence-based pedagogical approaches.

6. Outcomes and Impact

- Enhanced understanding of cognitive science principles relevant to higher education.

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- Improved capacity to manage cognitive load and redesign instructional materials.
- Strengthened competence in retrieval practice, spaced learning, interleaving, dual coding, and explicit instruction.
- Improved ability to redesign assessments using evidence-based approaches.
- Practical competence in responsible AI use, prompt engineering, and academic workflow support.
- Enhanced capability to use EdTech tools for participation, formative assessment, and accessibility.
- Development of inclusive teaching plans using Differentiated Instruction and Universal Design for Learning.
- Strengthened institutional commitment to evidence-informed, reflective, and learner-centred teaching.

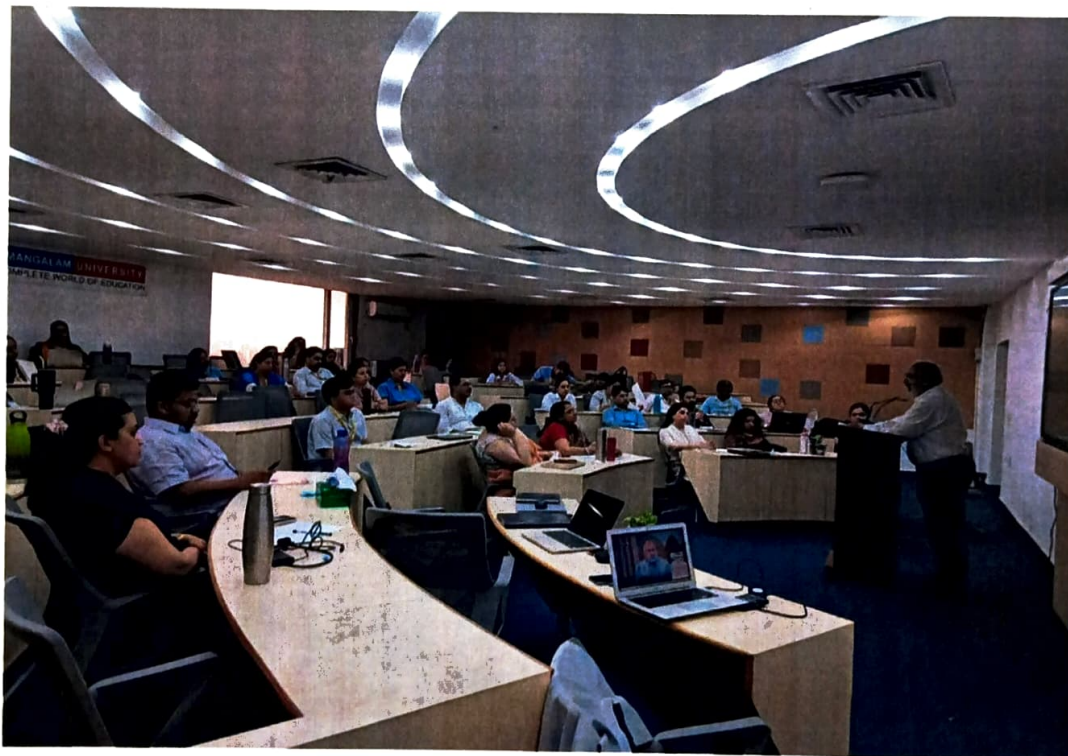


Figure 17. Valedictory session marking the successful completion of the FDP.

6. Participant Engagement, Assessment and Certification

The FDP was attended by 97 faculty members representing diverse schools and academic disciplines of K.R. Mangalam University. The onsite format supported sustained interaction,

peer learning, cross-disciplinary dialogue, demonstrations, collaborative tasks, and immediate application of concepts.



Figure 18. Peer learning and collaborative knowledge exchange.

Participant learning was supported through reflection exercises, redesign tasks, peer review, practical demonstrations, question-and-answer sessions, and the preparation of action-oriented teaching plans. Attendance in all sessions was mandatory, and certificates were awarded upon successful completion of the programme requirements.



Figure 19. Participants engaged in action-oriented learning activities.

8. Conclusion

The Five-Day Faculty Development Programme on “Science of Learning for Evidence-Based Teaching” successfully translated research on learning into practical strategies for higher education teaching. Its progression from cognitive architecture and instructional strategies to assessment, artificial intelligence, educational technology, and inclusion enabled participants to examine teaching as an evidence-informed professional practice.



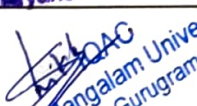
Figure 20. Celebrating learning, collaboration, and academic excellence.

The programme contributed to institutional quality enhancement by equipping faculty members to redesign classroom instruction and assessment, use technology responsibly, and create more inclusive learning environments. It demonstrated the value of sustained professional development in advancing learner engagement, retention, academic success, and a culture of reflective teaching aligned with NEP 2020 and quality assurance priorities.

9. Organizing Committee

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- Dr. Megha Garg, Associate Professor, School of Legal Studies
- Dr. Kanchan Khatreja, Assistant Professor (Selection Grade), School of Education
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