

Case Study

Modernizing a Multi-Tenant K-12 District Data Platform for Learning Analytics

Magic
EdTech

The Client

A learning analytics and data platform provider serving K-12 districts. Their platform unified data from student information systems and learning tools into educator-facing dashboards and reports, and later became part of a larger education ecosystem following an acquisition.

The Challenge

The platform needed to scale integrations without creating brittle one-off connectors, improve ingestion reliability across varied district configurations, and support "SIS-first" onboarding through API and secure extract options. The client also required higher release confidence through repeatable QA and automated regression across a multi-tenant environment.

Critical Success Parameters

- ✓ Expand integrations using a platform-grade framework, not custom one-offs.
- ✓ Improve ingestion reliability and standardize validation to increase data trust.
- ✓ Enable SIS-first onboarding using APIs and secure extract patterns.
- ✓ Support multi-tenant configuration variance without breaking reporting.
- ✓ Increase release confidence through automated regression and repeatable QA.
- ✓ Improve operational visibility into freshness, failures, and data correctness.

Our Approach

- ✓ Modernized connector capabilities using reusable templates to accelerate new integrations.
- ✓ Strengthened ingestion pipelines to handle peak loads and reduce failure rates.
- ✓ Implemented consistent validation patterns to prevent downstream discrepancies in dashboards.
- ✓ Improved operability with monitoring and failure visibility for faster troubleshooting.
- ✓ Built QA automation and regression coverage for integrations and releases across district configurations.
- ✓ Developed SIS-first onboarding patterns supporting API and secure extract options.
- ✓ Strengthened long-tail dataset consistency across core domains including rostering, staff, enrollments, sections, calendars, program tags, and assessments (as applicable).



Key Result Highlights

Provisioned configured district dashboards in under **15** minutes.

Delivered an impact measurement dataset spanning **392,603** students, **48** districts,

1.4M usage hours, and **150** programs.

Enabled a major SIS integration to support all versions via API or secure extract across core entities.

Supported district governance efforts for a large US public district (**80,000+** students, **14,000+** educators), contributing to stronger data privacy practices and a recognized trust seal.

Established a scalable integration operating model built on templates, validation, and visibility rather than brittle connectors.