Lowell Public Schools / Open Architects

Lowell Public Schools (LPS) is a diverse urban school district in northeastern Massachusetts that has partnered with Open Architects (OA), a data analytics platform that specializes in building practice-informed tools that translate complex education data into actionable insights. Together, LPS and OA developed a data ecosystem that empowers staff across roles to engage in timely, student-centered intervention.

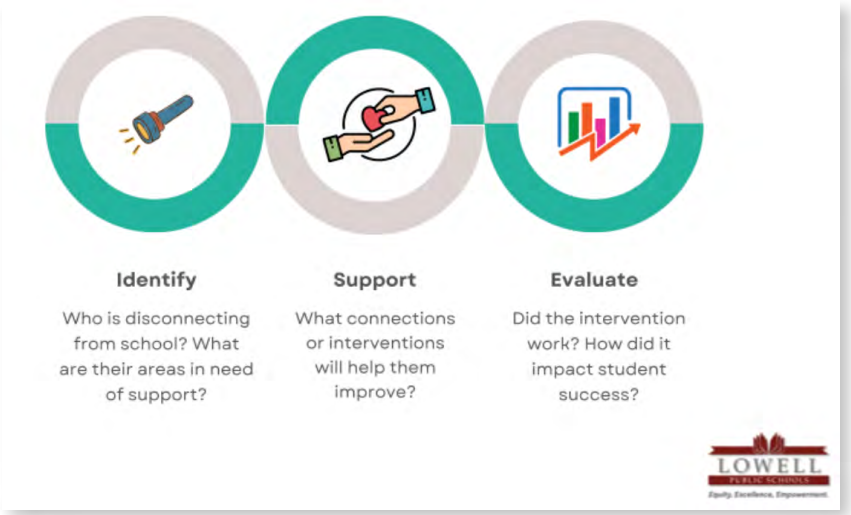
Location	Massachusetts
Setting	Urban
Students Served	~15,000
Schools	28 schools, including 3 high schools
Key Demographics	42% Hispanic/Latinx, Asian 26%, White 20%, Black 8%, over 70 languages spoken, 83% designated high needs
Tech Infrastructure	Advanced: Needs integrated platforms with specialized technical architecture
Implementation	Partnership: Developed alongside external partners
Scalability	Broadly Replicable: Adaptable for multiple districts or nationwide usage

Student Success Vision

Nearly 83% of LPS students are designated high needs, meaning they qualify for additional educational resources including free/reduced price lunch, special education services, and services for multilingual learners. In this context, LPS emphasizes a people-first approach to student success, with a strategic focus on using data trends to identify students needing support and implement meaningful interventions. Their vision prioritizes on-the-ground strategies tailored to specific student populations, ensuring technology supports, rather than drives, timely decision-making by educators.

The Student Success Team meets at least quarterly to identify students in need of support based on data which Indicator Teams meet more regularly on content-area intervention. Ultimately, the goal is connecting students to effective interventions that address their individual needs and keep them on track for academic success and graduation.

This vision aligned naturally with Open Architects' practitioner-centered approach. Founded by former district and public-sector leaders, OA brings a deep understanding of the daily challenges educators face. This shared commitment to putting on-the-ground needs first made OA an ideal partner for LPS.



Pain Points

Before implementing their work with OA, LPS experienced challenges with **Data Access** and **Actionable Data Visualizations**.

Data Access: Critical student data and school-level trends were restricted to a small number of staff members.

- Limited access prevented some educators and support staff from gaining insights that could inform their work with students.
- Staff were also concerned that they could not access necessary data in a timely manner.

Actionable Data Visualizations: LPS wanted a way to transform raw student data into clear and consistent visual representations that staff could easily understand and act upon.

- Schools and interventionists were creating their own ad-hoc tiers to identify students at risk (e.g., on attendance or behavior), but this system was subjective and siloed and lacked views of overall risk, meaning students, often those with emerging or moderate needs, were being missed.
- Without visual cues to highlight patterns and trends, it was difficult for teachers and support staff to quickly identify which students needed support and what specific interventions would be most effective.

District-Led Innovation

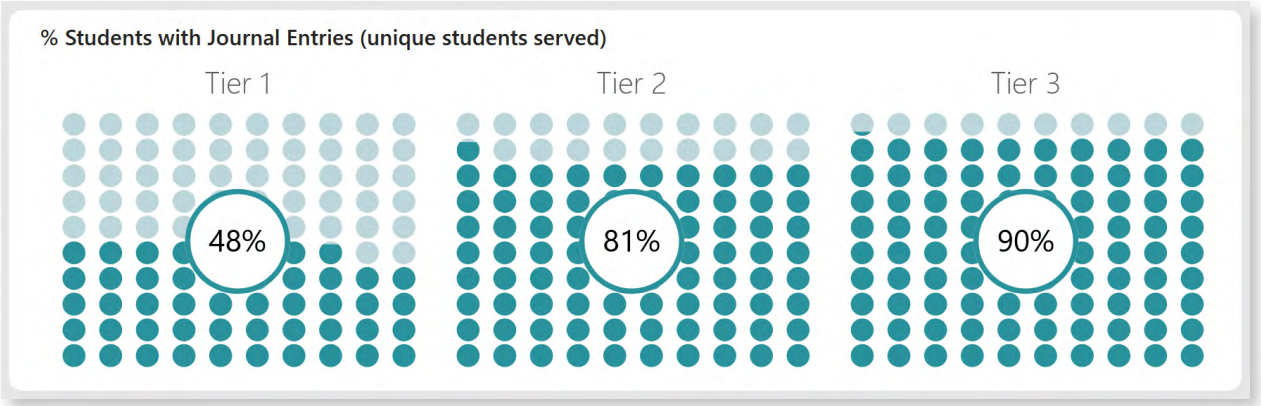
LPS partnered with OA to address these challenges, designing solutions that prioritize school staff needs and capabilities. Key features and functionality of the tools include:

- **Simplified but Robust Data Dashboard:**
  - The solution consolidates data in one accessible location while maintaining a clean, uncluttered interface.
  - The intuitive design presents essential information at a glance while allowing users to explore details as needed.
  - Risk levels are recalculated nightly with thresholds tailored by grade level for developmental relevance.
  - Color-coded risk tiers (Tiers 1–3; low, medium, or high risk) incorporate both traditional ABCs (attendance, behavior, and course grades) and measures of wellbeing (agency, belonging, connectedness).

- **Visual Risk Identification System:**
  - Based on logic developed through conversations with school staff about high-risk factors they observe in students, the system uses color-coded flags as clear visual indicators that immediately draw attention to students requiring support.
  - The system highlights intervention needs without requiring extensive technical knowledge on the part of school staff.
  - Extensive filters allow educators to slice the data by grade, demographic, support touchpoints, and more, informing outreach and resource alignment.

Current Period Risk Tier	Chronic Abs Risk Pts	Incident Risk Pts	Failed Eng. Risk Pts	Failed Math Risk Pts	CY # Absences	CY # Behavior Inc.	Most Recent iReady ELA	Most Recent iReady Math	MCAS ELA	SGP	Scaled Score	MCAS Math
Tier 1		1			9.00	6.00	Mid or Above Grade ...	1 Grade Level Below	PM	63	479	PM
Tier 1					2.00	1.00	1 Grade Level Below	3 or More Grade Lev...	NM	78	461	PM
Tier 3	2	1			34.00	5.00	1 Grade Level Below	3 or More Grade Lev...	PM	90	479	NM
Tier 1					11.00	0.00	1 Grade Level Below	1 Grade Level Below	PM	90	498	PM
Tier 1					10.00	0.00	1 Grade Level Below	1 Grade Level Below	PM	73	477	PM
Tier 2		1		1	12.00	5.00	3 or More Grade Leve...	3 or More Grade Lev...	NM	5	441	NM
Tier 1					3.00	0.00	Mid or Above Grade ...	Mid or Above Grade ...	M	18	508	E
Tier 1				1	1.00	3.00	Mid or Above Grade ...	3 or More Grade Lev...	PM	5	486	PM
Tier 1					5.00	0.00	Mid or Above Grade ...	1 Grade Level Below	PM	19	494	PM
Tier 1					8.00	0.00	1 Grade Level Below	1 Grade Level Below	PM	95	486	PM
Tier 1			1		14.00	0.00	3 or More Grade Leve...	1 Grade Level Below	NM	46	464	PM
Tier 1					0.00	0.00	Early On Grade Level	Mid or Above Grade ...	M	88	506	M
Tier 1					14.00	0.00	1 Grade Level Below	1 Grade Level Below	PM	56	481	PM
Tier 2			1	1	8.00	2.00	3 or More Grade Leve...	3 or More Grade Lev...	NM	29	464	NM
Tier 1					0.00	0.00	2 Grade Levels Below	Early On Grade Level	PM	72	482	PM
Tier 1		1			2.00	13.00	3 or More Grade Leve...	3 or More Grade Lev...	NM	24	443	NM
Tier 1					7.00	0.00	3 or More Grade Leve...	3 or More Grade Lev...	NM	18	448	NM
Tier 1					6.00	0.00	Mid or Above Grade ...	Mid or Above Grade ...	M	70	518	M

- **Student Connectedness Visualization:**
  - This waffle chart visualization displays each student as a tile, clearly distinguishing between students who have a known point of connection (darker dots) and those without (lighter dots).
  - Connected students show both natural connections (through sports or extracurriculars) and those with existing journal entries or who have already been assigned interventions.
  - Unconnected students are deliberately highlighted to draw attention to students who have not yet received specific support.
  - Visual segmentation by risk level allows intuitive tracking toward connection goals (e.g., reaching 90% connectedness for Tier 3) and focused engagement efforts.
  - The interactive display allows filtering by intervention type, grade level, or teacher, generating contact info and actionable checklists for follow-up.



Impact on Practice

"The platform has completely elevated our ability to see students' level of risk as it changes real time—across schools, districts, and, most powerfully, at the individual student level. We can now identify who's disconnecting and respond with targeted, organized, and efficient support. Prior to this, school teams needed to manually run cumbersome reports that required additional sorting and calculation to determine risk tiers, an impracticality which limited the use of multi-tiered-support systems. Often, students in Tier III risk would get lots of support while students in Tier II risk would fly under the radar because their lower-grade disconnection wasn't as easily apparent. Thanks to the ABC risk tiers, schools are now able to organize their support in real time with just a few simple clicks."
—Dr. Lauren Campion, Director of Student Resources, Lowell Public Schools

Since beginning their partnership with OA, LPS has observed decreases in chronic absenteeism and dropout rates and an improvement in graduation rates. They have also identified the following positive changes in practice:

- Staff now have access to clear, intuitive visualizations that highlight students needing support without requiring extensive data analysis skills.
- The color-coded system enables quick identification of students at various risk levels, allowing for more timely interventions.

Key Insights

Critical Success Factors

- LPS understands the ABCs as symptoms of disengagement rather than causal factors. Their approach prioritizes these research-backed indicators over demographic classifications or state-mandated categories that can complicate analysis.
- By focusing on clear engagement patterns, staff can more efficiently identify students who need targeted intervention and direct resources where they'll have the greatest impact. Progress can then be monitored over time to assess whether those interventions are having the intended effect.

> *"A lot of times when people think about data visualization, they think that they have to do something fancy. However, we really need to think about how someone is using that data … You want something that is clear, that's easy to read, that's well-defined so that it's showing you what needs to immediately draw your attention. Once you have that, the rest of the visuals and tools should help you dig deeper and figure out your next steps."*
> *—Lilian Wu, Open Architects*

- Prioritizing user needs over technical complexity and engaging end users throughout the design process resulted in a usable system that addressed real-world challenges faced by staff.
- Combining strategic direction from district leadership with technical expertise from Open Architects created a solution tailored to LPS's specific context. A strong partnership and ongoing feedback loops means the platform can continuously evolve as more needs are surfaced.

Recommendations for Other Districts

- Focus on creating visualizations that clearly communicate essential information without overwhelming users. School staff are the ones implementing interventions and making decisions based on the data; if they can't easily interpret it, even the most sophisticated system will fail to improve student outcomes.
- Customization is essential. Include the staff who will be using the system in the design process to ensure relevance and usability of dashboards and tools.

Thank you to the following team members for their exceptional commitment to student success and willingness to share their innovative data practices:

- Dr. Lauren Campion, Director of Student Resources, Lowell Public Schools
- Lilian Wu, Data Visualization Analyst, Open Architects

To explore the complete stories, implementation insights, and lessons learned from other innovative schools and districts, check out the full District-Led Innovation Showcase report.

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Digital Promise

Washington, D.C.:
1001 Connecticut Ave. NW, Suite 935
Washington, D.C. 20036
Website: https://digitalpromise.org/

Redwood City, CA:
702 Marshall St., Suite 340
Redwood City, CA 94063