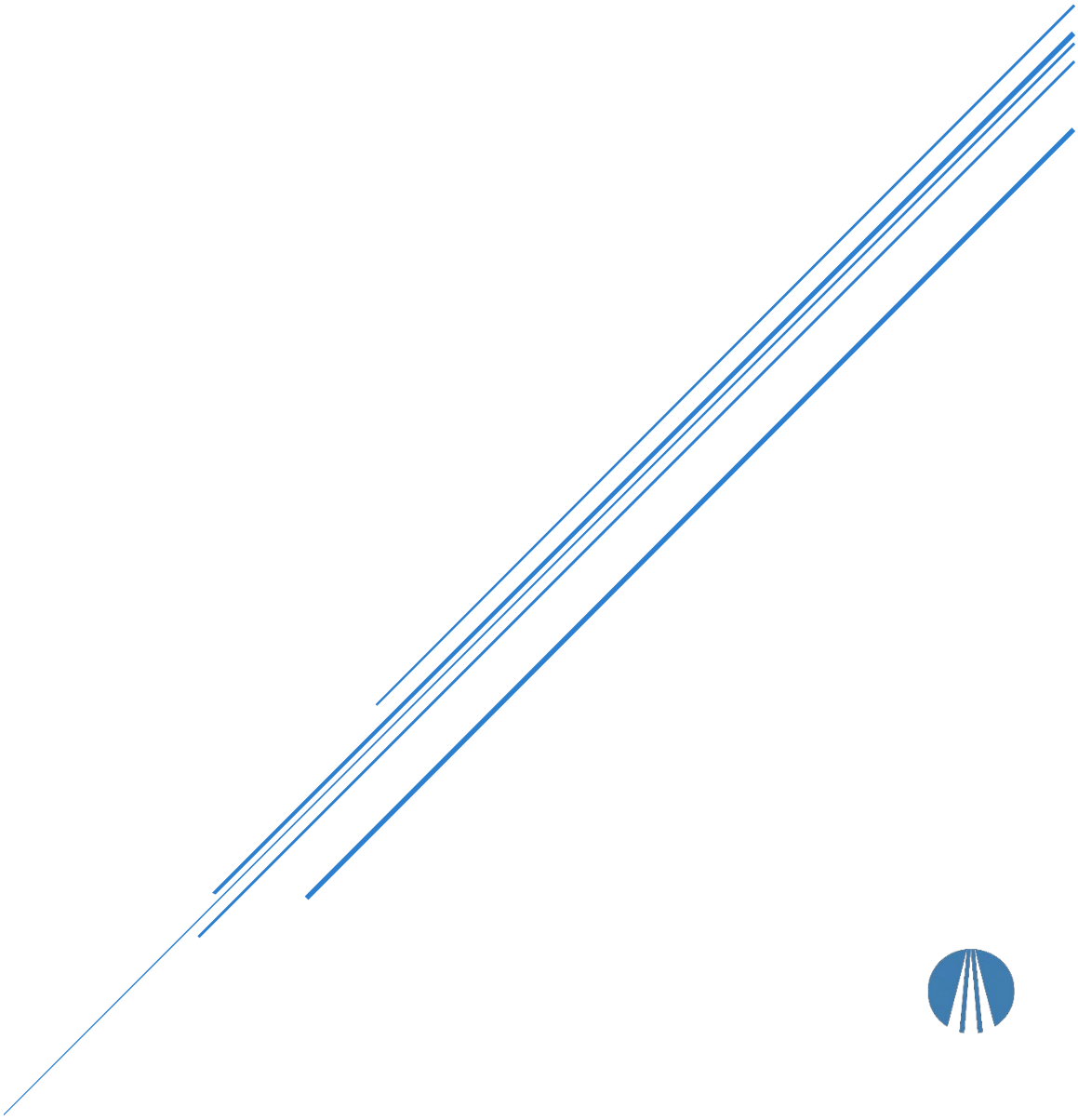
DESIGNING A COURSE ENGAGEMENT MODEL

From LMS Activity to Actionable Insight



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Case Study | Systems & Data Clarity

The Situation

There was a growing need to understand how students were actually using the LMS at a course level.
At the time, most conversations relied on login counts. If a student logged in, they were considered "active."
But that didn't hold up under scrutiny.
A student could log in once and disappear. Another could return consistently, submit work, and participate - and both would look identical in the data.
And that was the problem.

- There was data, but not insight.

Understanding the Problem

The challenge wasn't data availability.
It was interpretation.
A few limitations became clear early on:

- Login counts didn't reflect meaningful engagement
- Grades measured performance, not activity
- Course structures varied too much for fixed thresholds to make sense

So the question shifted: *What does "engagement" actually mean in this system?*

Defining What "Engagement" Means

Instead of chasing a single metric, engagement was reframed as behavior.
Not what students *achieved* — but what they *did*.
Three signals stood out:

- Presence — Did students enter the course?
- Participation — Did they interact in a meaningful way?
- Consistency — Did they come back over time?

Simple on the surface. But together, they told a much clearer story.

Building the Model

Once those signals were defined, the next step was turning them into something usable.
A composite score was created using these three dimensions — not to overcomplicate things, but to balance them.
Then came an important decision.
Instead of setting fixed thresholds ("X% = good"), courses were evaluated relative to each other:

- Grouped within the same context (School + Term)
- Ranked using percentiles

- Compared against a dynamic median baseline

Why? Because engagement isn't absolute - it's contextual.
What's "high engagement" in one course might be normal in another.

What the Model Introduced

The output was intentionally simple:

- Strong
- Moderate
- Low
- No Activity

But behind that simplicity was structure.
These bands made it possible to:

- Compare courses within the same environment
- Identify where the LMS was actually being used meaningfully
- Support better conversations with stakeholders

Not about performance - but about usage.

Important Design Decisions

A few choices shaped the model more than anything else:

- No reliance on login counts
- No use of grades as engagement signals
- No attempt to measure what the system couldn't see (external tools)
- No fixed scoring thresholds

Each decision was intentional.
Because the goal wasn't to create a perfect metric - it was to create a reliable one.

Outcome

The result wasn't just a dataset.
It was a shift in how engagement could be understood.
Instead of isolated numbers, there was now:

- A consistent way to compare courses
- A clearer view of actual LMS usage
- A foundation for data-informed discussions

Most importantly, it made the data usable.

What This Work Reveals

This work reinforced a simple idea:

- Data doesn't become valuable on its own. It has to be defined.

Without that, even accurate metrics can mislead.
With the right structure, even simple signals can become meaningful.