Strategies and Best Practices for Data Literacy Education

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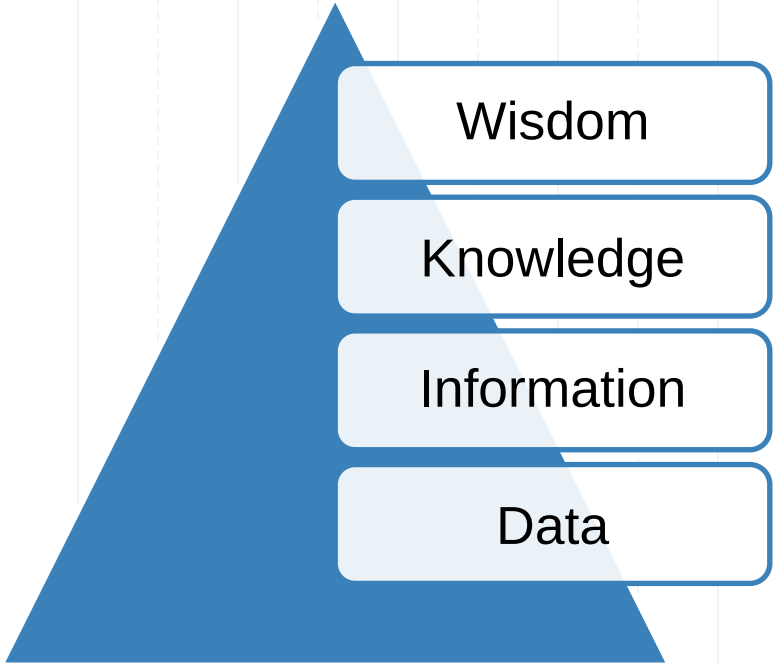
DIKW Pyramid



What is Data Literacy?

Data Literacy is the ability to collect, manage, evaluate, and apply data; in a critical manner

21st Century

Citizens

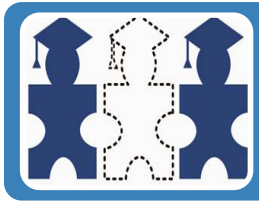
- Globalization and interconnectivity
- Evaluation of visualizations and infographics

Thinking

- Problem-solving, critical thinking, and computational thinking
- Much more complex not simply logic anymore

Problems

- Big Data explosion
- Lack of consistency in knowledge and training

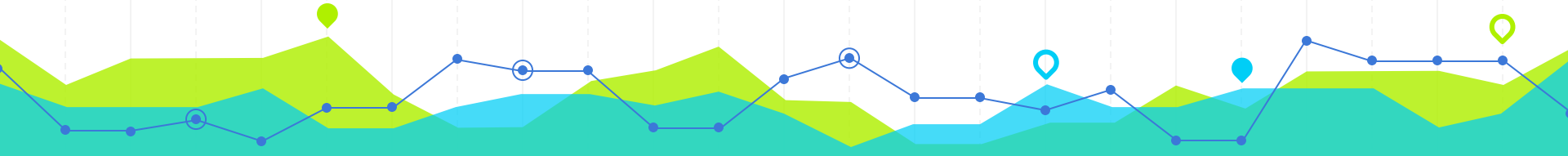


Skills

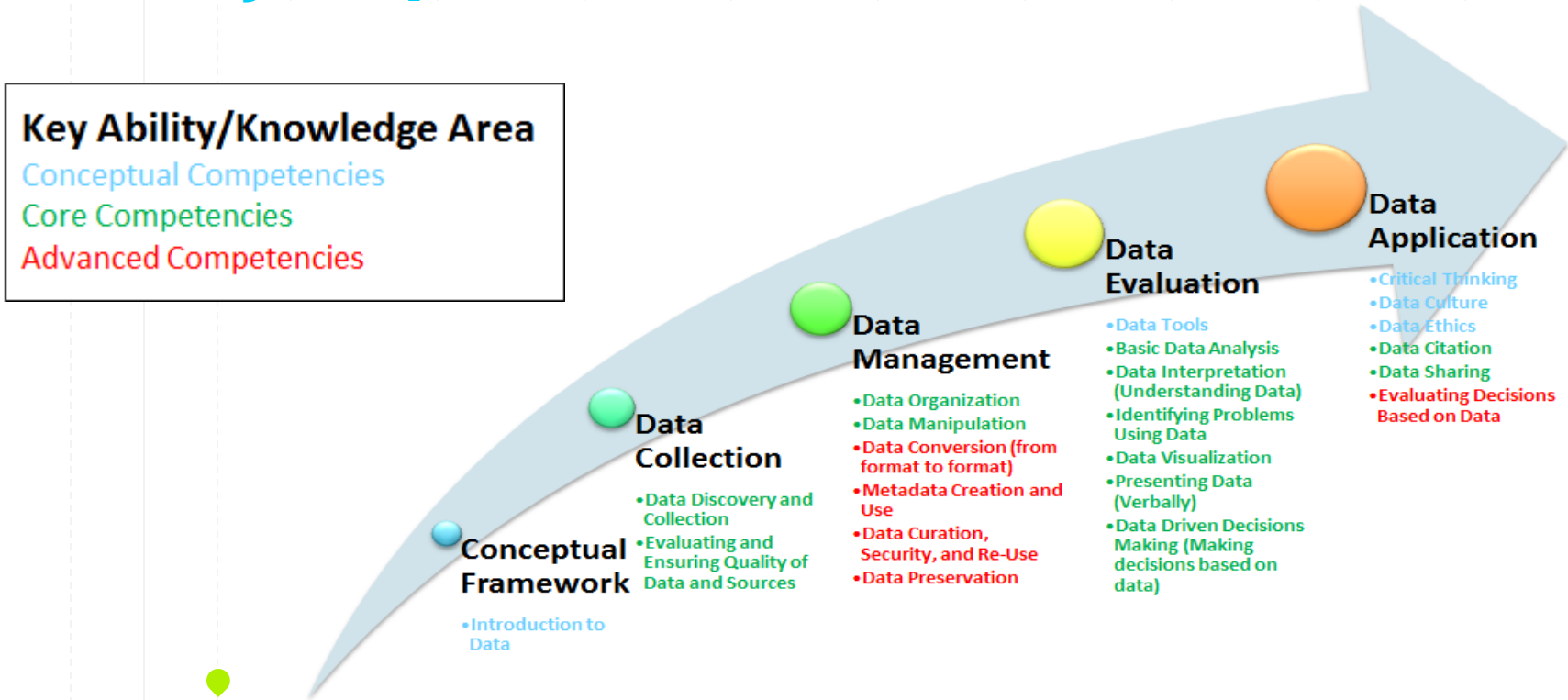
- Shortage of data scientists & data-savvy professionals
- Essential survival skill

Public, Private, and Academic Sectors

- Inconsistent
- Misunderstood
- Disparities in talent
- Lacking proper resources, support, and training

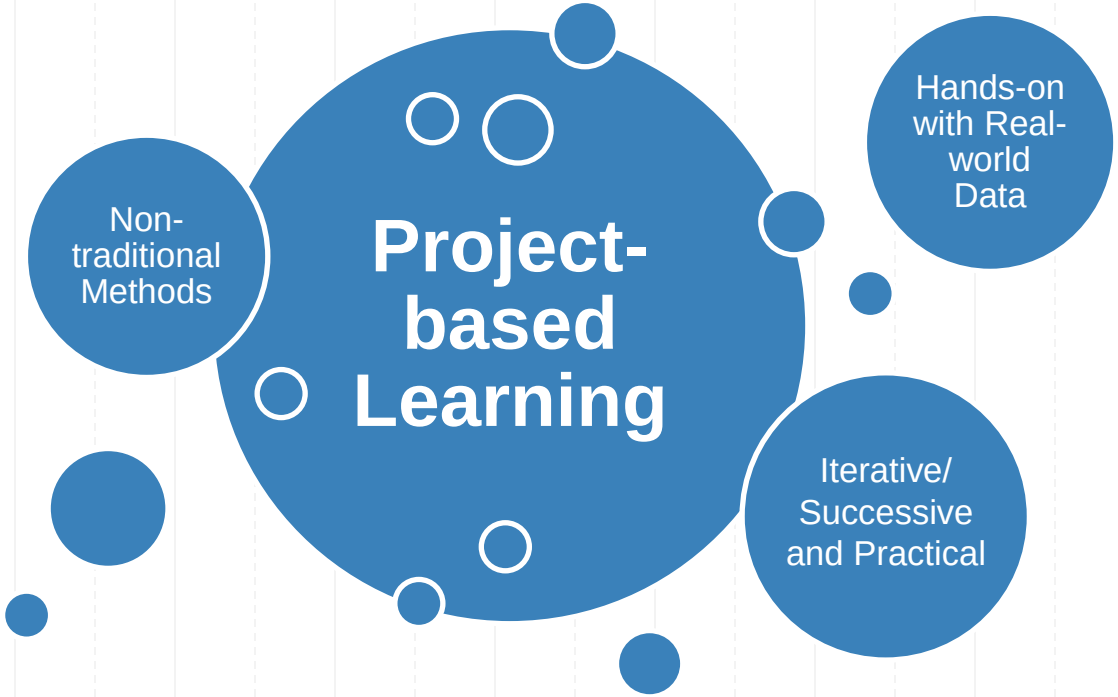


Data Literacy Competencies

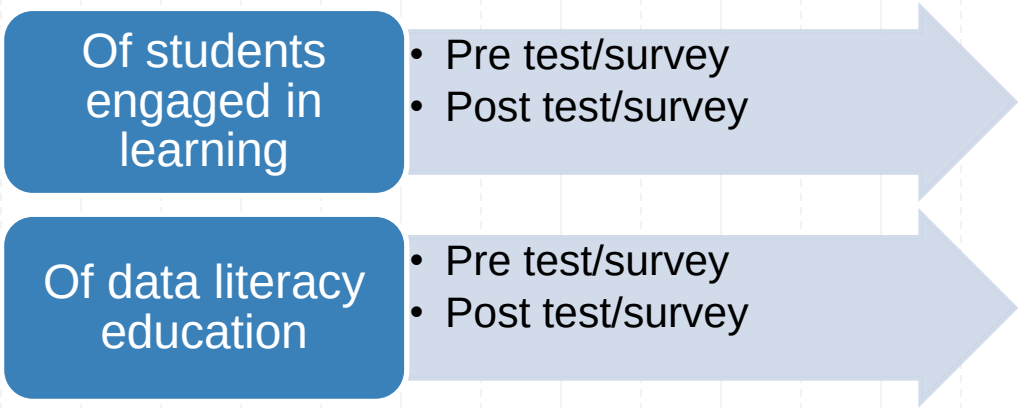


Best Practices for Teaching Data Literacy

Emerging Delivery Methods



Assessment and Evaluation



The Competencies Matrix, made up of 23 competencies and 64 related tasks/skills (Appendix 1), could be used to develop a self-assessment tool to help track success.

Data Literacy Competencies Matrix

Conceptual Framework
Introduction to Data

Data Collection	
Data Discovery and Collection	Evaluating and Ensuring Quality of Data and Sources

Data Management					
Data Organization	Data Manipulation	Data Conversion (from format to format)	Metadata Creation and Use	Data Curation, Security, and Re-Use	Data Preservation

Data Evaluation						
Data Tools	Basic Data Analysis	Data Interpretation (Understanding Data)	Identifying Problems Using Data	Data Visualization	Presenting Data (Verbally)	Data Driven Decisions Making (DDDM) (Making decisions based on data)

Data Application					
Critical Thinking	Data Culture	Data Ethics	Data Citation	Data Sharing	Evaluating Decisions Based on Data

Further Information

For the full report and supplementary resources, please visit www.dataliteracy.ca, or for more information, please contact Chantel Ridsdale at chantel.ridsdale@dal.ca

Thank you for your time and engagement!

Questions?