

Fort Vermilion School Division

Data Driven Education

Leading with Insight in a Competitive Talent Landscape

Scott McKenzie, Chief Technology Officer



Remote, Diverse, and Logistically Complex

- Covers over 87,000 km², approximately 12% of Alberta's landmass.
- Serves Beaver, Dene, and Cree First Nations, alongside a strong Mennonite community of German heritage.
- Supports immigrant families speaking a wide range of languages including Filipino, Spanish, Korean, Turkish, Uzbek, and Tagalog.
- Remote geography and decentralized infrastructure demand locally driven, resilient solutions.

Universal Screening as a Strategic Lever

- Literacy and numeracy assessments for all students
- Standardized data enables consistent tracking
- Early identification drives timely intervention

Measuring age-appropriate reading and numeracy benchmarks.

- Data guides instruction and resource allocation
- Every student. Every school. Every term.
- Supports transparency and continuous improvement

Success in our division is defined not by financial return, but by educational advancement specifically in Literacy, Numeracy, and Social Emotional Learning.

Corporate Governance

- Annual operational budget exceeding \$70 million
- Board of Directors: elected School Trustees
- Shareholders: parents and guardians
- Oversight: Federal and Provincial Boards of Education
- Students, our valued customers

Key Challenges and Goals





Recognizing the gaps and acting decisively

- Superintendent Mike McMann identified a systemic gap in student literacy and numeracy progression.
- Comprehension levels were stagnating across grade levels.
- He engaged a reading expert and launched a division-wide screening program for Grades 1 and up.
- Assessments focused on foundational skills: alphabet, phonics, and sound recognition.
- Leadership recognized the problem and moved swiftly to build a data-driven solution.



Primary Goal

- Increase age-level literacy and numeracy from a baseline of 43%
- Targeting measurable gains across all grade levels



Additional Goal

- Ensure accountability in identifying students needing support
- Enable timely, data-informed interventions



Supplemental Goal

- Align resourcing and training with actual student needs
- Support Educators with targeted professional development

Building Accessible, Purpose-Driven Data Systems



Overview

Excel workbooks are shared via SharePoint Team Sites, enabling team collaboration with site-specific security settings. Power BI connects to each site, accessing workbooks from designated libraries and folders.

Meeting Challenge

- ✓ Familiar interface for Users.
- ✓ Results are collated for analysis every 4 hours.

Overview

Power Automate extracts Excel workbook data to a SharePoint list. Data quality issues are logged back in the workbook, and email notifications are sent. Power BI connects to the SharePoint list.

Meeting Challenge

- ✓ Familiar interface for Users.
- ✓ Data quality ownership established through automation.
- ✓ Results are collated for analysis every 2 hours.

Overview

Student and teacher data are synchronized from the School Information System (ERP) into Dataverse. Excel workbooks are replaced with a PowerApps Canvas App. Record ownership is assigned to both the school and teachers. BI connects to Dataverse.

Meeting Challenge

- ✓ Canvas App designed around user feedback.
- ✓ Auditing applied to Assessment Records.
- ✓ Teacher and Student assignments aligned with ERP.
- ✓ Results are collated for analysis every 1 hour.

Overview

Additional features in the PowerApps Canvas App are based on user roles. Dataverse is connected to Microsoft OneLake, and Power BI reports use T-SQL connections to Fabric Lakehouse.

Meeting Challenge

- ✓ The Canvas App was redesigned to include additional features.
- ✓ Data Loss Prevention (DLP) Policies Added.
- ✓ Extended Dataverse to additional apps for Resource Management and Competence and Quality Assurance.
- ✓ Collated results available within 10 minutes.

• Environments	Hours	Cost Per Hour	Total Cost
Singular Assessment per Period			
Manual scoring takes 5 minutes per Student, Class of 24 students takes two hours (Does not include Testing Time).	2	\$80.00	\$160.00
Verification of scoring by Literacy Clinician takes 1 hour per class based on 24 students.	1	\$100.00	\$100.00
Assumption of 1 Class per Grade in school (Grade 1 to 9)	27		\$2,340.00
Per Period Reporting for a School			
4 Clinical Assessments and 1 Provincial Assessment	135		\$11,700.00
School Administration collation and Report Building	3	\$120.00	\$360.00
Per School Year Reporting for a School			
3 Reporting Periods	414		\$26,180.00
Annual School Year Reporting (16 Schools, 3 Reporting Periods)	6,624		\$578,880.00

	Qty	Total Cost
Power Platform Licensing		
400 PowerApps per User Plan Licenses purchased for 10 months.	400	\$32,000.00
Fabric Licensing (Environment and User Costs)	400	\$48,000.00
25% of Annual School Year Reporting Value.		\$144,720.00
Annual School Year Licensing and Staffing Cost		\$224,720.00

Before vs. After

The Educational Framework Application has historically reduced total hours for participating schools by 75%.

Assuming this reduction remains constant, the Division's total hours for completing assessments have decreased to approximately 1,656, hours.



Key Points

Our greatest return isn't in dollars, it's in hours reclaimed for instruction, leadership, and student support.

- Manual reporting and assessment previously consumed over 6,600 hours annually across 16 schools.
- Standardized digital workflows have reduced administrative burden by over 1.65%, despite increased assessment volume.
- Time saved is redirected to instructional planning, student support, and professional development.
- Efficiency gains scale with adoption, every reporting cycle compounds the benefit
- **Before:** Reporting heavy, reactive
- **After:** Instructional focused, proactive

- “Fort Vermilion was one of the earliest adopters of an approach to early literacy screening that several provinces are now mandating for children. Screening of kindergartners across Alberta and B.C. began last month, while Ontario’s took place in the fall.
- **Eight years later, about 86 per cent of Grade 9 students have age-level reading comprehension skills, up from 43 per cent prior to the introduction of literacy screening.”**

Early adoption. Sustained commitment. Proven results.



- Mike McMann
- Superintendent , Fort Vermilion School Division

Strategic Considerations



Strategic Considerations

By investing in internal capacity, school divisions can reduce reliance on external consultants and foster a culture of evidence-based decision-making.

- ✓ **Upskilling and Data Literacy:** Prioritizing staff training and fostering data literacy is critical for sustainable digital transformation in education.
- ✓ **Use of Hands-On Dashboards:** Interactive dashboards and internal guides help educators and administrators make informed decisions with real-time data.
- ✓ **Low-Code Platforms Empowerment:** Low-code tools enable non-technical staff to engage with data, reducing reliance on external consultants.
- ✓ **Culture of Evidence-Based Decisions:** Embedding data leadership encourages continuous improvement through shared data discussions and celebrated successes.

Strategic Considerations

Public education faces a growing challenge in attracting and retaining data and AI talent amid fierce competition from the private sector.

- ✓ **Mission-Driven Career Paths:** Position education careers as meaningful by emphasizing real-world impacts like student success and equity.
- ✓ **Professional Growth Opportunities:** Promote cross-division collaboration and mentorship programs to retain talent and build institutional knowledge.
- ✓ **Communities of Practice:** Create internal groups to foster peer learning, innovation, workshops, and sharing of best practices.
- ✓ **Partnerships for Talent Pipeline:** Develop collaborations with universities and training programs to attract emerging AI and data talent.

Strategic Considerations

Scaling data capabilities in education requires thoughtful innovation that aligns with long-term resource constraints and institutional goals.

- ✓ **Sustainable Innovation Practices:** Public education must balance innovative tools with sustainability to ensure long-term success and stability.
- ✓ **Open Standards and Interoperability:** Prioritizing open standards and interoperable platforms supports flexibility and seamless integration across systems.
- ✓ **Internal Ownership and Expertise:** Building internal expertise and governance helps maintain and evolve data systems independently and effectively.
- ✓ **Scalable Secure Data Access:** Adopting scalable solutions like Microsoft Fabric enables secure data access across all organizational levels.

Strategic Considerations

Empowering public education with sustainable, in-house data leadership requires bold collaboration, shared vision, and a commitment to long-term impact.

- ✓ **Invest in Internal Capacity:** Prioritize training and mentorship to build resilient data teams within school divisions.
- ✓ **Foster Cross-Division Collaboration:** Share frameworks, dashboards, and success stories to accelerate collective progress.
- ✓ **Champion Ethical AI Practices:** Promote transparency, fairness, and accountability in educational data systems.
- ✓ **Commit to Long-Term Vision:** Align data initiatives with strategic goals that support student success and institutional sustainability.

Any Questions



Additional Information for Audience



- **2023 – Mike McMann**
Alberta's Queen Elizabeth II Platinum Jubilee Medal
Honoring significant contributions to the province and community.
- **2024 – Mike McMann**
Dyslexia Canada Educational Excellence Award
Recognized for advancing inclusive literacy practices and system-wide reform.
[Podcast Interview](#)
- **2025 – Mike McMann**
EXL Award for Excellence in School System Leadership
Presented by CASS and CASSA for outstanding leadership in student success.
- **2025 – Heather Kierstead**
Dyslexia Canada Educational Excellence Award
Celebrated for her literacy advocacy, mentorship, and evidence-based instruction.
- **2025 – Mike McMann**
King Charles III Coronation Medal
Awarded for exemplary leadership, innovation, and community impact.

Publications

- **Canadian Journal of Behavioral Science**
Did School Closures Due to COVID-19 Influence First Nations, Métis, and Inuit (FNMI) Students' Word Reading Growth More Than Non-FNMI Students?
[View Journal](#)
- **Learning and Instruction – Volume 97, June 2025**
The Growth Trajectories of Oral and Silent Word Reading Fluency Before and After COVID-19
[Read Article](#)

Podcasts

- **The Low Code Revolution – June 12, 2024**
Evolving Education Framework with Power Platform
Featuring Scott Durow & Scott McKenzie
[Listen Here](#)
- **Dyslexia Canada – June 4, 2024**
Empowering Education: A Superintendent's Quest for Reading Proficiency
Featuring Mike Mc Mann
[Listen Here](#)



Environments

- 6 Production Environments
- 2 Dev Sandbox Environments
- 2 UAT Sandbox Environments
- Azure DevOps Pipelines
- 400 Power Premium Licenses

Fabric / Power BI

- 2 Warehouses connected via Microsoft OneLake.
- 30 Internal / External Power BI Reports
- 10 Paginated Reports
- Educational Analytics App

Power Automate

- 124 Cloud Flows
- Custom Connectors to BrightSpace LMS, Graph API, Power BI and Student Information System

Dataverse and PowerApps

- 3 Canvas Apps (Published)
- 5 Model Driven Apps (Published)
- 3 Dataflows syncing Student, Teacher and User data from PowerSchool SIS and MS Graph



