



Digital Data Literacy for Education

IO1 Capacity Building Programme for Digital Data Literacy

Data Literate Syllabus

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Data Literate

Digital Data Literacy for Education

Consortium

Integrating partners from 4 countries, this consortium was chosen considering the expertise in fields that are strategic to the project and essential to its objectives: know-how on teachers training, data literacy & data science and schools.



	Vilnius University	https://www.vu.lt/
	Vilnius Jesuit High School	https://www.vjg.lt/en
	INOVA+	www.inova.business
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1. Module 1 - What is Data Literacy?

In this module you will learn what data is and its difference with opinions, which helps us at highlighting how data cannot be neutral. Moreover, you will discover the importance of fact checking and data verification in order to critically assess data. Eventually we are going to learn where to find data, exploring resources and techniques.

Topics

- Nice to meet you, data!
 - What is data?
 - Data vs opinions: is data neutral?
 - Data and teaching
- Where to find data and how to critically assess them
 - Fact-checking and data verification: 3 questions to ask yourself when you meet data
 - Where can I find you, data? Resources and techniques
 - Data Portals

Competences

- Understanding data
 - Observing digital data
 - Reflecting on digital data
- Using data
 - Navigating digital data
 - Collecting digital data

Learning Outcomes:

- Articulate information needs, locate and retrieve digital data, information and content
- Judge the relevance of the source and its content, thus being able to select reliable sources of information
- Acquire knowledge on where and how to find data

2. Module 2 - Understanding your data

When working with data, it is essential to approach the topics of format and licenses. What is the best format to handle data? What data can we reuse and under what terms? Understanding data means also understanding how data is visually represented: you will learn the basic structure of a data visualization and what are misleading graphs and how to avoid them.

Topics

Understanding your data: format and licenses



- What is a machine-readable format and why is it important you get your data in such format
- What is metadata and why is it important
- Licensed content: what data can you reuse and under what terms

Understanding data visualization

- The anatomy of a data visualization
- The use of charts and graphs to present data
- How charts lie: misleading graphs and how to avoid them

Competences

- **Understanding data**
 - Analysing digital data
 - Evaluating on digital data
- **Using data**
 - Navigating digital data
 - Interpreting digital data
 - Presenting digital data

Learning Outcomes

- Store, manage, and organise digital data, information and content.
- Identify possible restrictions to the use of digital resources (copyright, file type, legal provisions, accessibility).
- Facilitate student's understanding of data.

3. Module 3 - Learning and Teaching analytics

Performing data analysis can give us interesting insights. Before delving into analytics, it is crucial to understand the key role of the data cleansing process. In this module, you will learn how to clean your data and why you should do it, and how to plot and calculate basic statistics together with some tips and tricks to analyse data.

Topics

- **How to clean your data and why you should do it**
 - What is data cleaning and why you need to do it
 - What is in a typical data cleaning checklist
 - Tools and techniques to successfully clean your data
- **How to perform analysis to find insights in your data**
 - From data to insights: what is analytics?
 - How to plot and calculate basic statistics to find insights in your data
 - Analysing data: tips & tricks



Competences

- **Understanding data**
 - Observing digital data
 - Evaluating on digital data
 - Analysing data
- **Using data**
 - Interpreting digital data

Learning Outcomes

- Store, manage, and organise digital data, information and content.
- Identify possible restrictions to the use of digital resources (copyright, file type, legal provisions, accessibility).
- Facilitate student's understanding of data.

4. Module 4 - Explore data literacy resources already available

In this module you will learn how to communicate your insights with data visualization. We will start from the basics of planning a dataviz and explore different visual strategies together with a few tips to design accessible and respectful data visualizations. Eventually we will move from planning to crafting: a list of different tools for visualizing data and to support online classes will be presented

Topics

- **How to communicate your insights with data visualization**
 - Planning a dataviz
 - Few tips to design accessible and respectful data visualizations
- **From planning to crafting: tools visualizing data**
 - Google data studio
 - Infogram
 - Tableau

Competences

- **Understanding data**
 - Evaluating on digital data
 - Analysing data
- **Using data**
 - Interpreting digital data
 - Presenting digital data

Learning Outcomes

- Store, manage, and organise digital data, information and content.
- Identify possible restrictions to the use of digital resources (copyright, file type, legal provisions, accessibility).

- Facilitate student's understanding of data.

5. Module 5 – Educational Data

It is now time to dig deeper into the relationship between data and teaching in order to highlight how achieving data literacy can best inform teaching while significantly supporting the learning process. Starting from some definitions and conceptual frameworks, we will then discover what managing student data means in practice through a case study and a practical exercise.

Topics

- **Data literacy for teaching**
 - Data literacy for teaching: a definition
 - European Framework for the Digital Competences of Educators
 - Case study: data in a teacher's practice
- **Managing student data in practice**
 - How to transform data into an action plan
 - Practical exercise
 - Data informed decisions

Competences

- **Understanding data**
 - Evaluating on digital data
 - Analysing data
 - Observing digital data
- **Using data**
 - Interpreting digital data

Learning Outcomes

- Perform well-defined searches to find data, information and useful content for teaching
- Select, organize and retrieve information regarding classes, students and evaluations in a confident manner, keeping data safe
- Use data to tailor instructions to diverse groups of students

6. Module 6 – Draft your DDL plans

In the final module you will go through five steps to design a Digital Data Literacy plan for your students and you will also find an example of good practice for reference.

Topics

- **Data Data Literacy plans for schools**
 - Data literacy plans in education



Data Literate

Digital Data Literacy for Education

- Good practice – the Data Literacy Plan in Queensland
- **Designing a data literacy plan for students**
 - How to draw up Data Literacy Plans for students

Competences

- **Understanding data**
 - Evaluating on digital data
 - Analysing data
- **Using data**
 - Collecting digital data
 - Presenting digital data

Learning Outcomes

- Plan and integrate learning activities and assignments which requires students to use digital technologies effectively
- Adapt a variety of digital technologies in order to interact with students, catering for different learning styles
- Facilitate students' understanding of data

7. Data Literate MOOC

The Data Literate training course consists in a MOOC of 6 modules, free, online and available for all within the project website, [here](#). This course is under a pilot phase with the schools partnering in Data Literate project.