

# From College Boards to Dashboards : Providing Data Insights to a Community College

## Listings of All Created Resources

### 1. Datasets

Name	Description	Notes
Q - Student Enrollment	Dataset prepared from Student Enrollment Statistics sample	Includes calculated field <b>Student Type</b> and renamed field <b>NationalOrigin</b>

---

### 2. Analyses

Name	Description	Visuals Included
Q - Student Enrollment Analysis	Main analysis for the project	<ul style="list-style-type: none"><li>1. Student Majors by Year (Bar Chart)</li><li>2. Proportion of Student Types (Pie Chart)</li><li>3. Professors with Best Avg Evaluations</li><li>4. Courses with Best Avg Evaluations</li><li>5. Professors with Highest Avg Course Costs</li><li>6. Courses with Highest Avg Course Costs</li></ul>

---

### 3. Dashboards

Name	Description	Features
Student Enrollment Dashboard	Published dashboard from Q - Student Enrollment Analysis	Includes Q&A feature, all visuals included, interactive for scenario exploration

---

## 4. Topics

Name	Description	Named Entities
Regional Community College Student Data	Q&A environment for understanding student enrollment data	1. Student Details 2. Course Details 3. Professor Evaluation

---

## 5. Named Entities

Entity Name	Description	Field Ranking (Top fields first)
Student Details	Information about enrolled students	Student Name, Semester, Course, Test Score, Grade, Student Classification, Student Type, Major, Gender, NationalOrigin, Credit, Enrollment Date, Graduation Date, Student Id
Course Details	Information about courses	Course, Professor, Cost per Course, Academic Year, Semester, Course Id
Professor Evaluation	Tracks professor performance	Professor, Course, Semester, Academic Year, Student Name, Evaluation Score

---

## 6. Scenarios

Name	Description	Starter Question	Notes
------	-------------	------------------	-------

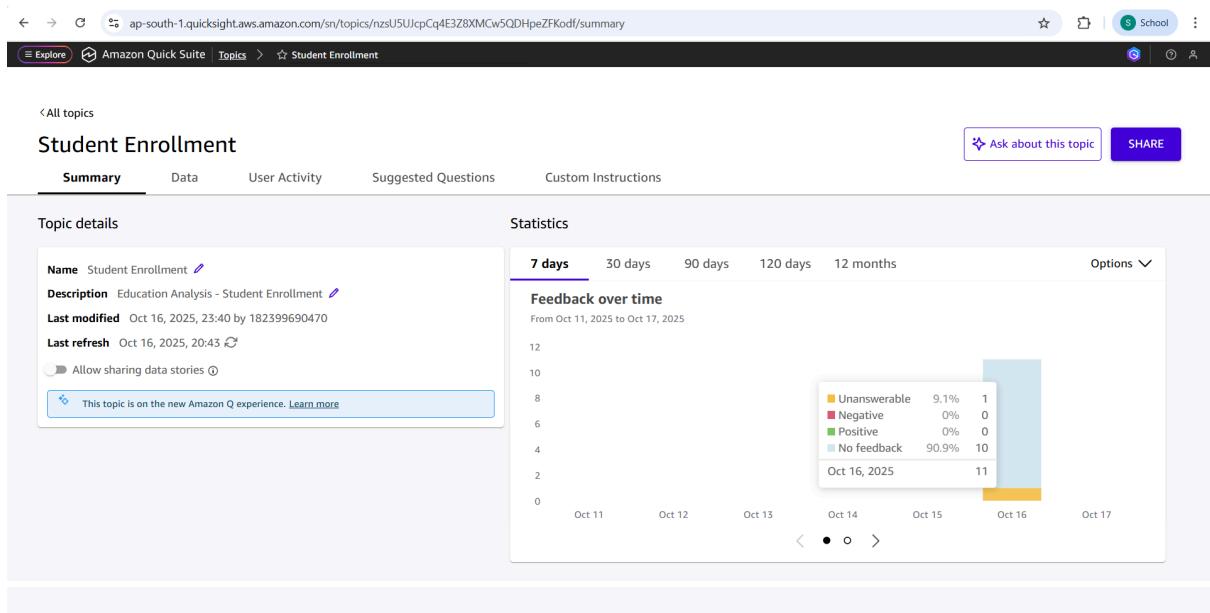
## Improving Student Satisfaction Without Increasing Costs

Scenario to explore improving professor evaluations without increasing costs

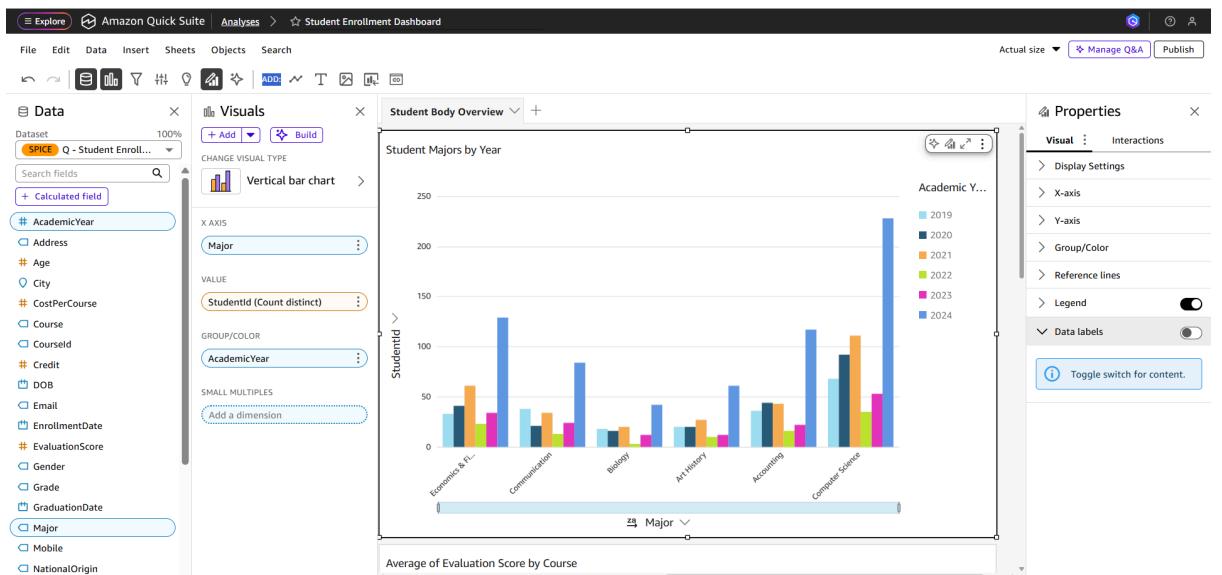
“How do we improve professor evaluations, while avoiding an increase in cost per course?”

Uses all dashboard visuals, includes follow-up questions in a thread

- Student Enrollment Statistics sample topic



- Field Format Correction – Academic Year (Without Commas)



- List of Dataset Field names

The screenshot shows the 'Edit dataset' interface in Amazon QuickSight. On the left, the 'Fields' tab is selected, displaying a list of fields including Address, Mobile, StudentName, StudentId, AcademicYear, EnrollmentDate, GraduationDate, Major, Age, DOB, NationalOrigin, and ZipCode. A 'Focus' dropdown is set to 'All fields'. Below the fields is a 'Parameters' section with 'All | None' selected. The 'Data' tab on the right shows a preview of the dataset with 5 rows of sample data:

Address	Mobile	StudentNa...	StudentId	AcademicY...	Enrollment...	Graduation...	Major	Age	DOB	NationalOr...
445 Waubes...	898-976-0439	Gustaf Atty	5d70038f12...	2020	2020-10-08...	2022-12-12...	Economics &...	19	2005-02-13...	United States
2 Grover Lane	193-169-3799	Cos O'Donov...	8b7ee1bdff...	2022	2022-05-04...	null	Economics &...	22	2002-02-14...	United States
737 Westerfi...	651-213-9295	Eron Rendle	ba675cb1dd...	2019	2019-02-09...	2021-05-05...	Accounting	17	2007-02-12...	United States
11452 Mcbri...	913-468-3243	Delcine Boar...	938ddc9ab7...	2021	2021-10-16...	2023-12-01...	Biology	19	2005-02-13...	South Korea
91 Bashford ...	260-761-0914	Devin Attwoull	3880f91696...	2021	2021-01-05...	2023-12-01...	Computer S...	19	2005-02-13...	United States

- Dataset refresh schedule

The screenshot shows the 'Refresh' tab for the 'Q - Student Enrollment' dataset. The 'Refresh' tab is selected. The 'Schedules' section shows a single scheduled refresh type: 'Full refresh' occurring 'Weekly (Sun)' at 'Start time: 00:00' in 'Timezone: Asia/Kolkata'. An unchecked checkbox 'Email owners when a refresh fails' is present. The 'History' section shows two entries:

Refresh start	Status	Duration	Skipped ...	Ingested...	Dataset ...	Refresh type
October 16, 2025 at 10:16 PM GMT...	Completed	14 seconds	0	7306	7306	Manual, Edit
October 16, 2025 at 8:36 PM GMT...	Completed	14 seconds	0	7306	7306	Manual, Initial

- Student Type calculated field formula

Edit calculated field

### Student Type

Cancel Save

```
1 ifelse({Age} < 30, 'Youth', 'Adult Continuing Education')
```

Fields Parameters Functions

Search functions  All abs addDateTime addWorkDays avg avgIf avgOver

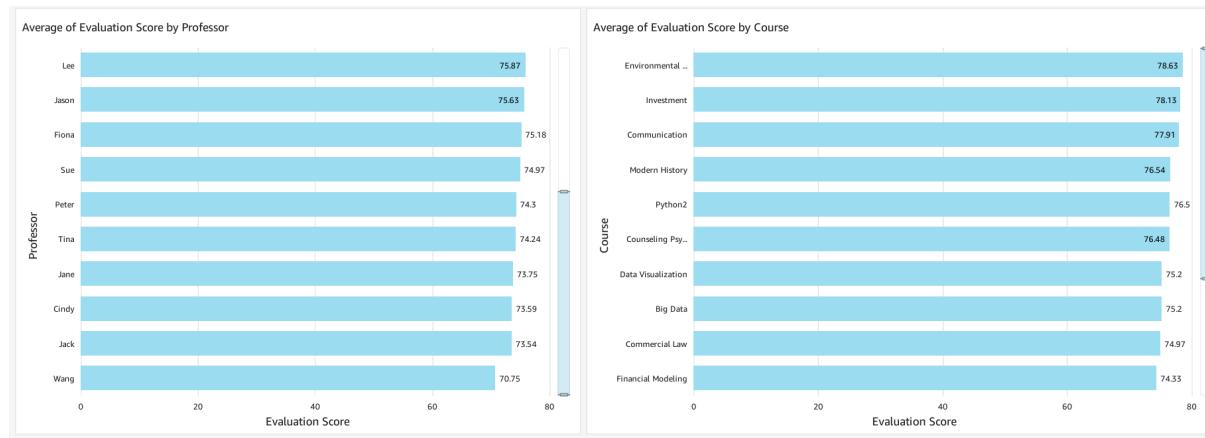
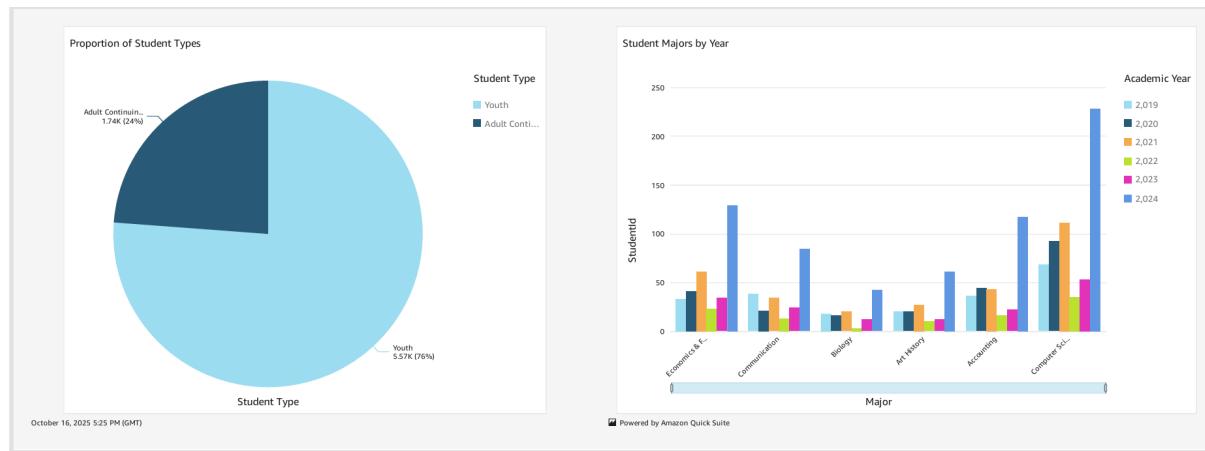
**abs**

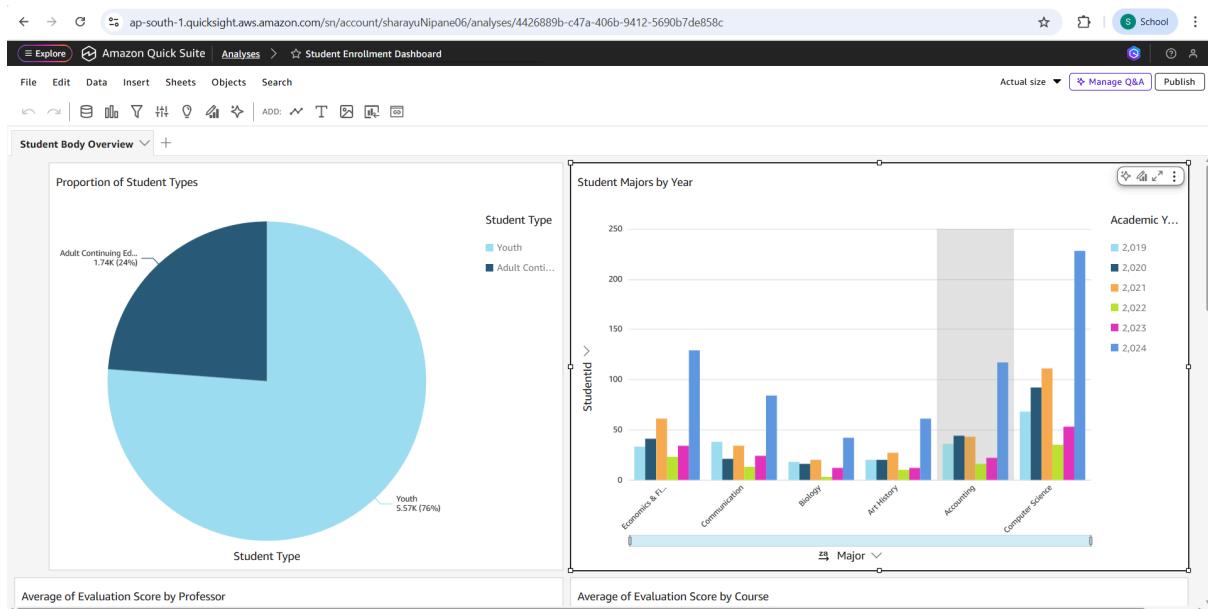
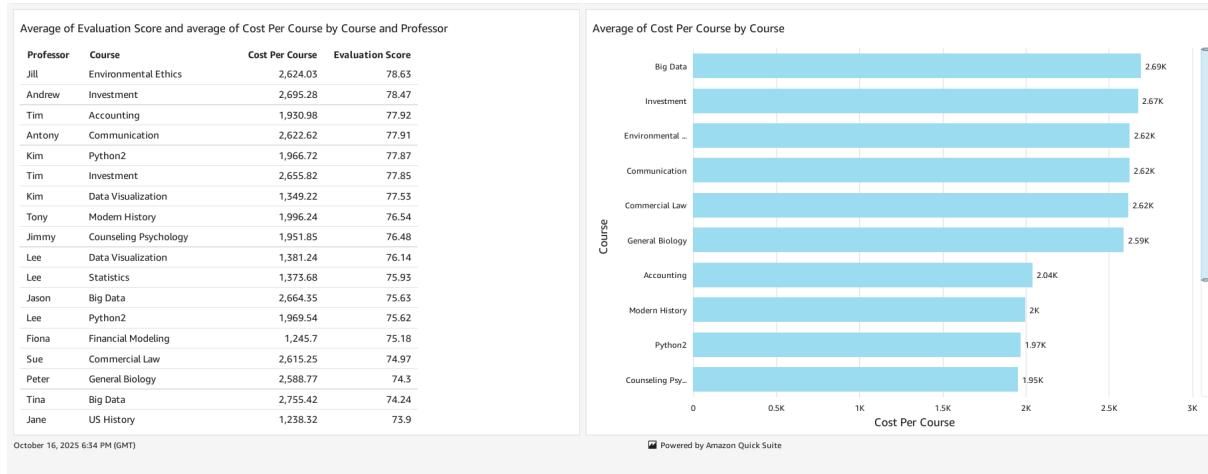
Returns the absolute value of a given expression.

**SYNTAX**  
abs(expression)

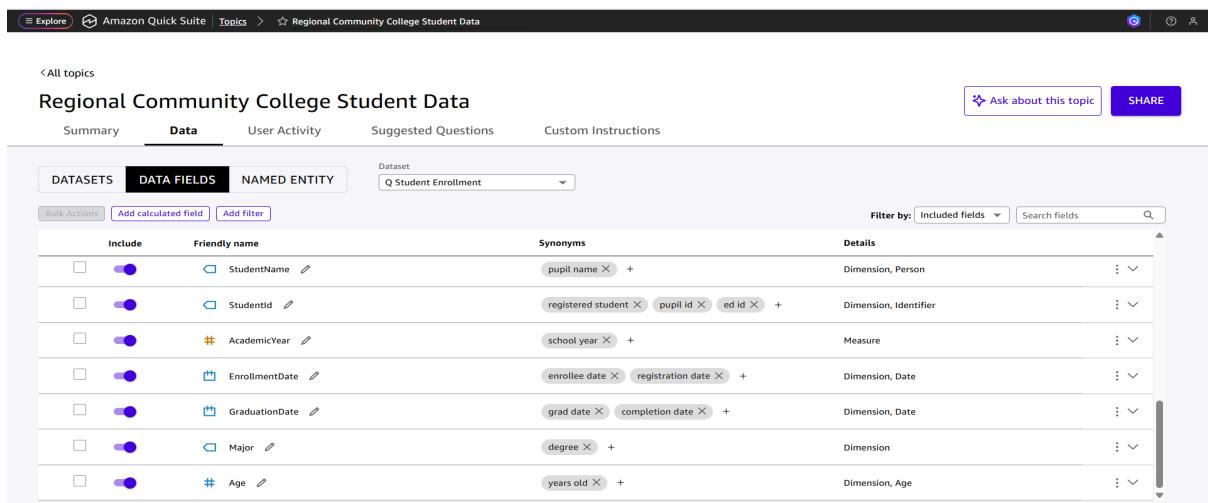
[Learn More](#)

- Each Visual in your analysis





- Each Named Entity in your topic



<All topics

## Regional Community College Student Data

Summary    **Data**    User Activity    Suggested Questions    Custom Instructions

DATASETS    DATA FIELDS    NAMED ENTITY    Dataset: Q Student Enrollment

Bulk Actions    Add calculated field    Add filter    Filter by: Included fields    Search fields

Include	Friendly name	Synonyms	Details
<input type="checkbox"/>	Professor	teacher X, instructor X, lecturer X	Dimension
<input type="checkbox"/>	Credit	Add alternate names for field	Measure
<input type="checkbox"/>	CostPerCourse	price per course X, cost per class X	Measure
<input type="checkbox"/>	EvaluationScore	eq score X, eps score X, evaluation grade X	Measure
<input type="checkbox"/>	StudentName	pupil name X	Dimension, Person
<input type="checkbox"/>	StudentId	registered student X, pupil id X, ed id X	Dimension, Identifier

<All topics

## Regional Community College Student Data

Summary    **Data**    User Activity    Suggested Questions    Custom Instructions

DATASETS    DATA FIELDS    NAMED ENTITY    Dataset: Q Student Enrollment

Bulk Actions    Add calculated field    Add filter    Filter by: Included fields    Search fields

Include	Friendly name	Synonyms	Details
<input type="checkbox"/>	StudentClassification	student category X, student class X	Dimension
<input type="checkbox"/>	Course	class X, coursework X	Dimension
<input type="checkbox"/>	Grade	score X, rating X	Dimension
<input type="checkbox"/>	TestScore	test result X	Measure
<input type="checkbox"/>	Semester	Add alternate names for field	Dimension
<input type="checkbox"/>	Courseld	course number X, class id X	Dimension, Identifier

<All topics

## Regional Community College Student Data

Summary    **Data**    User Activity    Suggested Questions    Custom Instructions

DATASETS    DATA FIELDS    NAMED ENTITY    Dataset: Q Student Enrollment

Add named entity    Search fields

Named Entities are groupings of data fields that collectively represent a business concept and are used to enhance the Q&A experience. [Learn more](#)

Rank	Friendly name	Synonyms	Details
#1	Student Details	Add alternate names for field	StudentName, Semester, Course, TestScore, Grade, StudentClassification, Student Type, Major, Gender, NationalOrigin, Credit, EnrollmentDate, GraduationDate, StudentId
#2	Course Details	Add alternate names for field	Course, Professor, CostPerCourse, AcademicYear, Semester, Courseld
#3	Professor Evaluation	Add alternate names for field	Professor, Course, Semester, AcademicYear, StudentName, EvaluationScore

Explore Amazon Quick Suite Topics > Regional Community College Student Data > Student Details

Learn more about named entities CLOSE OPEN Q&A SAVE

**Data**

Dataset: EQ - Student Enrollment

Search fields

- # AcademicYear
- Address
- # Age
- City
- # CostPerCourse
- Course
- Courseld
- # Credit
- DOB
- Email
- EnrollmentDate
- # EvaluationScore
- Gender
- Grade
- GraduationDate
- Major
- Mobile
- NationalOrigin
- Professor
- Semester
- State

**Named entity**

Entity name: Student Details

Description: Information about enrolled students

Synonyms: Add alternate names for named entity

FIELD RANKING (14)

- #1 StudentName
- #2 Semester
- #3 Course
- #4 TestScore
- #5 Grade
- #6 StudentClassification
- #7 Student Type
- #8 Major
- #9 Gender
- #10 NationalOrigin
- #11 Credit

**Student Details**

Stud...	Sem...	Cour...	Test...	Grade	Stud...	Stud...	Major
Lowe Bon...	Fall	Accounting	99	A	Senior	Adult Con...	Computer...
Lowe Bon...	Fall	Big Data	78	B-	Senior	Adult Con...	Computer...
Lowe Bon...	Fall	Communi...	91	A	Senior	Adult Con...	Computer...
Lowe Bon...	Fall	Communi...	91	A	Senior	Adult Con...	Computer...
Lowe Bon...	Fall	Environm...	84	B	Senior	Adult Con...	Computer...
Lowe Bon...	Fall	Investment	88	B+	Senior	Adult Con...	Computer...
Lowe Bon...	Fall	Modern H...	80	C+	Senior	Adult Con...	Computer...
Lowe Bon...	Spring	Commerc...	87	B+	Senior	Adult Con...	Computer...
Lowe Bon...	Spring	Counselin...	99	A	Senior	Adult Con...	Computer...
Lowe Bon...	Spring	Data Visu...	80	C+	Senior	Adult Con...	Computer...
Lowe Bon...	Spring	Financial ...	88	B+	Senior	Adult Con...	Computer...
Lowe Bon...	Spring	Financial ...	88	B+	Senior	Adult Con...	Computer...
Lowe Bon...	Spring	General B...	85	B	Senior	Adult Con...	Computer...

This is a sample view of the named entity data. Complete data will be available to view in Q and used to answer questions.

Explore Amazon Quick Suite Topics > Regional Community College Student Data > Course Details

Learn more about named entities CLOSE OPEN Q&A SAVE

**Data**

Dataset: EQ - Student Enrollment

Search fields

- # AcademicYear
- Address
- # Age
- City
- # CostPerCourse
- Course
- Courseld
- # Credit
- DOB
- Email
- EnrollmentDate
- # EvaluationScore
- Gender
- Grade
- GraduationDate
- Major
- Mobile
- NationalOrigin
- Professor
- Semester
- State

**Named entity**

Entity name: Course Details

Description: Enter a brief description

Synonyms: Add alternate names for named entity

FIELD RANKING (6)

- #1 Course
- #2 Professor
- #3 CostPerCourse
- #4 AcademicYear
- #5 Semester
- #6 Courseld

**Course Details**

Course	Professor	CostPerCo...	AcademicY...	Semester	Courseld
Accounting	Tim	1935	2019	Fall	2019 Fall Accou...
Big Data	Jason	2496	2019	Fall	2019 Fall Big Da...
Commercial Law	Sue	2540	2019	Fall	2019 Fall Comm...
Communication	Antony	2536	2019	Fall	2019 Fall Comm...
Communication	Antony	2536	2024	Fall	2019 Fall Comm...
Counseling Psyc...	Jimmy	1812	2019	Fall	2019 Fall Couns...
Data Visualization	Kim	1244	2019	Fall	2019 Fall Data V...
Environmental E...	Jill	2856	2019	Fall	2019 Fall Enviro...
Financial Modeling	Cindy	1298	2019	Fall	2019 Fall Financ...
Financial Modeling	Cindy	1298	2024	Fall	2019 Fall Financ...
General Biology	Peter	2812	2019	Fall	2019 Fall Gener...
Investment	Tim	2404	2019	Fall	2019 Fall Invest...
Modern History	Tony	2106	2019	Fall	2019 Fall Moder...
Python2	Kim	1920	2019	Fall	2019 Fall Python2

This is a sample view of the named entity data. Complete data will be available to view in Q and used to answer questions.

Explore Amazon Quick Suite Topics > Regional Community College Student Data > Professor Evaluation

Learn more about named entities CLOSE OPEN Q&A SAVE

**Data**

Dataset: EQ - Student Enrollment

Search fields

- # AcademicYear
- Address
- # Age
- City
- # CostPerCourse
- Course
- Courseld
- # Credit
- DOB
- Email
- EnrollmentDate
- # EvaluationScore
- Gender
- Grade
- GraduationDate
- Major
- Mobile
- NationalOrigin
- Professor
- Semester
- State

**Named entity**

Entity name: Professor Evaluation

Description: Enter a brief description

Synonyms: Add alternate names for named entity

FIELD RANKING (6)

- #1 Professor
- #2 Course
- #3 Semester
- #4 AcademicYear
- #5 StudentName
- #6 EvaluationScore

**Professor Evaluation**

Professor	Course	Semester	AcademicY...	StudentNa...	Evaluation...
Jason	Big Data	Fall	2022	Milton Treamayne	65.00996196
Tina	Big Data	Fall	2021	Amerigo Gegg	65.0110589
Peter	General Biology	Fall	2021	Fitzgerald Borrel	65.03758521
Tina	Big Data	Fall	2021	Giacobo Appley...	65.04776572
Jimmy	Counseling Psyc...	Fall	2021	Amerigo Gegg	65.0495074
Jimmy	Counseling Psyc...	Fall	2021	Jordan Ivashkin	65.06974864
Peter	General Biology	Fall	2023	Lorenzo Potts	65.07090728
Jimmy	Counseling Psyc...	Fall	2019	Abie Rentoll	65.11109843
Peter	General Biology	Fall	2022	Manfred Garfoot	65.117597
Jason	Big Data	Fall	2020	Ardyth Shelsher	65.15230272
Peter	General Biology	Spring	2020	Audrie Probyn	65.18005953
Jason	Big Data	Fall	2022	Torrile Fossey	65.2044038
Tina	Big Data	Fall	2021	Darla Forcer	65.21873077
Jimmy	Counseling Psyc...	Fall	2019	Kelcy Sone	65.22565499

This is a sample view of the named entity data. Complete data will be available to view in Q and used to answer questions.

- The list of Verified answers in your topic

Explore Amazon Quick Suite Topics > Regional Community College Student Data

All topics

## Regional Community College Student Data

Summary Data User Activity Suggested Questions Custom Instructions

**VERIFIED AI GENERATED**

Responses that were verified or manually linked to an existing visual. [Learn more](#)

Add custom message

Question	Asked ↓	Validated by	Validated at
Which instructors got the best average evaluations? <a href="#">View</a>	2	182399690470	2 hours ago
Which courses are the most expensive? <a href="#">View</a>	0	182399690470	2 hours ago
Which majors have highest average test scores?, What is the average cost per credit? <a href="#">View</a>	0	182399690470	2 hours ago
how many student names by semester? <a href="#">View</a>	0	182399690470	2 hours ago

<https://ap-south-1.quicksight.aws.amazon.com/sn/topics/sJUazq5sDyU4MvpDFIPgSu6KdFsJjmC7/answers>

Explore Amazon Quick Suite Topics > Regional Community College Student Data

All topics

## Regional Community College Student Data

Summary Data User Activity Suggested Questions

**VERIFIED AI GENERATED**

Responses that were verified or manually linked to an existing visual. [Learn more](#)

Add custom message

Question

Which instructors got the best average evaluations? [View](#)

Which courses are the most expensive? [View](#)

Which majors have highest average test scores?, What is the average cost per credit? [View](#)

how many student names by semester? [View](#)

Failed to load summary

Which instructors got the best average evaluations?

ASK

Verified Interpreted as: Average of EvaluationScore by Professor.

Average of EvaluationScore by Professor

Professor	Average of EvaluationScore
Jill	78.63
Andrew	78.47
Antony	77.91
Tim	77.87
Kim	77.75
Tony	76.54
Jimmy	76.40
Lee	75.87
Jason	75.63
Fiona	75.10

Average of EvaluationScore Unique number of Profes...

75.69 17

Average of EvaluationScore and total AcademicYear by P...

Professor Evaluation

Professor	Course	Semester	AcademicYear	StudentName
Cindy	Financial Modeling	Spring	4,045	Aaren Andry
Jack	US History	Fall	2,021	Aaren Andry
Jimmy	Counseling Psychology	Fall	2,021	Aaren Andry

View: 500 items << < 1 of 13 > >>

Explore Amazon Quick Suite | Topics > Regional Community College Student Data

< All topics

## Regional Community College Student

Summary Data User Activity Sugg...

**VERIFIED AI GENERATED**

Responses that were verified or manually linked to an existing visual. [Learn more](#)

Add custom message

**Question**

Which instructors got the best average evaluations? [View](#)

Which courses are the most expensive? [View](#)

Which majors have highest average test scores? What is the average cost per credit? [View](#)

how many student names by semester? [View](#)

Which courses are the most expensive?

Interpreted as: Total CostPerCourse by Course.

ASK

Total CostPerCourse by Course

Course	Total CostPerCourse
Communication	2.41M
Accounting	1.5M
Environmental Et...	1.21M
Big Data	1.19M
Commercial Law	1.16M
Investment	1.07M
General Biology	1.07M
Counseling Psych...	0.94M
Python2	0.91M
Financial Modeling	0.86M

Total CostPerCourse and total AcademicYear by Course

Course Details

Course	Professor	CostPerCourse	AcademicYear	Semester	Coursed
Accounting	Tim	116,100	121,140	Fall	2019 Fall Accounting
Big Data	Jason	167,232	135,273	Fall	2019 Fall Big Data
Commercial Law	Sue	144,780	115,083	Fall	2019 Fall Commercial Law

View: 500 items << < 1 of 1 > >>

Explore Amazon Quick Suite | Topics > Regional Community College Student Data

< All topics

## Regional Community College Student

Summary Data User Activity Sugg...

**VERIFIED AI GENERATED**

Responses that were verified or manually linked to an existing visual. [Learn more](#)

Add custom message

**Question**

Which instructors got the best average evaluations? [View](#)

Which courses are the most expensive? [View](#)

Which majors have highest average test scores? What is the average cost per credit? [View](#)

how many student names by semester? [View](#)

Which majors have highest average test scores? What is the average cost per credit?

Interpreted as: Average of TestScore and average of CostPerCourse by Major.

ASK

Average of TestScore and average of CostPerCourse by Major

Major	TestScore	CostPerCourse
Biology	83.06	2,C
Economics & Finance	82.83	2,C
Communication	82.82	2,C
Computer Science	82.7	2,C
Art History	82.68	2,C
Accounting	82.49	2,C

Average of TestScore and average of CostPerCourse by ...

Major	EnrollmentDate	TestScore
Economics & Finance	May 2, 2021	98
Economics & Finance	Jun 13, 2024	98
Computer Science	Nov 2, 2020	97

Student Details

StudentName	Semester	Course	TestScore	Grade	StudentClassification	St...
Lowe Bonafacio	Fall	Accounting	99	A	Senior	At
Lowe Bonafacio	Fall	Big Data	78	B-	Senior	At
Lowe Bonafacio	Fall	Communication	91	A	Senior	At+

View: 500 items << < 1 of 15 > >>

Explore Amazon Quick Suite | Topics > Regional Community College Student Data

< All topics

## Regional Community College Student

Summary Data User Activity Sugg...

**VERIFIED AI GENERATED**

Responses that were verified or manually linked to an existing visual. [Learn more](#)

Add custom message

**Question**

Which instructors got the best average evaluations? [View](#)

Which courses are the most expensive? [View](#)

Which majors have highest average test scores? What is the average cost per credit? [View](#)

how many student names by semester? [View](#)

How many student names by semester?

Interpreted as: Unique number of StudentId by Semester.

ASK

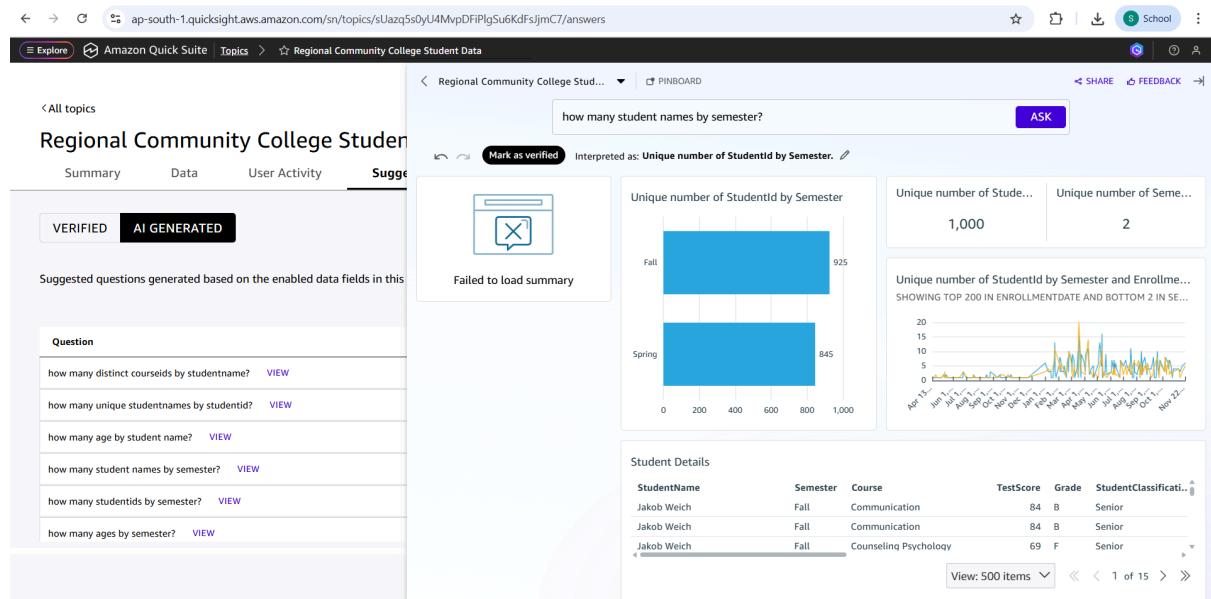
Unique number of StudentId by Semester

Unique number of StudentId by Semester and EnrollmentDate

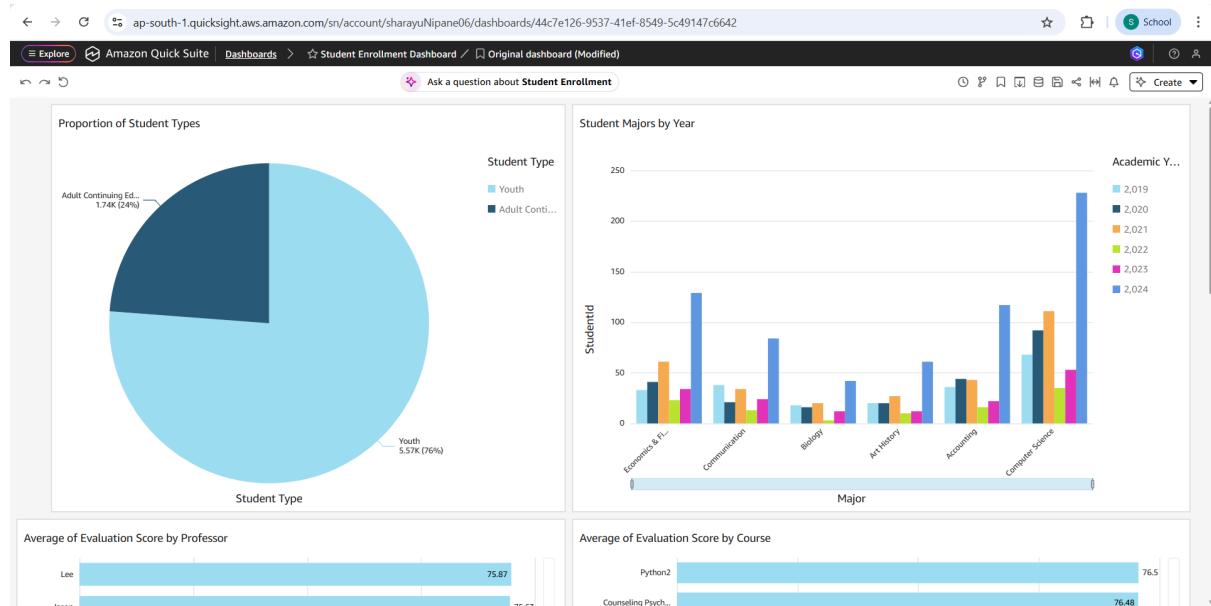
Student Details

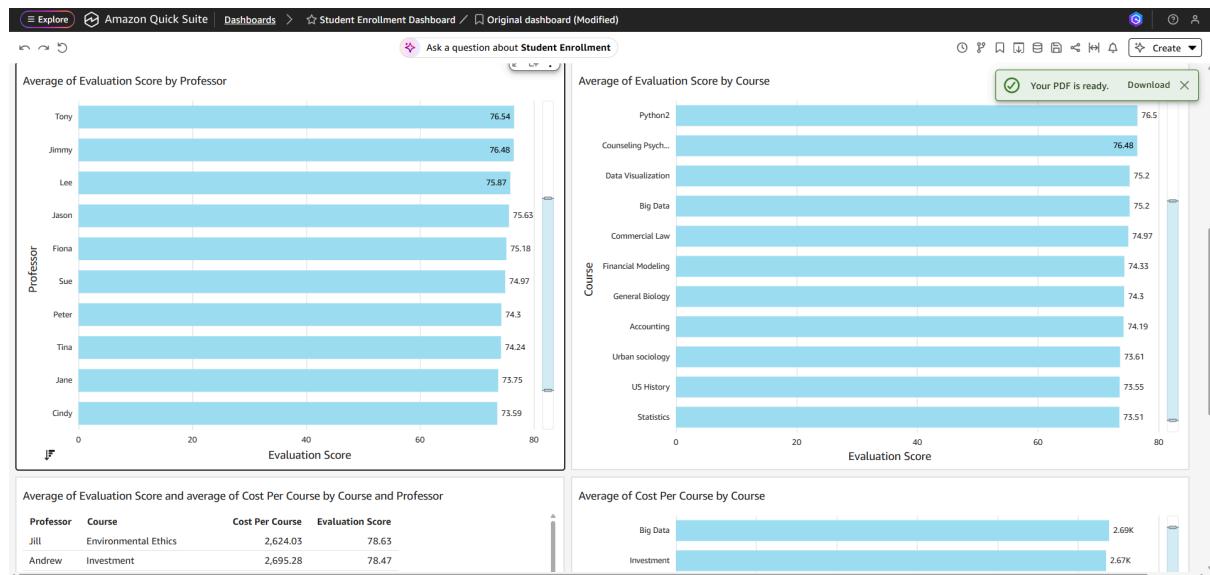
StudentName	Semester	Course	TestScore	Grade	StudentClassification
Jakob Weich	Fall	Communication	84	B	Senior
Jakob Weich	Fall	Communication	84	B	Senior
Jakob Weich	Fall	Counseling Psychology	69	F	Senior

View: 500 items << < 1 of 15 > >>

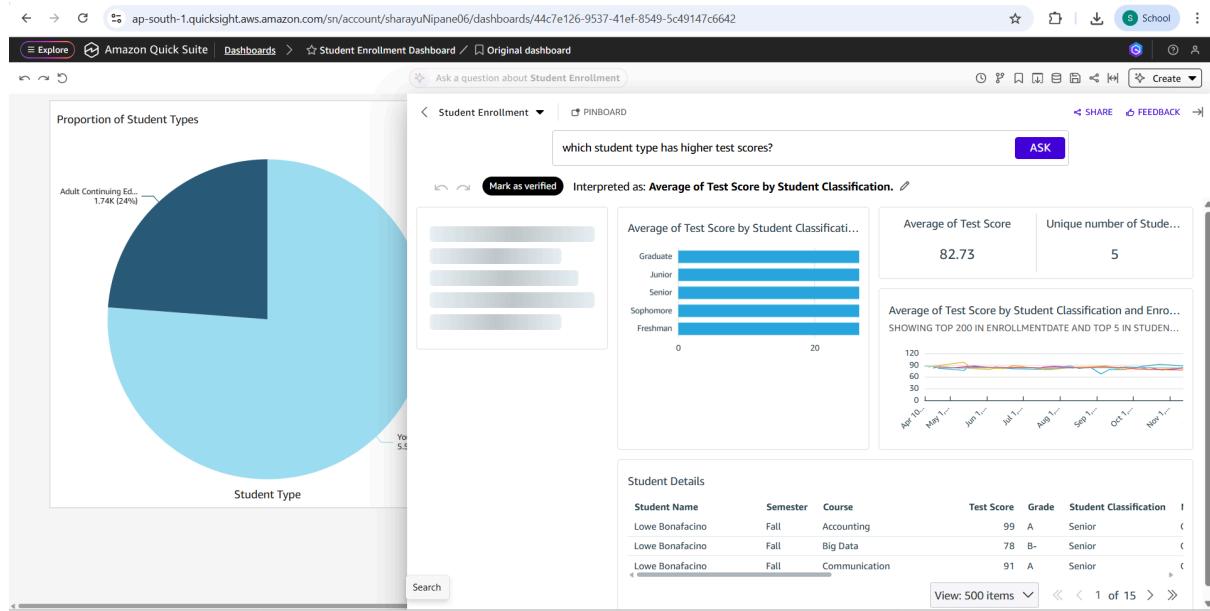


## ● Your Dashboard





- The starter question of your Scenario, and the follow-up questions in your Thread



← → ⌂ ap-south-1.quicksight.aws.amazon.com/sn/scenarios/43a447ce-9fe5-4859-ac7e-dd74ccc16b26

**Data to insights**

Describe the problem you want to solve, and we will do the analysis for you.

How do we improve professor evaluations, while avoiding an increase in cost per course?

Use the Q&A pane to add more data

Do lower cost courses ever have higher evaluation scores?

**Step 1:** Create a scatter plot to visualize the relationship between course costs and evaluation scores.

Cloud of points by Enrollment and Evaluation score. Scatter plot showing a slight positive correlation between course cost and evaluation score.

**Step 2:** Calculate and sort average evaluation scores by major in descending order.

Average\_Average\_Evaluation\_by\_Major

Majors	Average_Average_Evaluation
Math	76.75
Art History	76.68
Business & Finance	76.67
Communication	76.64
Psychology	76.62
Accounting	76.61

The data shows no clear correlation between course costs and evaluation scores. Courses range from \$1,020 to \$12,400 in cost, while evaluation scores range from 64.6 to 81.2. This suggests that lower cost courses do not necessarily have higher evaluation scores.

**Step 3:** Analyze the relationship between course costs and evaluation scores to identify if there are any outliers.

Scatter plot of Average\_Average\_Evaluation vs Cost.

**Step 4:** Create a horizontal bar chart showing average evaluation scores by major in descending order.

Average\_evaluation\_scores\_by\_Major

Majors	Average_evaluation_scores
Math	76.75
Art History	76.68
Business & Finance	76.67
Communication	76.64
Psychology	76.62
Accounting	76.61

Scatter plot showing the relationship between average evaluation scores and cost. The correlation coefficient is 0.1642, indicating a very weak positive correlation. The highest evaluation score is 81.2, belonging to Math, and the lowest is 64.6, belonging to Psychology.

**What factors correlate with high evaluation scores?**

**Step 1:** Analyze how evaluation scores vary across different student types in the enrollment data.

Adult Continuing Education

Student Type	Mean	Std Dev	N
Adult Continuing Education	77.83	7.96	1,033
Youth	74.51	14.83	3,646

The data shows Adult Continuing Education students have slightly higher evaluation scores compared to Youth students (mean: 77.83 vs 74.51), with overall evaluation scores ranging from 65.5 to 87.5.

**Step 2:** Analyze factors correlating with high evaluation scores by examining professor, location, and course type in the visualizations.

Professor

Professor	Mean	Std Dev
All	76.65	8.62
Adeline	76.49	11.56
Bob	77.11	8.60
Ella	77.20	9.73
Tony	76.58	8.67
Jimmy	76.48	8.67
Lisa	75.67	7.64
Smith	76.60	8.67

Course

Course	Mean	Std Dev
Environmental Studies	76.62	8.62
Communication	76.54	8.67
Modern History	76.54	8.67
Psych	76.5	8.64
Counting Professor	76.48	8.67
Big Data	77.2	8.62
Computer Game	76.67	8.62

Average\_evaluation\_scores\_by\_Professor

Professor	Average_evaluation_scores
All	76.65
Adeline	76.49
Bob	77.11
Ella	77.20
Tony	76.58
Jimmy	76.48
Lisa	75.67
Smith	76.60

**Does student type influence professor evaluation scores?**

**Step 1:** Calculate and display summary statistics of professor evaluation scores grouped by student type.

Adult Continuing Education students give higher evaluation scores (mean: 77.83) compared to Youth students (mean: 74.51). Adult student ratings also show more variability (std dev: 7.96) than Youth student ratings (std dev: 14.83).

**Step 2:** Explore the student enrollment dataset structure and identify unique student types.

The dataset contains 3,646 student records with two student types: "Youth" and "Adult".

• **Adult**: Avg eval: 77.83, High: 87.5.

**Do lower cost courses ever have higher evaluation scores?**

**Step 1:** Create a scatter plot to visualize the relationship between course costs and evaluation scores.

Count of Records by Costpercourse and Evaluationscore  
SHOWING TOP 15 IN COSTPERCOURSE AND TOP 50 IN EVALUATIONSCORE

The data shows no clear correlation between course costs and evaluation scores. Courses range from \$1,206 to \$2,864 in cost, while evaluation scores range from 65.0 to 98.7. This suggests that higher-cost courses don't necessarily receive better evaluations.

**Step 2:** Analyze the relationship between course costs and evaluation scores to identify if lower-cost courses achieve higher ratings.

index	CostCategory	mean	min	max
0	Low	75.95	67.05	97.52
1	Medium-Low	75.89	65.05	98.74
2	Medium-High	76.15	65.04	98.84
3	High	76.86	65.01	98.21

**ASSUMPTIONS**

- The weak positive correlation (0.1642) between cost and evaluation scores is meaningful for decision-making purposes.

**Summary of results:**

While there is a weak positive correlation (0.1642) between course cost and evaluation scores, **394 low-cost courses** received evaluation scores higher than the average high-cost course score of **76.9**. The top-performing low-cost courses achieved scores up to **97.3**, demonstrating that lower cost does not necessarily mean lower quality.

**Which majors have higher average evaluation scores?**

**Step 1:** Examine the student enrollment analysis.

The dataset contains **7,306 student records** from Communication, Biology, Art History, Accounting, Economics & Finance, Computer Science, and Accounting.

**Step 2:** Calculate and rank average evaluation scores by major.

Major
Biology
Art History
Economics & Finance
Communication
Computer Science
Accounting

**Step 3:** Create a horizontal bar chart showing average evaluation scores by major in descending order.

Average\_evaluation\_score by Major

Major	Average_evaluation_score
Art History	~18.5
Biology	~17.5
Economics & Finance	~17.0
Communication	~16.5
Computer Science	~16.0
Accounting	~15.5

Biology has the **highest average evaluation score** at **17.5**. The difference between the highest and lowest average scores is approximately **3 points**.

**Step 4:** Calculate and visualize average evaluation scores over time to identify trends.

← → ⌂ ap-south-1.quicksight.aws.amazon.com/sn/scenarios/809846b3-d3a4-4e17-9fcf-6e2ef4c30ed0

Explore Amazon Quick Suite Scenarios > Improving Student Satisfaction Without Increasing ...

File Data View Share

Which are the top 5 most popular majors?

**Step 1:** Examine the student enrollment data structure to prepare for major popularity analysis

**Step 2:** Identify and count the top 5 most popular majors from the student enrollment data

Major	Number of Students
Computer Science	2581
Economics & Finance	1597
Accounting	1220
Communication	969
Art History	648

The top 5 most popular majors are Computer Science (2,581 students), Economics & Finance (1,597 students), Accounting (1,220 students), Communication (969 students), and Art History (648 students).

**Step 3:** Create a horizontal bar chart showing the top 5 most popular majors by student enrollment

Major	Number of Students
Computer Science	2.58K
Economics & Fin...	1.4K

- Your complete Data Story

← → ⌂ ap-south-1.quicksight.aws.amazon.com/sn/stories/bfbf61e1-847c-4ace-95fb-b48cbad7e51a/edit

Explore Amazon Quick Suite Stories > Rethinking Humanities Education: A Data-Driven A...

BACK TO EDITOR Share

## Rethinking Humanities Education: A Data-Driven Analysis of Class Size, Student Satisfaction, and Cost Efficiency

Prepared by Shravani Arnol Farkade

### Introduction

Higher education institutions face mounting pressure to balance educational quality with operational efficiency, particularly in humanities programs where traditional small class models have dominated for decades. Our comprehensive analysis examines student satisfaction metrics, cost structures, and academic outcomes to identify optimization opportunities that challenge conventional approaches to

Explore Amazon Quick Suite Stories > Rethinking Humanities Education: A Data-Driven A...

**Current Student Landscape Analysis**

**Proportion of Student Types**

Student Type	Proportion
Youth	85%
Adult Continuing Education	15%

Understanding our diverse student population is fundamental to making informed decisions about class size optimization in humanities education. The pie chart illustrating the proportion of student types provides essential baseline data that enables us to segment our student body and understand the varying educational preferences across different demographic groups. This visualization is particularly valuable for this section because it establishes the foundational context needed to assess how different student segments might respond to changes in class size configurations, allowing us to identify which populations may actually prefer or benefit from larger class environments. To fully leverage this demographic analysis, manual review of the graph data is needed to extract additional insights about student type distributions that will help us accomplish our objective of establishing a comprehensive baseline understanding. This

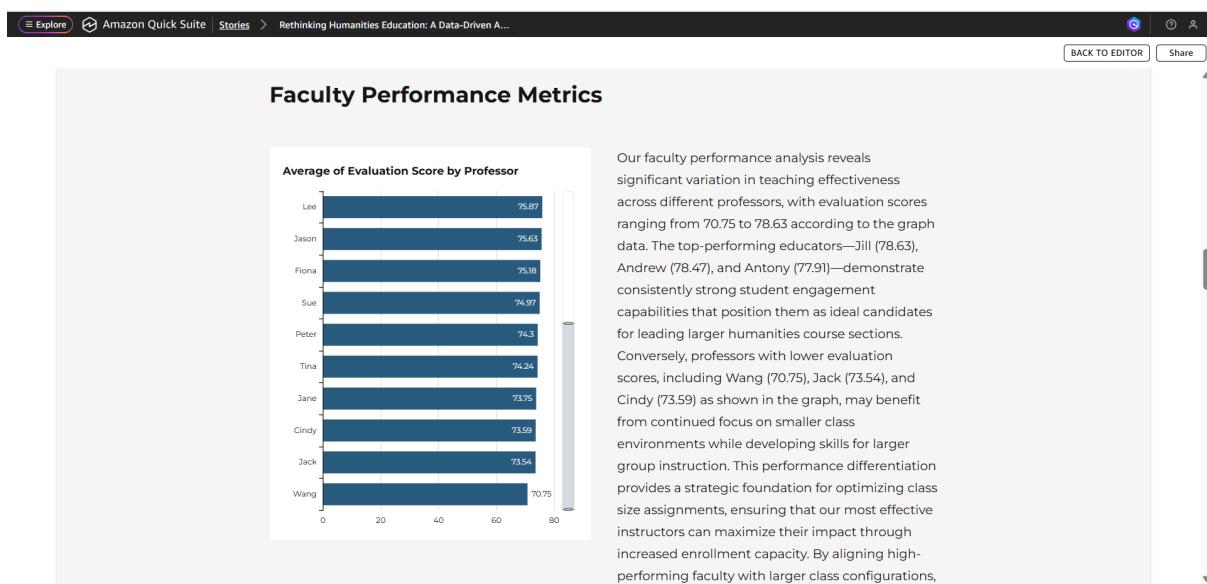
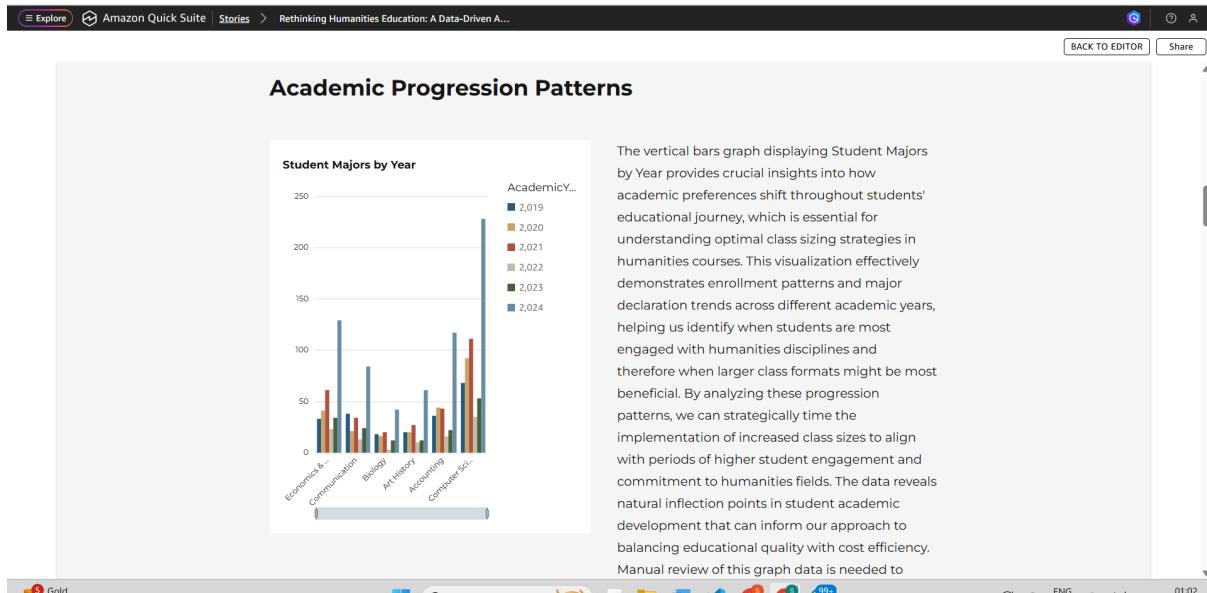
Explore Amazon Quick Suite Stories > Rethinking Humanities Education: A Data-Driven A...

**Academic Progression Patterns**

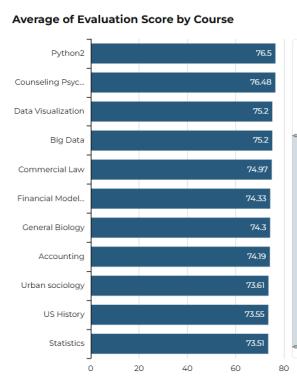
**Student Majors by Year**

Major	2,019	2,020	2,021	2,022	2,023	2,024
Economics & Comm.	45	40	35	30	35	40
Biology	120	100	80	60	70	85
Art History	50	40	30	25	30	40
Accounting	60	50	40	35	40	50
Computer Sci.	110	100	90	80	90	100

The vertical bars graph displaying Student Majors by Year provides crucial insights into how academic preferences shift throughout students' educational journey, which is essential for understanding optimal class sizing strategies in humanities courses. This visualization effectively demonstrates enrollment patterns and major declaration trends across different academic years, helping us identify when students are most engaged with humanities disciplines and therefore when larger class formats might be most beneficial. By analyzing these progression patterns, we can strategically time the implementation of increased class sizes to align with periods of higher student engagement and commitment to humanities fields. The data reveals natural inflection points in student academic development that can inform our approach to balancing educational quality with cost efficiency. Manual review of this graph data is needed to



## Course-Specific Performance Analysis



Our course-specific performance analysis reveals significant variation in student evaluation scores across humanities disciplines, providing clear indicators for optimization opportunities. According to the graph data, Environmental Ethics leads with the highest average evaluation score of 78.63, followed by Investment at 78.13 and Communication at 77.91, demonstrating that certain humanities courses consistently achieve superior student outcomes. Conversely, the graph shows that Statistics (73.51), US History (73.55), and Urban Sociology (73.61) represent the lowest-performing courses by evaluation metrics. This 5.12-point differential between top and bottom performers suggests that high-performing courses like Environmental Ethics and Communication may be well-positioned for strategic class size increases, as their strong foundational satisfaction scores provide a buffer for maintaining quality while achieving cost efficiencies. These

## Integrated Performance and Cost Analysis

Average of Evaluation Score and average of Cost ...

Professor	Course	Cost Per Course
Jill	Environmental Ethics	2,624.0
Andrew	Investment	2,695.2
Tim	Accounting	1,930.9
Antony	Communication	2,622.6
Kim	Python2	1,966.7
Tim	Investment	2,655.8
Kim	Data Visualization	1,349.2
Tony	Modern History	1,996.2
Jimmy	Counseling Psychology	1,951.8
Lee	Data Visualization	1,381.2
Lee	Statistics	1,573.6
Jason	Big Data	2,664.3
Lee	Python2	1,969.5
Fiona	Financial Modeling	1,245.
Sue	Commercial Law	2,615.2
Peter	General Biology	2,588.7

The integrated performance and cost analysis table provides crucial visibility into the relationship between educational quality metrics and financial efficiency across our humanities course portfolio. By displaying average evaluation scores alongside cost per course data, segmented by both course type and individual professor, this visualization enables stakeholders to identify optimal configurations where high student satisfaction intersects with cost-effective delivery models. This comparative analysis directly supports our objective of demonstrating that strategic class size increases can maintain or enhance educational quality while achieving measurable cost efficiencies. The table format allows for granular examination of performance variations across different instructors and course types, revealing patterns that inform evidence-based decision-making for class size optimization. Manual review of this graph data is essential to extract additional

Explore Amazon Quick Suite Stories > Rethinking Humanities Education: A Data-Driven A...

BACK TO EDITOR Share

## Cost Efficiency Opportunities

Average of Cost Per Course by Course

The chart displays the average cost per course for ten different subjects. The costs range from approximately \$1,269.13 for Financial Modeling to over \$2,692.58 for Big Data. Environmental Ethics and Investment courses fall in the middle range.

Course	Average Cost (K)
Big Data	2.69K
Investment	2.67K
Environmental E...	2.62K
Communication	2.62K
Commercial Law	2.62K
General Biology	2.59K
Accounting	2.04K
Modern History	2K
Python2	1.97K
Counseling Psych...	1.95K

Our analysis reveals significant cost optimization opportunities within our humanities course portfolio, with strategic class size increases offering substantial financial benefits. According to the graph data, we observe a clear cost efficiency spectrum across our humanities offerings, where courses like Financial Modeling (\$1,269.13), US History (\$1,319.86), and Urban Sociology (\$1,322.42) demonstrate the lowest average cost per course. In contrast, specialized courses such as Big Data (\$2,692.58), Investment (\$2,673.38), and Environmental Ethics (\$2,624.03) represent our highest-cost offerings, as shown in the graph. This cost variance of over \$1,400 between our most and least expensive humanities courses indicates substantial potential for resource reallocation and efficiency gains. By strategically increasing class sizes in our higher-cost humanities courses while maintaining quality standards, we can achieve significant cost reductions that directly support

Explore Amazon Quick Suite Stories > Rethinking Humanities Education: A Data-Driven A...

BACK TO EDITOR Share

## Student Satisfaction Drivers

Survey data indicates that students in larger humanities classes report higher satisfaction levels when courses incorporate collaborative learning opportunities and facilitate meaningful peer interactions. The research demonstrates that students particularly value the enhanced diversity of perspectives and richer classroom discussions that emerge from increased enrollment. These findings suggest that strategic course design elements can effectively leverage larger class sizes to create more engaging and satisfying educational experiences in humanities disciplines.

## Implementation Framework

Our implementation framework establishes a systematic three-phase approach beginning with carefully selected pilot courses that align with our identified optimization criteria. The initial phase focuses on humanities courses with demonstrated scalability potential, utilizing faculty members who have shown excellence in larger classroom environments, while the subsequent phases expand based on measurable outcomes and refined best practices. This structured methodology ensures sustainable growth while maintaining the quality standards that drive both student satisfaction and institutional cost efficiency.

Explore Amazon Quick Suite Stories > Rethinking Humanities Education: A Data-Driven A...

BACK TO EDITOR Share

## Risk Mitigation Strategies

To ensure successful implementation of larger humanities class sizes, institutions must establish comprehensive monitoring systems that track both academic outcomes and student engagement levels throughout the transition period. Key mitigation approaches include creating specialized training programs that equip faculty with proven methodologies for managing increased enrollment while maintaining educational effectiveness. Additionally, implementing graduated rollout phases allows for systematic evaluation and course corrections, ensuring that any challenges can be addressed before full-scale deployment across the humanities curriculum.

Explore Amazon Quick Suite Stories > Rethinking Humanities Education: A Data-Driven A...

BACK TO EDITOR Share

## Expected Outcomes and Benefits

Strategic implementation of larger class sizes in humanities courses is projected to deliver substantial improvements in both student satisfaction metrics and institutional cost efficiency. The enhanced resource allocation resulting from these optimizations will enable reinvestment in critical areas such as advanced learning technologies, comprehensive faculty professional development programs, and diversified course portfolio expansion. This integrated approach creates a sustainable framework for continuous educational enhancement while strengthening the institution's long-term capacity to fulfill its academic mission.

## Conclusion and Call to Action

Our comprehensive analysis demonstrates that strategic increases in humanities class sizes present a compelling opportunity to enhance both student satisfaction and cost efficiency through data-driven optimization. The evidence supports moving forward with targeted implementation of larger class configurations for courses and faculty members identified as high-potential candidates in our performance metrics. Educational leaders should prioritize initiating pilot programs that leverage the identified satisfaction drivers while implementing the outlined risk mitigation strategies to ensure successful transformation of humanities education delivery.

## Expected Outcomes and Benefits

Strategic implementation of larger class sizes in humanities courses is projected to deliver substantial improvements in both student satisfaction metrics and institutional cost efficiency. The enhanced resource allocation resulting from these optimizations will enable reinvestment in critical areas such as advanced learning technologies, comprehensive faculty professional development programs, and diversified course portfolio expansion. This integrated approach creates a sustainable framework for continuous educational enhancement while strengthening the institution's long-term capacity to fulfill its academic mission.

## Conclusion and Call to Action

Our comprehensive analysis demonstrates that strategic increases in humanities class sizes present a compelling opportunity to enhance both student satisfaction and cost efficiency through data-driven optimization. The evidence supports moving forward with targeted implementation of larger class configurations for courses and faculty members identified as high-potential candidates in our performance metrics. Educational leaders should prioritize initiating pilot programs that leverage the identified satisfaction drivers while implementing the outlined risk mitigation strategies to ensure successful transformation of humanities education delivery.