



# Dashboards Documentation

## Team Members:



1. Nada Hosny Ibrahim
2. Mohamed Ahmed Ammar
3. Ahmed Hamdy Nossir
4. Mahmoud Saied Zaki
5. Sabry Yahia Ahmed

## 1. Students

### 1. Student Performance Overview Dashboard

Item	Description
User	Student, Instructor
Charts	Line chart (Score over Time), KPI card (Average Score), Pie chart (Pass vs Fail)

Item	Description
Measures	Average score, score trend, pass/fail ratio
Tables/Columns Needed	Result(StudentID, ExamID, TotalGrade) Exam(ExamID, CourseID, Date)
Purpose	Tracks student academic progression over time

## 2. Topic Mastery Tracker Dashboard

Item	Description
User	Student, Instructor
Charts	Bar chart (Score per Topic), TreeMap (Topic Weight), KPI card (Top Weak Topic)
Measures	Score per topic, most/least mastered topics
Tables/Columns Needed	Answer(StudentID, ExamID, QuestionID, AnswerText) Question(QuestionID, TopicID, Grade) Topic(TopicID, Name)
Purpose	Helps students and instructors see knowledge gaps

## 3. Practice Progress Monitor Dashboard

Item	Description
User	Student
Charts	Column chart (Questions attempted per day), Line chart (Success rate)

Item	Description
Measures	Daily attempts, success rate
Tables/Columns Needed	PracticeLog(StudentID, TopicID, AttemptDate, Correct)
Purpose	Tracks student engagement in revision/practice

## 4. Certification Recommendations Dashboard

Item	Description
User	Student
Charts	Table (Suggested Certs), KPI (Cert Coverage), Slicer (by Topic)
Measures	Matching certs per weak topic
Tables/Columns Needed	WeakTopics(StudentID, TopicID, SuccessRate) Certification(TopicID, Name, URL)
Purpose	Recommends certs based on weak academic areas

## 5. Freelance Opportunities Matcher Dashboard

Item	Description
User	Student

Item	Description
Charts	Table (Jobs), KPI card (Avg Budget), Word Cloud (Skill frequency)
Measures	Job matches per skill/topic
Tables/Columns Needed	Student_Course(StudentID, CourseID) FreelanceJob(Skill, Title, Budget)
Purpose	Connects learning to income opportunities

## 2. Instructors

### 6. Instructor Course Effectiveness Dashboard

Item	Description
User	Instructor, Admin
Charts	Column chart (Avg Grade by Course), Line chart (Performance trend)
Measures	Avg. student grades per instructor/course
Tables/Columns Needed	Course(CourseID, InstructorID) Result(StudentID, ExamID, TotalGrade)
Purpose	Evaluate teaching impact

## 7. Question Difficulty Analyzer Dashboard

Item	Description
User	Instructor
Charts	Table (Questions with error rate), KPI (Most failed Q), Histogram (Error distribution)
Measures	% wrong answers per question
Tables/Columns Needed	Answer(QuestionID, Correct), Question(QuestionID, Text)
Purpose	Identify confusing or hard questions

## 8. Student Improvement Trend Dashboard

Item	Description
User	Instructor, Student
Charts	Line chart (Score per Exam), Slicer (by Course)
Measures	Score improvement over time
Tables/Columns Needed	Result(StudentID, ExamID, TotalGrade), Exam(CourseID, Date)
Purpose	Measure student growth

## 9. Topic Difficulty Map Dashboard

Item	Description
User	Instructor
Charts	Heatmap (Topic vs Avg Score), KPI (Most Failed Topic)
Measures	Avg score per topic
Tables/Columns Needed	Topic, Question, Answer
Purpose	Refine focus areas in teaching

## 10. Exam Overview Dashboard

Item	Description
User	Admin, Instructor
Charts	Pie (Exam status), Table (Exam list), KPI (Exams per Course)
Measures	Count of exams by course/status
Tables/Columns Needed	Exam(ExamID, CourseID, Date)
Purpose	Summarize exam schedule and status

## 17. Adaptive Exam Analysis

Item	Description
User	Admin, Instructor
Charts	Step chart (Question Difficulty Path), Line (Score Path)

Item	Description
Measures	Difficulty flow per student
Tables/Columns Needed	AdaptiveLog(StudentID, QuestionID, DifficultyLevel, Time)
Purpose	Review effectiveness of adaptive design

### 3. Admins

## 11. System Usage Monitor

Item	Description
User	Admin
Charts	Line chart (Logins per day), Pie chart (Role usage)
Measures	Daily usage, active users by role
Tables/Columns Needed	ActivityLog(UserID, Role, Timestamp)
Purpose	Track overall system engagement

## 12. Cheating Alert Dashboard

Item	Description
User	Admin
Charts	Table (Suspicious Students), Gauge (Cheating Risk %)
Measures	Answer similarity, exam completion speed
Tables/Columns Needed	Answer, ActivityLog, ExamDuration

Item	Description
Purpose	Identify and monitor potential cheating

## 13. Instructor Performance Summary

Item	Description
User	Admin
Charts	Table (Instructor KPIs), KPI cards (Avg Student Score)
Measures	Avg score, pass rates, course count
Tables/Columns Needed	Instructor, Course, Result
Purpose	Evaluate instructor effectiveness

## 21. Branch Comparison Dashboard

The Branch Comparison Dashboard will provide insights into branch performance across multiple dimensions.

Table Name	Columns Needed
Branch	BranchID, BranchName, Location
Course	CourseID, CourseName, BranchID
Student	StudentID, StudentName, BranchID
Application	ApplicationID, StudentID, BranchID, ApplicationDate
Result	ResultID, StudentID, CourseID, Grade
Feedback	FeedbackID, StudentID, BranchID, Rating, Comments



Table Name	Columns Needed
JobPlacement	PlacementID, StudentID, BranchID, JobTitle, PlacementDate

## 18. Exam Generator Insights

Item	Description
User	Admin
Charts	Table (Question pool stats), KPI (Randomization level)
Measures	Distribution, randomness
Tables/Columns Needed	Exam_Question, Question, Course
Purpose	Monitor fairness of random exam generation

## 19. System Activity Heatmap

Item	Description
User	Admin
Charts	Heatmap (Hour vs Day), Line (Activity burst)
Measures	System load
Tables/Columns Needed	ActivityLog
Purpose	Detect usage patterns or outages

## 22. Course Scheme Performance Dashboard

This dashboard focuses on evaluating the effectiveness and demand for each course.

Table Name	Columns Needed
Course	CourseID, CourseName, Description
Student_Course	StudentCourseID, StudentID, CourseID, EnrollmentDate
Result	ResultID, StudentID, CourseID, Grade
Feedback	FeedbackID, StudentID, CourseID, Rating, Comments

## 23. Data Gaps & Integrity Dashboard

The Data Gaps & Integrity Dashboard will help identify missing or incomplete records, ensuring data quality.

Table Name	Columns Needed
Student	StudentID, StudentName, ContactInfo
Course	CourseID, CourseName, Schedule
Instructor	InstructorID, InstructorName, Department
Assignments	AssignmentID, CourseID, StudentID, DueDate, Status

## 24. Instructor Benchmarking Dashboard

This dashboard is designed to compare instructor performance and student reach.

Table Name	Columns Needed
Instructor	InstructorID, InstructorName, Department
Course	CourseID, CourseName, InstructorID
Feedback	FeedbackID, InstructorID, CourseID, Rating, Comments
Result	ResultID, StudentID, CourseID, Grade
HoursTaught	RecordID, InstructorID, CourseID, Hours, Date

### 4. Recruiters/HRs

## 14. Student Resume Snapshot

Item	Description
User	HR
Charts	Card (Score), Table (Skills), Cert List
Measures	Job readiness score
Tables/Columns Needed	Student, Result, ResumeTags, Certification
Purpose	Preview candidate resumes

## 15. Top Talent Pipeline

Item	Description
User	HR
Charts	Table (Top Students), KPI (Skill %), Stacked bar (Certifications)
Measures	Readiness by topic/cert
Tables/Columns Needed	Result, Certification, ResumeTags
Purpose	Find best-fit candidates

## 16. Certification Completion Tracker

Item	Description
User	Admin, HR
Charts	Pie (Completed vs Suggested), Table (Student Completion)
Measures	Cert completion rate
Tables/Columns Needed	Student, CertificationProgress
Purpose	Encourage learning beyond exams

## 20. Interview Practice Tracker

Item	Description
User	Student, HR
Charts	Line (Score per mock), Table (Topics missed)
Measures	Readiness trend, interview weaknesses
Tables/Columns Needed	InterviewSim(StudentID, QuestionID, Score, Feedback)
Purpose	Help students prep for job interviews