

From One Topic to a Full Lesson

AI-Assisted, Differentiated Lesson Design with Edcafe AI

A. Expert Details

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Area of Expertise	AI in education, lesson design, differentiated and inclusive instruction

B. Resource Details

Tutorial Title	From One Topic to a Full Lesson — AI-Assisted Lesson Design with Edcafe AI
Technology / Tool	Edcafe AI (AI toolkit: lesson plan, slide deck, quiz, reading activity, and chatbot generator)
Target Users	Teachers across subjects and grades; teacher-trainers; students for self-paced revision
Approximate Duration	8–9 minutes (within the 10-minute limit)
Learning Objective	Participants learn to generate a complete, differentiated teaching package from a single topic, and to assign and track it digitally.
Expected Learning Outcome	By the end, a teacher can independently generate a lesson plan, matching slides, a quiz, and two reading levels from one topic, and read a live student-response dashboard.

C. Problem Statement

Teachers in Uttarakhand — particularly those handling multiple subjects or multi-grade classrooms in small rural schools — spend many hours each week manually preparing lesson plans, quizzes, and reading material, often after school hours. Students in a single classroom frequently read and grasp concepts at very different levels, so genuinely differentiated material is needed for slow learners, average learners, and fast finishers alike. Under time pressure, this differentiation is usually the first thing to be skipped, so slower learners quietly fall further behind while faster learners are under-challenged. The core problem is not a shortage of teaching ideas, but a shortage of preparation time to turn one idea into ready, level-appropriate classroom material.

D. Proposed Solution

Use Edcafe AI, a browser-based AI toolkit for teachers, to generate — in a few minutes — a complete teaching package for one topic: a lesson plan, a matching slide deck, a formative quiz, a reading passage produced at two difficulty levels, and a topic-based revision chatbot students can question after class. The teacher reviews and lightly edits the AI draft rather than building each piece from scratch, and can assign and track all of it from one dashboard.

PROBLEM → IDEA → DESIGN → PROTOTYPE → DIGITAL SOLUTION

E. Tools Required

Software / Platform	Edcafe AI web app (app.edcafe.ai), browser-based, free-tier account
Hardware	One computer or smartphone with a browser for the teacher; students access assigned activities via a shared link on any browser/phone
Internet Requirement	Required throughout, as Edcafe AI is a cloud-based AI service for both creation and student access
Free / Open Alternative	Google Docs + Google Forms can be combined manually as a no-cost DIY alternative, though without AI-based auto-generation or auto-differentiation across reading levels

F. Step-by-Step Demonstration (Video Part E — Live Demo)

1. Log in to Edcafe AI and open the Lesson Plan tool; enter a topic, e.g. "Photosynthesis, Class 8 Science", and generate the plan.
2. From the same topic, generate a matching Slide Deck; review it and export to PowerPoint.
3. Use the Quiz tool to auto-build a short formative quiz from the same content.
4. Use the Reading Activity tool to generate two versions of a reading passage at different reading levels for differentiated learners.
5. Create a topic-based Chatbot so students can ask follow-up questions and revise after class, with conversations visible to the teacher.
6. Assign the quiz, reading activity, and chatbot link to students, then open the teacher dashboard to review live submissions and performance insights.

G. Expected Output

A complete, ready-to-use topic package — lesson plan, slide deck, quiz, two-level reading material, and a revision chatbot — generated in under ten minutes, plus a live dashboard of student responses the teacher can review the same day.

H. Innovation Extension

Ways participants can modify, extend or adapt this beyond copying the demo:

1. Use the YouTube Quiz tool to convert a locally recorded teacher explanation video into an auto-graded quiz for flipped-classroom use.
2. Build subject-specific chatbots (e.g., "Class 10 Maths Doubt-Solver") and share them across a school or a cluster of nearby schools to reduce repeated preparation.
3. Use the AI Speech feature to turn the differentiated reading passages into audio, improving access for visually impaired students or those below grade reading level.

I. References

- Edcafe AI official website, www.edcafe.ai — feature list, plans, and compliance information, accessed September 2026.
- All screenshots and demonstrations in the video are the presenter's own, recorded from a personal, non-student Edcafe AI account; no real student data is shown.
- Sample topic content (e.g., Photosynthesis) is used for demonstration only and is not reproduced from any copyrighted textbook.

Appendix — Suggested 8–9 Minute Video Timing (Parts A–G)

Part	Segment	Content
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A	Introduction (30–45 sec)	Presenter name, designation, organisation, and association with Hackathon 3.0
B	Problem (45–60 sec)	Teachers lack time to prepare differentiated material for mixed-level, multi-grade classrooms
C	Idea (1 min)	Generate a full, level-differentiated lesson package from one topic using AI
D	Tools & Design (1–2 min)	Edcafe AI toolkit — lesson plan, slides, quiz, reading levels, chatbot; free-tier signup
E	Live Demo (3–5 min)	Generate lesson plan → slides → quiz → two-level reading → chatbot → assign and view dashboard
F	Challenge (30–45 sec)	Invite participants to pick their own hardest-to-differentiate topic and redesign it, not copy this one
G	Closing	SCERT Uttarakhand — Hackathon 3.0 branding and innovation pathway line

Note: The exact video length and any tool-plan (free/paid) claims should be confirmed before final submission. Screen recordings must not display passwords, API keys, or real student data, per Section 7 of the Hackathon 3.0 guidelines.