

Ideation Phase

Define the Problem Statements

Date	27 June 2025
Team ID	LTVIP2025TMID32116
Project Name	EduTutor AI: Personalized Learning with Generative AI and LMS Integration
Maximum Marks	2 Marks

Problem Statement: EduTutor AI – Personalized Learning with AI & Google Classroom Integration

In today's digital education landscape, students often face challenges with generic, one-size-fits-all learning platforms that fail to cater to individual strengths, weaknesses, and progress. While tools like Google Classroom enable course delivery and classroom management, they lack intelligent personalization, real-time feedback, and adaptive learning experiences.

At the same time, educators struggle with limited visibility into student performance trends, difficulty levels, and topic-wise mastery—hindering their ability to tailor instruction effectively. The absence of smart diagnostics and continuous performance monitoring leads to disengagement, uneven learning progress, and unmet potential.

EduTutor AI aims to bridge this gap by offering a **personalized, AI-powered learning ecosystem** that integrates seamlessly with Google Classroom. By leveraging **Granite LLM via Hugging Face**, **IBM Watsonx models**, and the **Pinecone vector database**, the platform delivers:

1. Personalized Quizzes & Real-Time Feedback

Automatically generates targeted quizzes aligned with Google Classroom courses using advanced LLMs, providing students with instant evaluation and adaptive question difficulty.

2. Educator Dashboard & Insights

A centralized dashboard for teachers to monitor student performance across quizzes, track topic-wise understanding, and adjust instruction strategies using insights from the Pinecone vector database.

3. Diagnostic Testing & Adaptive Learning Paths

At onboarding, students undergo an AI-driven diagnostic assessment, allowing the system to tailor learning materials and quiz complexity to match individual readiness levels.

4. Seamless Google Classroom Integration

Ensures automatic syncing of classes, subjects, and student data—enabling aligned quiz generation and reducing the manual workload for educators.

 Problem Statement (PS)	 I am (Customer)	 I'm trying to	 But	 Because	 Which makes me feel
PS-1	A student struggling with self-paced learning	Get personalized quizzes based on my syllabus	There's too much generic content and no targeted feedback	It doesn't adapt to my progress or classroom topics	Lost, unmotivated, and overwhelmed
PS-2	An educator managing multiple classes	Track student performance and tailor instruction	I don't have real-time insights or automated evaluation tools	Manual grading takes time and lacks depth	Frustrated and unable to focus on personalized teaching
PS-3	A student new to a subject	Understand where I stand before diving into lessons	There's no diagnostic test to evaluate my knowledge	I can't identify strengths or weaknesses early on	Confused about where to begin
PS-4	A school administrator seeking curriculum alignment	Integrate academic tools like Google Classroom	Existing platforms don't sync course data automatically	Data entry is repetitive and error-prone	Tired of inefficiency and inconsistency

