

Use Case: Personalized Learning in Higher Education

Problem Definition:

University students often struggle to keep up with course content due to varying learning speeds, lack of personalized guidance, and overwhelming resources. Professors have limited time to give individual attention.

Current issues:

- Students feel lost in large online classes
- High dropout or failure rates in tough courses
- Inconsistent learning outcomes

Proposed AI Agent: "EduMentor"

An intelligent AI-powered learning assistant that:

- Provides **personalized tutoring** based on a student's performance and learning style
- Breaks down complex topics into simpler chunks
- Gives **real-time feedback** on quizzes, assignments, and concepts
- Suggests customized learning paths and resources
- Can be accessed through a **chat interface** embedded in the university's Learning Management System (LMS)

Impact & Measurable Benefits:

1. **25% improvement in student performance**
(measured through quiz scores and assignment grades)
2. **40% reduction in faculty time spent on repetitive queries**
(AI handles FAQs, basic doubts, and resource navigation)
3. **30% increase in course completion rates**
(due to better engagement and support)

Bonus – Interaction Sketch:

User Interface:

Accessible via LMS dashboard or mobile app.

- **Student:** *"I don't understand glycolysis. Can you explain?"*
- **EduMentor:** *"Sure! Glycolysis is the process of breaking down glucose into energy. Here's a simple animation and a quiz to test your understanding."*
- Suggests next topic: *"Would you like to learn about the Krebs Cycle next?"*

EduMentor can also speak via voice (optional) and send reminders for upcoming deadlines.