**Student Use Cases**

**Problem**

1. Low Student Engagement & Motivation
2. **Lack of Personalized Learning Paths**
3. Poor Academic Performance & Concept Retention
4. Inadequate Revision & Exam Prep Support
5. Limited Real-Time Feedback
6. Lack of Career and Skill Alignment
7. Dropouts & Incomplete Courses
8. Inefficient Use of Instructor Time
9. Disconnected Learning Systems
10. Lack of Timely Interventions

**Problem & Solution Use Case Matrix for Student**

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| --- | --- | --- | --- |
| **#** | **Problem Area** | **Impact on Student Success** | **AI/Tech-Driven Solutions** |
| 1 | **Low Engagement & Motivation** | Dropouts, passive learning | Gamified learning, social learning tools, AI-powered engagement nudges |
| 2 | **Lack of Personalized Learning Paths** | One-size-fits-all fails diverse learners | Adaptive learning engines, LLM-based tutors, diagnostic assessments |
| 3 | **Weak Concept Retention & Understanding** | Poor academic performance | Retrieval-augmented flashcards, interactive explainers, smart quizzes |
| 4 | **Ineffective Revision & Exam Prep** | Low exam scores despite effort | Smart revision planners, RAG-based content retrievers, practice agents |
| 5 | **Limited Real-Time Feedback** | Slow progress, repeated mistakes | AI feedback loops, instant grading bots, conversational learning agents |
| 6 | **No Career & Skills Alignment** | Demotivation, wrong program choice | AI-driven skill-to-career mapping, job-aligned micro-credentials |
| 7 | **High Dropout or Non-completion Rates** | Lost revenue, low success metrics | Proactive intervention agents, engagement trackers, automated follow-ups |
| 8 | **Overburdened Instructors** | Less focus on high-impact teaching | AI co-pilots for grading, content creation, lesson planning |
| 9 | **Fragmented Learning Systems** | Inconsistent learner experience, limited insights | Integrated LMS + RAG search, data unification tools |
| 10 | **Delayed Support for At-Risk Students** | Missed intervention opportunities | Predictive AI models, early warning dashboards, personalized nudges |

**External Use Cases - Student**

1. **Personalized Learning Assistants Singapore**

Class Content Q&A Copilot (Integrated with SharePoint + Teams)

**Use Case:**

* Students can ask Copilot questions during or after class (in MS Teams), and it retrieves answers from lecture notes, syllabi, PDFs, and other class documents stored on SharePoint.

**Example Prompts:**

* “What did the professor say about enzyme kinetics in last week's biochem class?”
* “Summarize key points from the Week 4 lecture slides on Thermodynamics.”

**Integration:**

* **Copilot** acts as the interface in MS Teams.
* **SharePoint** holds lecture materials, notes, class recordings.
* RAG layer retrieves and filters relevant content for answers.

**Benefits:**

* Always-on academic assistant.
* Reduces confusion and repetitive queries to lecturers.
* Ideal for revision and concept clarification.

**Agentic Capabilities:**

* + Learning Style Profiler Agent
  + Topic Explainer Agent
  + Real-Time Q&A Tutor Agent
  + Progress Monitor Agent
  + Study & Task Planner Agent
  + Knowledge Reinforcer Agent

**Sample Student Interaction:**

**Student**: "Can you help me study optics over the weekend and also test me on it Monday morning?"

**Actions Triggered**:

* Study Planner Agent → Weekend plan
* Retriever Agent → Optics notes/videos
* Flashcard Generator Agent → Quiz for Monday
* Reminder Agent → Monday morning quiz nudge

1. **Smart Study Plan/Guide Generator**

Based on Class Resources

**Use Case:**

* Copilot generates personalized study plans by analyzing class calendars, assignment deadlines, and SharePoint-stored materials and help exam preparation & revision companion

**Example Prompts:**

* “Create a weekly study plan to prepare for the final math exam.”
* “Which topics should I revise from our economics course based on previous quizzes?”

**Integration:**

* Pulls calendar/events from Outlook + Teams.
* Gathers topic priorities and content from SharePoint folders.
* Delivered as a To-Do list or Planner board via Microsoft To-Do or Planner.

**Benefits:**

* Improves student time management and reduces last-minute cramming.
* Aligns perfectly with Teams' class schedules and files.

**Agentic Capabilities:**

* **Study Planner Agent** - Creates a time-bound, syllabus-aligned study plan
* **Adaptive Scheduler Agent** - Dynamically reschedules topics based on progress and delays
* **Content Retriever Agent (RAG) -** Fetches relevant learning materials from notes, textbooks, past papers, etc.
* **Weakness Detector Agent** - Prioritizes topics based on quiz scores or past struggles
* **Reminder & Motivation Agent -** Sends timely nudges, study tips, and motivational messages
* **Progress Tracker Agent -** Tracks completion, provides feedback and visual dashboards

**3. Academic Counselling Assistant/Career Path Guidance Advisor**

**Use Case:**

Advises students on course selection, GPA improvement strategies, and graduation planning based on institutional guidelines and performance.

**Example Prompts:**

* “Can I drop a module without affecting my graduation?”
* “What electives can I take to improve my GPA in Semester 2?”

**Data Sources:**

* School academic regulations and course catalogues (via SharePoint or student portal)
* Student transcript or performance data (if integrated securely)
* Graduation requirement checklists

**Integration:**

* As Copilot plugins in MS Teams or Outlook.
* As chatbots on student portals.
* Through SharePoint-driven knowledge bases.

**Benefits:**

* Gives on-demand academic guidance.
* Eases pressure on human counsellors during registration periods.

**4. Smart Exam Preparation & Revision Companion**

**Use Case:**

An AI-powered personal exam coach that autonomously manages students' study plans, retrieves personalized learning materials, creates quizzes, tracks progress, and adapts revision strategies.

**Example Prompts:**

* “Create a revision timetable for Biology with more focus on Genetics and Cell Division.”
* “Give me 10 short answer questions from the last 5 years’ Chemistry papers.”
* “Summarize all the important formulas from Algebra and Calculus.”
* “Which chapters am I struggling with based on my quiz history?”
* “Revise Trigonometry in quick flashcard format.”

**Data Sources:**

* + Class Notes & Slides
  + Textbooks & PDFs
  + Past Year Exam Papers
  + LMS Quiz Data
  + Recorded Lectures

**Integration:**

* + Microsoft Teams
  + As Copilot plugins in MS Teams or Outlook.
  + As chatbots on student portals.
  + Through SharePoint-driven knowledge bases.
  + Power Automate (Sends reminders, nudges, and next-step suggestions based on progress tracking)
  + Azure OpenAI + RAG (Pulls topic-specific content and generates dynamic, contextual responses)

**Benefits:**

* Gives on-demand academic guidance.
* Eases pressure on human counsellors during registration periods.

**Internal Use Cases – Counsellor, HR, Accounting, Management, Marketing**

**Note –** Counselor and HR is already done and not interested but may be more of other internal team such as LPA (Lecturer Management Team) and admin team members.

1. **HR – Employee Policy Copilot & Intelligent Case Handler**

#### **Use Case:**

An AI assistant that retrieves company policies, interprets HR guidelines, and autonomously responds to employee queries or routes complex cases to the right HR personnel.

#### **Example Prompt:**

“What is the parental leave policy for contract employees in Singapore?”  
“Can I encash my remaining annual leave if I resign in July?”

#### **Data Sources:**

* HR policy documents (SharePoint/HRIS)
* Past resolved cases
* Employee handbook PDFs
* Local labor law documentation (MOM)

#### **Agentic Layer Actions:**

* Auto-classify queries (leave/payroll/benefits)
* Trigger workflows like leave encashment approval
* Escalate edge cases to HRBP

#### **Benefit:**

Reduces HR ticket volume, ensures policy clarity, and speeds up response time.

1. **Finance – Smart Expense Validation & Reporting Assistant**

#### **Use Case:**

An AI agent that verifies submitted expense claims against finance policy, retrieves historical records, and generates a real-time approval or rejection summary.

#### **Example Prompt:**

“Validate these travel expenses for the Singapore fintech event.”  
“Was there any policy breach in this claim?”

#### **Data Sources:**

* Expense policies & templates
* Past claims and audit logs
* ERP/Finance system integrations
* SharePoint financial guidelines

#### **Agentic Layer Actions:**

* Extract receipts & match with policy
* Flag anomalies
* Generate expense report summary + approvals in Excel or PDF

#### **Benefit:**

Improves compliance, reduces manual audit efforts, and speeds up approvals.

1. **Marketing – Campaign Intelligence & Competitor Tracker**

#### **Use Case:**

A smart agent that retrieves internal campaign data, market trends, and competitor activity — then autonomously generates insights or next-best-action plans.

#### **Example Prompt:**

“Summarize the impact of the Q2 Instagram campaign.”  
“What are our competitors doing in the Gen Z wellness niche?”

#### **Data Sources:**

* Internal campaign performance data (CRM, analytics dashboards)
* Market research docs
* Public web data (competitor sites, social media, news)
* SharePoint brand guidelines

#### **Agentic Layer Actions:**

* Extract KPIs, visualize results
* Compare vs competitor actions
* Suggest next campaign based on historical success

#### **Benefit:**

* Boosts campaign ROI, shortens planning cycles, and enhances data-driven decision-making.

1. **Sales - Program Recommendation & Enrollment Copilot**

#### **Use Case:**

An intelligent assistant that retrieves course offerings, matches them to student profiles and preferences, and helps automate parts of the enrollment journey.

#### **Example Prompt:**

“Suggest suitable part-time diplomas for a working adult in logistics.”  
“Prepare an offer pack for a student accepted into Cybersecurity Level 3.”

#### **Data Sources:**

* Student interest data (from CRM or forms)
* Course descriptions and entry requirements
* Enrolment guidelines and checklists

#### **Agentic Layer Actions:**

* Recommend best-fit programs
* Generate personalized offer letters
* Remind students about missing documents

#### **Benefit:**

* Increases enrolments through personalization and automates manual admin work.

**Prediction -** Use Case Overview: Student Success Predictor

**Student drop rate prediction rate – 25% benchmark**

* **Personal, social, attendance, finical information, attendance remarks, grade, previous background, grade assignments, log activity, LMS activity**

**Drop out**

* Likely to fail
* Attendance compliance issue intervention – overall 10, there 2 students who are likely to miss attendance overall
* Suggest interventions - Recommend tutoring, content review, or counselling support
* Forecast academic outcomes. - Predict exam scores or assignment performance based on learning behavior
* Prioritize support

**Program team, Lecturer Program Team**