

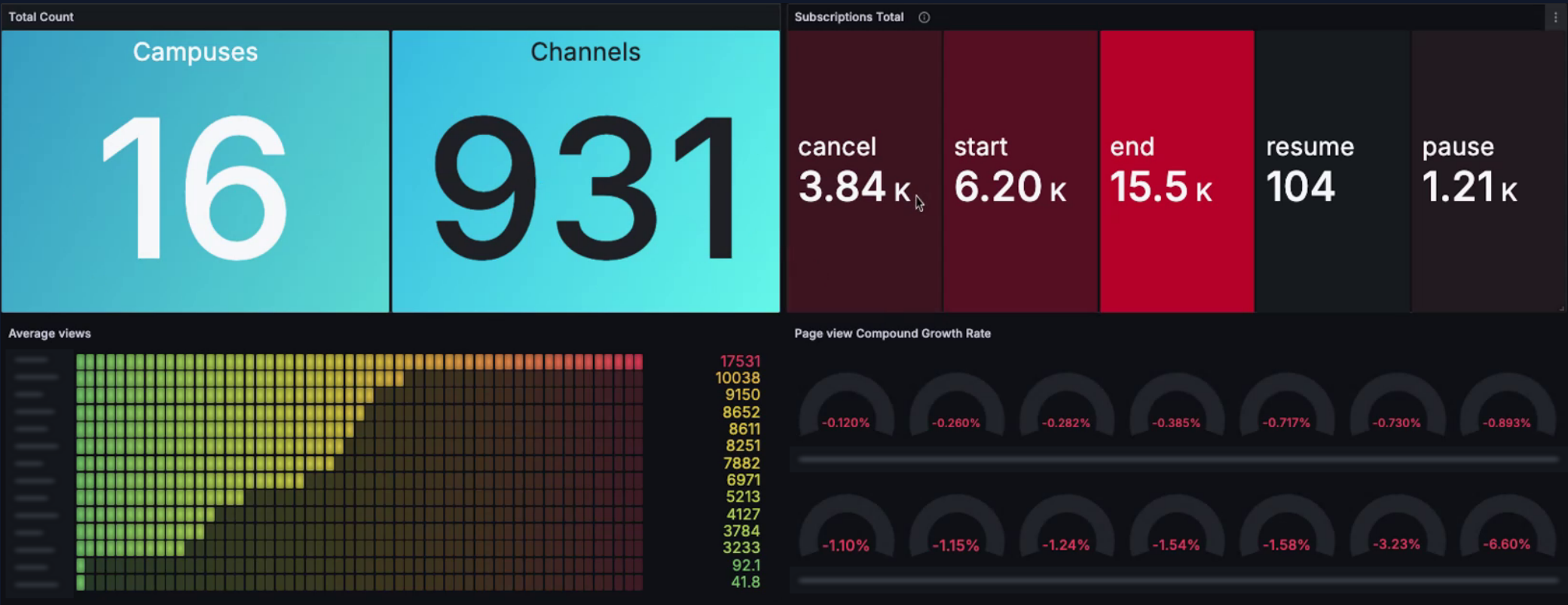
Online School System

Business Analytics & Automation

I connected business questions to the evidence, calculations and tools needed to investigate them.

RECORDED INTERFACE

IDENTIFIERS HIDDEN



DOCUMENTED DELIVERY

- 25 Grafana dashboards
- 170 dashboard SQL queries
- 86 management questions

A screenshot-led walkthrough of the analytics layer I built for an existing online school.

Not just a dashboard project.

The analytics and automation layer for an existing online school—not a claim to have built the school itself.

I built the data processing, analytical models, dashboards, internal operating tools and documentation.

The goal was to help management investigate student participation, learning behavior, community activity and subscription patterns—and understand what each result actually meant.

DOCUMENTED PROJECT SCOPE

25 dashboards	170 SQL queries
86 management questions	12 question areas

86 questions describe analytical coverage, not 86 independently confirmed findings.

EXPLORE THE DEMO

04 Start with participation

Platform overview, measurement and filters

08 Explore learning communities

Campuses, retention, content and channels

15 Follow student activity

Student and subscription analysis

17 See the operating layer

Processing, workbench and handover

A correct number can answer the wrong question.

My contribution was to define the comparison before building the chart.

BUSINESS QUESTION

MEASUREMENT CHOICE

WHY IT MATTERS

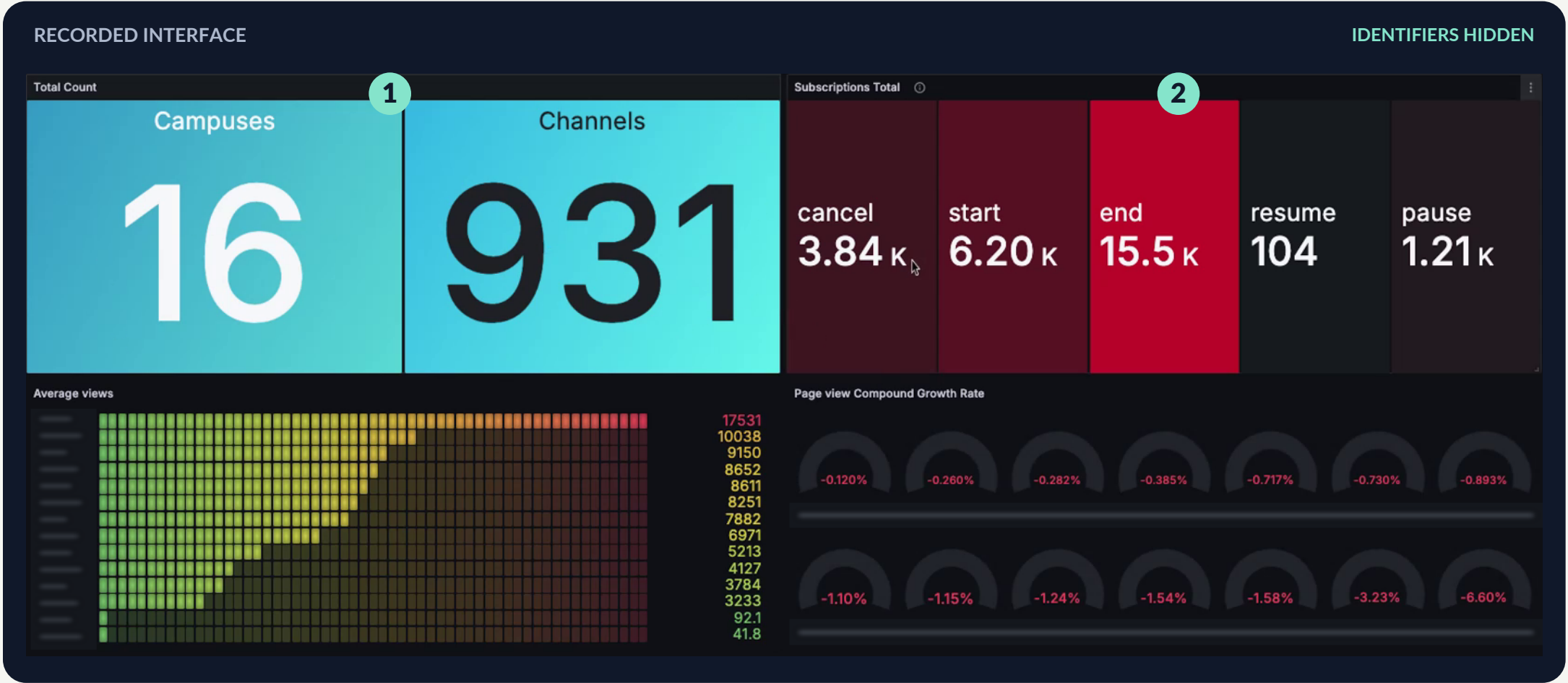
Are students participating?	Filter activity and reconstruct visits with a 15-minute inactivity gap.	A background event is not automatically meaningful engagement.
How broad is engagement?	Keep actions, distinct students and estimated duration separate.	Many actions can come from a small group.
Are earlier students returning?	Preserve starting groups and examine later participation.	New arrivals should not hide the loss of an earlier audience.
Are communities comparable?	Use adjustable campus-participation thresholds.	Primary participants differ from occasional visitors.
Which campus is stronger?	Read audience size alongside retention and context.	The largest audience is not automatically the most persistent one.

THE PRINCIPLE

Choose a calculation that matches the decision—not one average or headline total for every situation.

Start with the whole school.

A broad view brings structure, subscription events and campus-level activity patterns together.



1 Understand the scope

Campus and channel totals describe the structure visible in the recorded view.

2 Keep event types separate

Starts, cancellations, endings, pauses and resumptions are displayed as distinct categories.

3 Look beneath a total

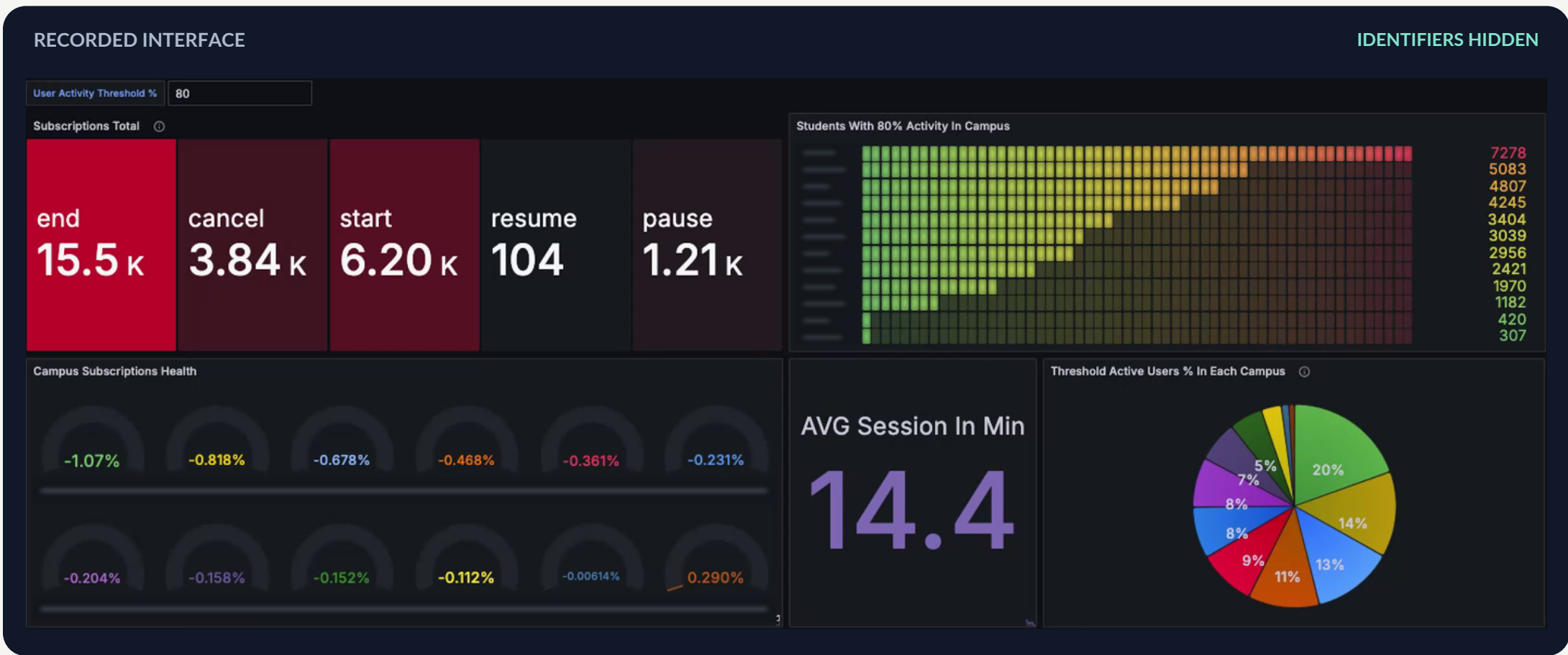
Rankings and growth panels help identify where a closer investigation may be useful.

USEFUL NEXT QUESTION

Does a rise in events reflect more people participating—or repeated activity from the same people?

Find the next question to investigate.

The management view places audience selection, subscription signals and session duration side by side.



- 1 A defined audience**
The captured view uses an 80% campus-activity threshold. It is not an unrestricted audience count.
- 2 Duration stays separate**
The average-session panel answers a different question from the campus audience ranking.
- 3 Signals, not verdicts**
Health and growth labels need their calculation and time window before they can be interpreted.

A FAIR COMPARISON

Keep the period, population definition and calculation consistent before comparing communities.

Busy is not the same as engaged.

Automatic pageviews and idle browser tabs could make the application look busier than the students were.

15 minutes

The inactivity gap used to separate reconstructed visits.

I connected pageviews, lessons, live viewing, messages and reactions while preserving the person, time and learning community behind each record.



Actions

How much qualifying activity was recorded?

People

How many distinct students were involved?

Duration

How much participation time was estimated?

Change the audience—not just the chart.

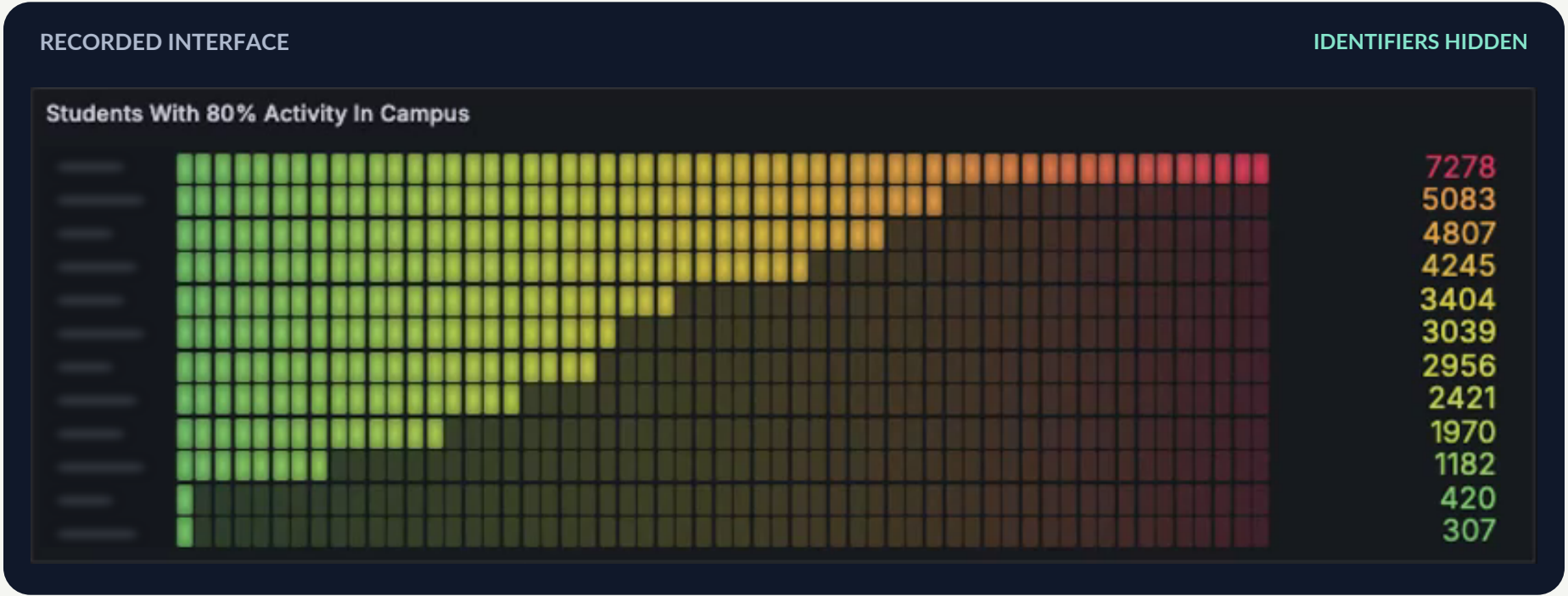
A filter changes which business question the report answers.

RECORDED AUDIENCE CONTROL

User Activity Threshold %

80

80%
setting in the recording



Primary participants

Select students whose qualifying activity is concentrated in a campus, rather than treating every passing visitor as a core participant.

The definition still matters

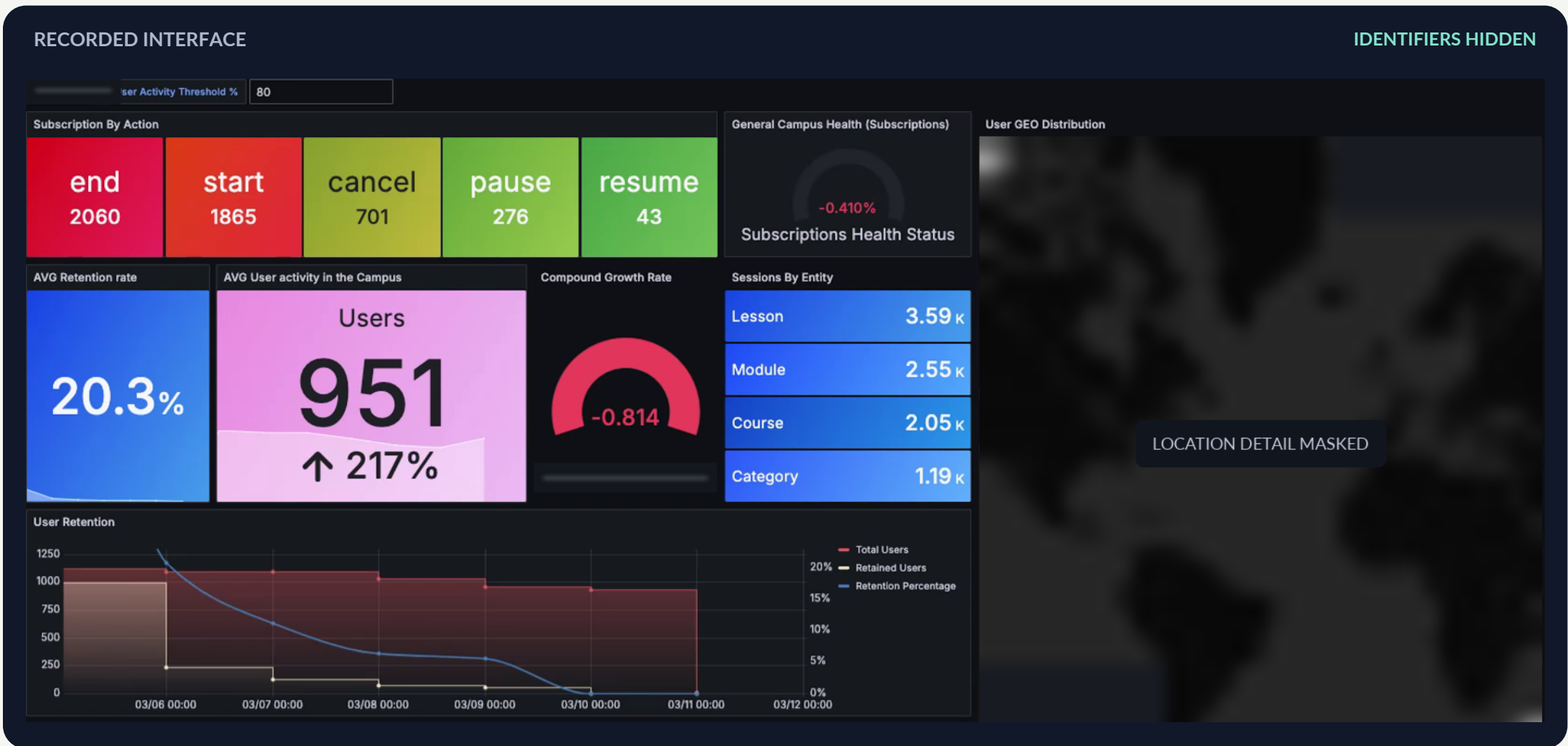
Some saved views used time shares; others used session shares. Those rules need not select the same students.

A DELIBERATELY ADJUSTABLE RULE

The recording shows 80%; the summary also gives 70% as an example. The saved measure defines what the share means.

Understand one learning community.

A campus means a subject area or learning community within the school. Its identifying name is hidden here.



1 Reach and repeat participation

The view places an audience measure beside an average-retention measure and a retention trend.

2 Learning context

Sessions are broken down by lesson, module, course and category—not collapsed into one content total.

3 A focused investigation

The campus selection and audience rule narrow the population being examined.

WHAT THIS LETS A READER ASK

Is this community attracting a broad audience, retaining participation, or showing a different pattern in each?

New arrivals are not the same as returning students.

To investigate continued participation, I preserved the starting group and examined what happened to it later.



DOCUMENTED COHORT METHOD

A daily/monthly active-user ratio answers a different usage question.

Fix the starting group

Identify the students who belong to the original group.

Look for later participation

Follow that same group into subsequent periods.

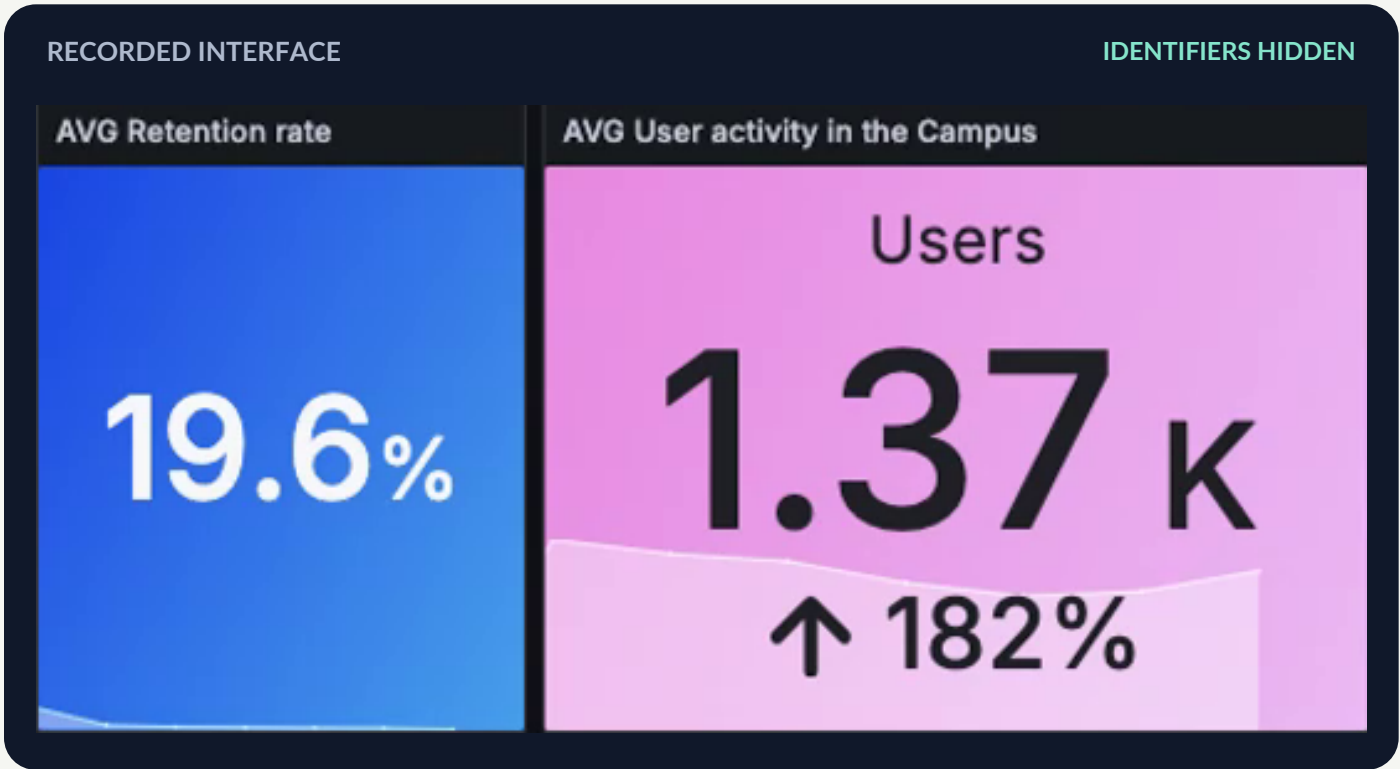
Compare under the same rules

Keep activity definitions and time windows consistent.

The biggest community is not automatically the strongest.

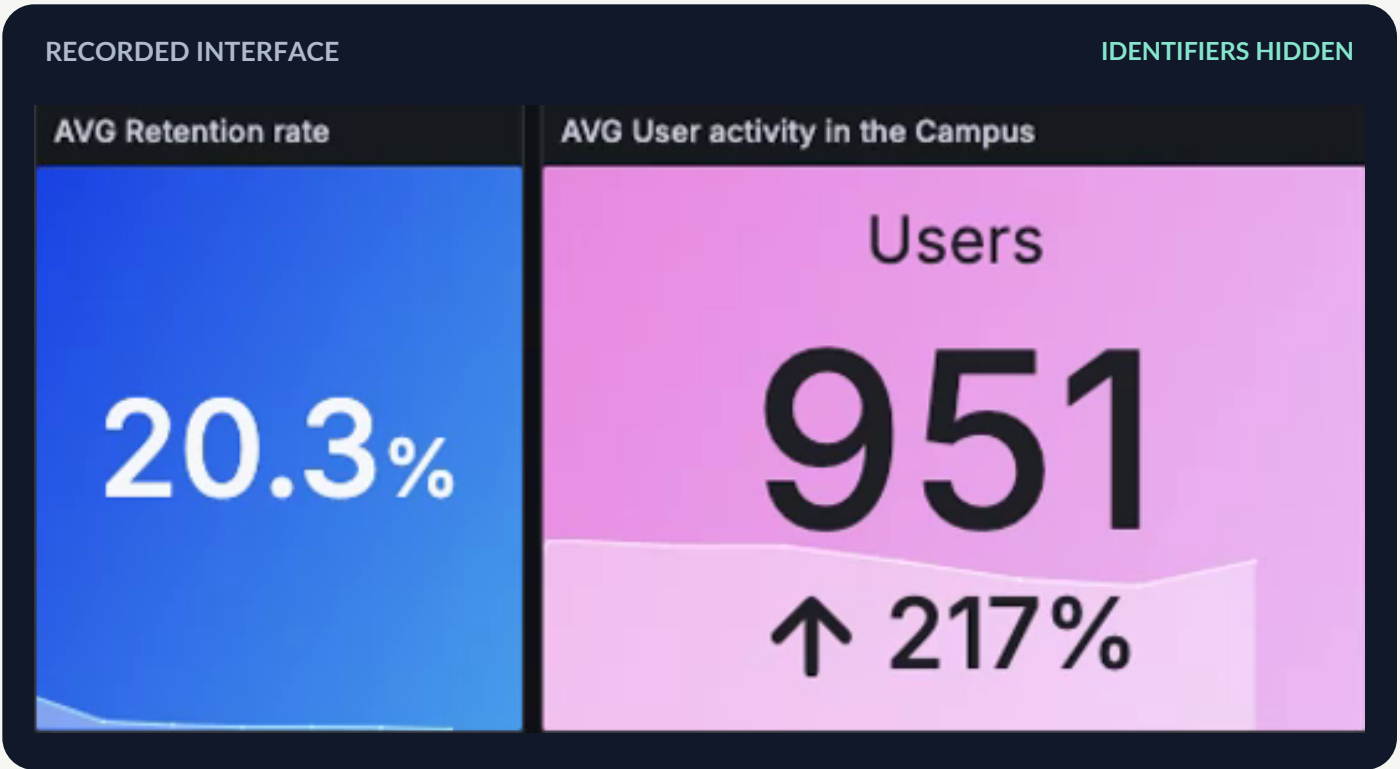
Two captured campus views illustrate why audience and continued participation should be read together.

CAMPUS A / IDENTIFYING NAME HIDDEN



More people in the displayed audience does not necessarily mean a higher displayed retention measure.

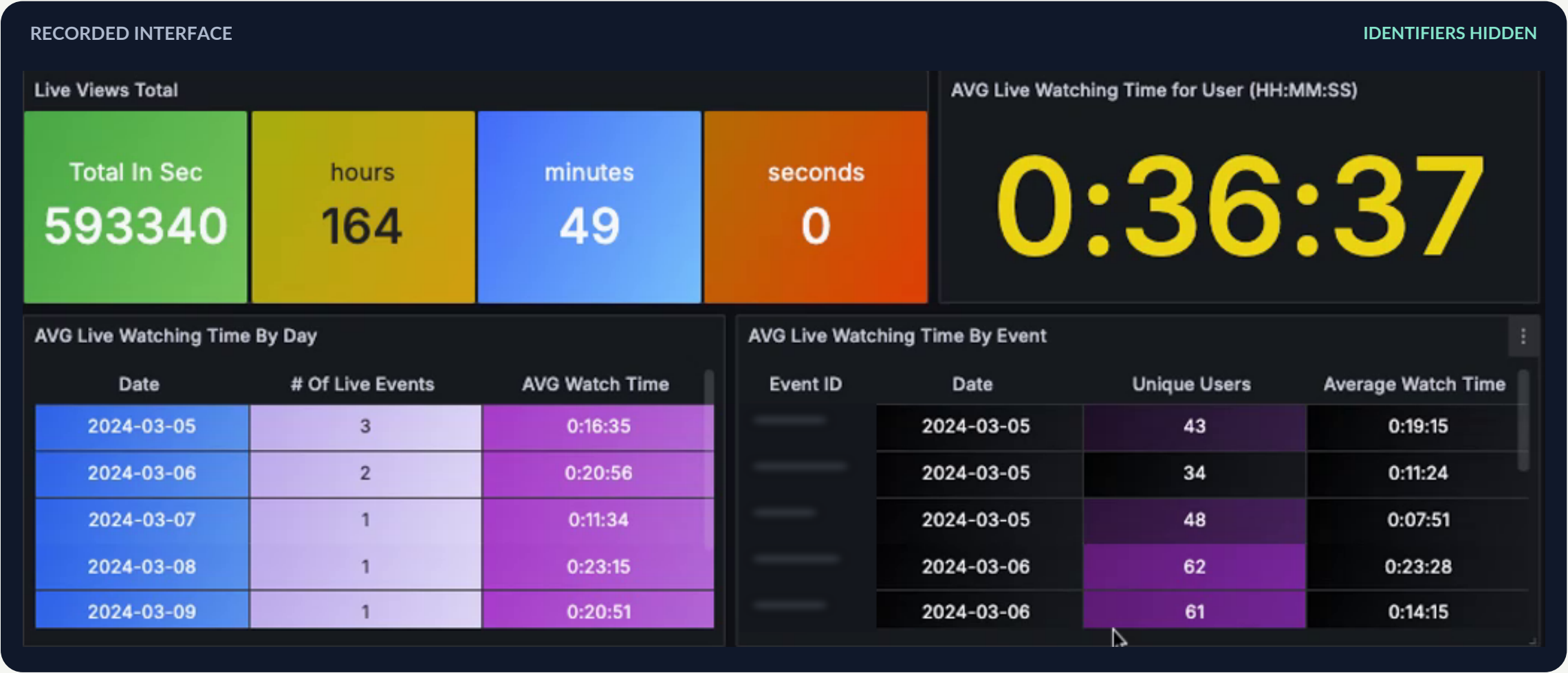
CAMPUS B / IDENTIFYING NAME HIDDEN



The documented relative campus-contribution measure combined audience size with average retention. It added context to a comparison; it did not measure revenue, teaching quality or overall success.

Connect live sessions with the wider learning journey.

Live viewing and recorded lessons should not be investigated as disconnected activities.



Read the measures separately

Total recorded time, daily averages, event-level averages and distinct viewers answer different questions.

Event identifiers are hidden; aggregate values remain visible.

WHAT THE EVIDENCE SUPPORTS

The summary reports same-day overlap with lesson activity. That supports investigation—not a claim that livestreams caused learning.

Look beyond whether a lesson was opened.

The recorded course ranking is a starting point; the documented work connected content with broader student behavior.

VISIBLE IN THE RECORDING

Where was activity recorded?

The course panel ranks recorded session events. It helps locate concentrated activity, without turning event volume into a claim about learning quality.

DOCUMENTED ANALYTICAL EXTENSIONS

Content journeys and later interaction

I connected lessons with subsequent chat activity and examined elapsed start-to-completion spans by course, module and category.

Completion spans are elapsed time—not uninterrupted study.



See participation across the community.

Channel trends, a channel list and a heatmap make activity patterns inspectable in one place.



1 Audience over time

Read the line chart to compare how recorded daily audiences change across channels.

2 Concentrations and gaps

The heatmap shows where activity is concentrated across the displayed dates.

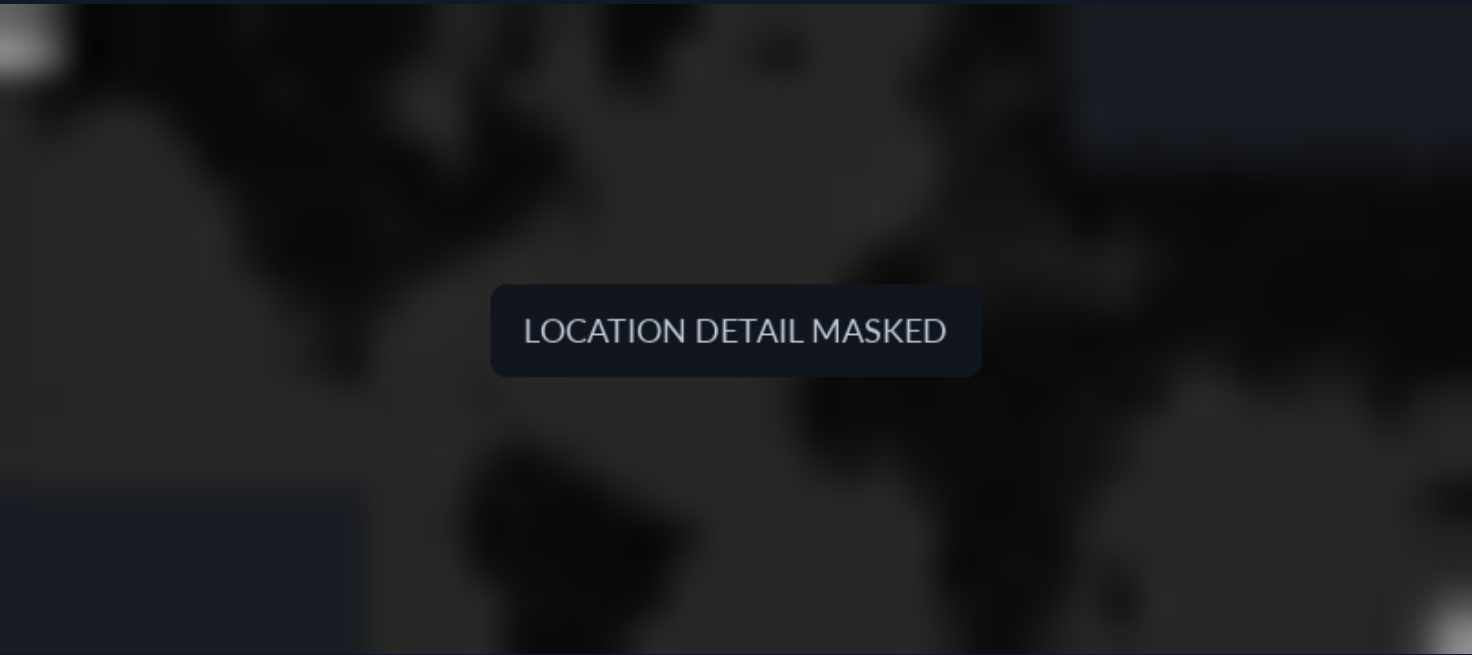
3 Beyond activity totals

Later-week return participation was also part of the documented analytical coverage.

A country count is not a country rate.

I separated geographic volume from the proportion of the local audience involved.

RECORDED MAP / PRIVACY-PRESERVING VIEW



Fine-grained map locations and coordinate details are masked in this edition.

TWO DIFFERENT QUESTIONS

How many students?

An absolute count shows the volume of activity or inactivity associated with a country.

What share of the audience?

A rate relates that count to the relevant local population. A large count does not automatically mean the highest proportion.

SCOPE OF THE EVIDENCE

The recording includes a location map. Country-level comparisons and usable billing-location processing are described in the summary.

Read student behavior in context.

This is an aggregate student-analytics view—not a named individual’s profile.



1 Several signals together

Subscription events, estimated session duration and time-of-day activity are visible side by side.

2 Population still matters

The campus audience ranking remains tied to the selected activity threshold.

3 Use the pattern to investigate

A duration spike is a prompt to inspect the underlying records—not proof of unusually deep learning.

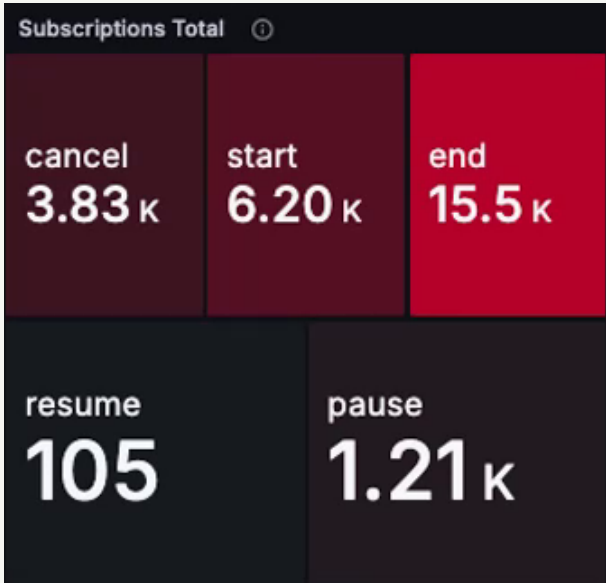
THE DISTINCTION TO KEEP

Events, distinct students and duration estimates describe different things, even when they appear on the same dashboard.

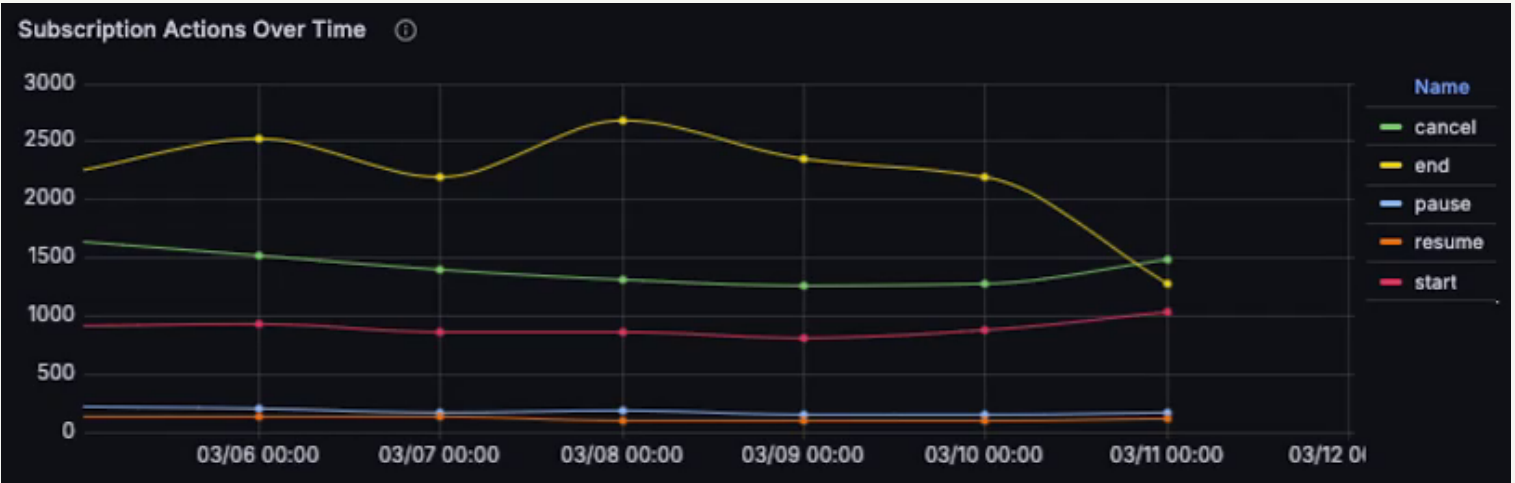
Follow the events around cancellation and return.

Keep the recorded action categories visible instead of reducing the whole story to a single total.

RECORDED ACTIONS



TREND OVER THE SELECTED PERIOD



RECORDED GROWTH PANELS



What the screen shows

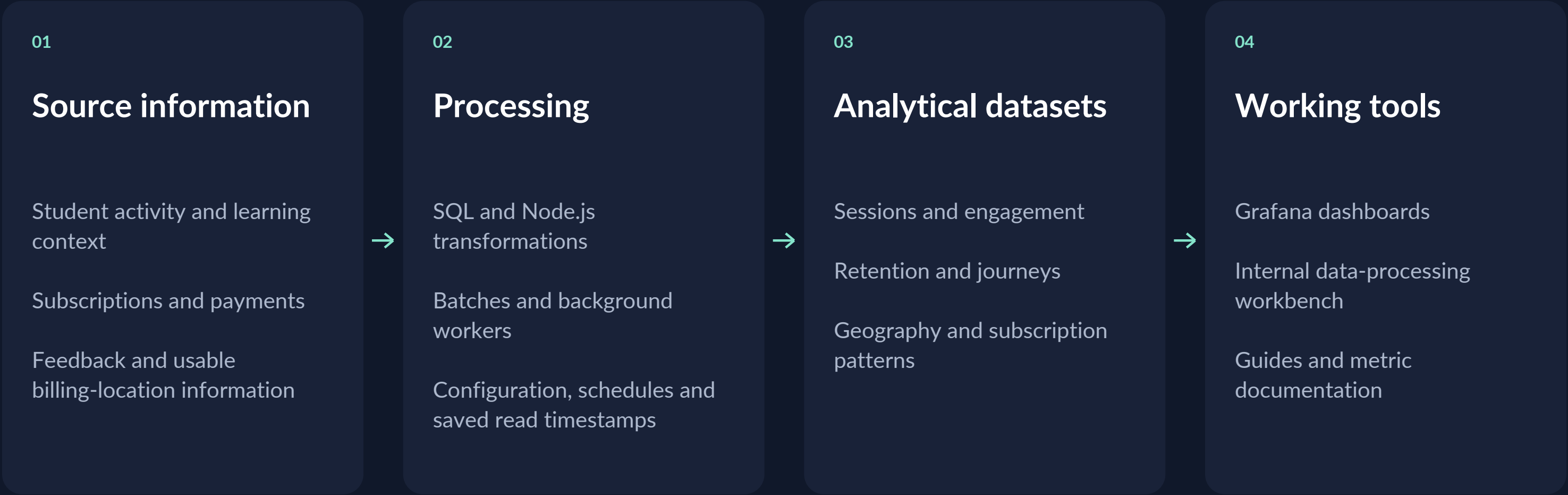
Start, cancel, end, pause and resume appear as separate recorded event types. Event totals are not automatically counts of unique students or a uniquely defined churn rate.

What the wider analysis covered

Cancellation reasons, activity before cancellation, return records and observed delays before returning. Those additional analyses are documented in the summary, not shown in this clip.

The reports were only the visible layer.

I built repeatable processing that connected the source information to the analytical datasets and reporting tools.



DATA ROLES IN PLAIN LANGUAGE

PostgreSQL and **MongoDB** supplied business and operational records. **ClickHouse** held the processed analytical datasets. **Grafana** presented the management views.

I built tools to operate the data work, too.

The internal browser-based workbench is described in the project summary. This is a capability map, not a recreated interface.

01

Connect sources

Manage the data sources and settings used by processing tasks.

02

Edit processing code

Work on the transformations that prepare information for analysis.

03

Schedule jobs

Organize when processing tasks should run.

04

Inspect execution

Review logs and investigate what happened during a run.

05

Follow process status

Stream process output and completion status into the browser.

06

Create query-based charts

Turn query results into charts for internal inspection.

The ownership extended from calculations and dashboards to the tools needed to maintain the work behind them.

Make the reporting infrastructure inspectable.

A separate database view exposes inventory and storage information behind the analytical layer.



Inventory

Recorded database inventory—not unique student counts.

Storage

Inspect how storage is being used rather than treating processing as a black box.

Operational context

Use infrastructure signals to support maintenance and investigation.

Make the numbers understandable and maintainable.

I documented both how the system worked and how managers and teachers should interpret the results.

Metric definitions

Explained activity, estimated duration, retention and campus contribution.

Implementation register

Tracked nine current families of measures, including sessions, engagement and geography.

Processing and dashboard guides

Supported maintenance, technical handover and everyday interpretation.

BI request template

Captured the business question and its purpose before another chart was commissioned.

7

stage onboarding model

Documented the journey from subscription entry through orientation, campus selection and the first campus lesson.

Process design documented; full funnel deployment is not established by the materials.

ADDITIONAL OPERATING QUESTIONS

Outreach analysis covered contact activity, responses, delays and unanswered messages. Some historical message-pairing rules still required validation.

From a business question to an inspectable answer.

The distinctive contribution was the measurement judgment—and implementing that judgment across the full analytical workflow.

01

Define

Decide which events count, who belongs in the comparison and which time period matters.

02

Build

Implement processing, calculations, dashboards and the internal tools behind them.

03

Explain

Document how a result should be read, where it is useful and what it cannot establish.

THE INSIGHTS THE WORK MADE VISIBLE

Apparent activity could overstate participation. Live teaching belonged in the wider learning journey. Lessons could connect to later community behavior. Smaller communities could show stronger continued participation.

Evidence boundaries. The materials do not establish a measured revenue gain or retention improvement. Some historical calculations and integrations still needed validation. Duration estimates are not a direct measurement of attention.

What this demo is based on.

Screenshots come from all eight supplied recordings. Broader delivery claims come from the supplied project summary.

RECORDING / SOURCE CODE

SELECTED TIMECODES

DEMO PAGES

V1	Analytics Overview.mp4	00:15 / 00:45	01, 04, 14
V2	Data Analytics Dashboard Overview.mp4	00:15	07, 09, 10
V3	Database Analytics Overview.mp4	00:05	19
V4	Exploring Campus Dashboard Features.mp4	00:15 / 01:30	08, 10–12
V5	Exploring Channel Analytics.mp4	00:05	13
V6	Main Dashboard Overview.mp4	00:05	05, 07
V7	Student Dashboard Analysis.mp4	00:15 / 00:55	06, 15
V8	User Subscriptions Dashboard.mp4	00:25	16

PRIVACY TREATMENT

Names and identifiers hidden

Client navigation and face overlays were excluded. Campus, course and channel names, event identifiers and internal source labels were obscured. Fine-grained map detail was masked.

Only edited screenshot pixels are embedded—not removable overlays above original identifiers.

S / SUPPLIED PROJECT SUMMARY

Online School System – Business Analytics & Automation

Provides the documented scope, measurement decisions, analytical coverage, processing system, workbench, documentation and limitations. The figures in recorded screens are historical snapshots—not current KPI statements. The internal workbench and full onboarding funnel are not demonstrated by the supplied footage.