**Ethical use of data**

This planning document is intended to support teachers who are delivering the NPA/PDA Data Science or for students who are learning independently. It also aligns with the Data Skills for Work framework.

*This lesson has opportunities for class discussions/group work projects around the case studies related to ethical use of data, for example on slide 8 (the trolley problem), slide 19 (Amazon recruitment tool).*

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# Version Control

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| Version number | Purpose/Change | By | Date |
| 1.0 | Published by effini | Emma Nylk | 25 Aug 2022 |
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# Lesson Description

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| --- | --- |
| **Lesson Overview** | What are ethical data risks and how to identify them  What are data ethics frameworks. |
| **Topic** | Data Ethics |
| **Book Chapter(s)** | Data Ethics |

|  |  |
| --- | --- |
| **NPA level** | 6 |
| **PDA level** | 7, 8 |
| **Data skills for work level** | Data management, Core |

# Lesson Contents

This lesson consists of:

* A lesson plan (this document)
* A PowerPoint/PDF presentation, ‘Ethical use of data’
* Question worksheet (for learners) on ‘Ethical use of data’ in Excel/PDF
* Answers worksheet (for teachers) on ‘Ethical use of data’ in Excel/PDF

# Learning Intentions

We will be looking at the **ethical use of data**, specifically

* What are ethical data risks
* How to identify ethical risks
* What are data ethics frameworks and how they can be used to prevent ethical risks

# Success Criteria

I can *explain* what is meant by data ethics

I can *explain* what are data ethical risks

I can *explain* how to identify data ethical risks

I can *explain* what is a data ethics framework and how it protects data

# Knowledge Prerequisites

Learners should know:

* what data is
* data can be transformed into valuable information
* data can be used to solve problems and find answers to questions
* how data can be misused by individuals, organisations and society

# Lesson Requirements

|  |  |  |  |
| --- | --- | --- | --- |
|  | **PDA** | **NPA** | **Data Skills for work** |
| **Qualification** | Yes | Yes | Yes |
| **Outcome ID(s)** | CD7.2g, WD8.1i, WD8.2g, WD8.3h, CD8.3e | DC6.2f, DS6.1g | C1.4, C2.1, DM1.1, DM3.1, DM3.3, DL1.2, DL2.3 |
| **Outcome description(s)** | CD7.2g - Explain the features of effective data communication - ethical considerations,  WD8.1i - Ethical implications of business requirements,  WD8.2g - Ethical issues in data sourcing and extraction  CD8.3e - Ethical considerations in the communication, visualisation and presentation of data | DC6.2f - Explain the concept of data ethics  DS6.1g - Explain data ethics, including data bias, with reference to national and international standards and frameworks. | C1.4 - Use and misuse of data by individuals, organisations and society  C2.1 – Vocabulary used in data science and analytics  DM1.1 – Making ethical decision using data  DM3.1 – Data standards  DM3.3 – Data governance processes    DL1.2 – Data risks and challenges  DL2.3 – Data processes and culture |
| **Level** | 7, 8 | 6 | Data management, Core, Data Leadership |
| **Software language** | N/A | N/A | N/A |
| **Required equipment /software for student** | Lesson: PowerPoint/PDF,  Worksheet: Excel/PDF | Lesson: PowerPoint/PDF,  Worksheet: Excel/PDF | Lesson: PowerPoint/PDF,  Worksheet: Excel/PDF |

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# Task-types

In the worksheet for this lesson, there are up to 6 task-types to that become increasingly challenging to support the students learning. Based on the student’s previous knowledge it is possible to select the task-types that are relevant to their stage.

|  |  |
| --- | --- |
| **Task-type** | **Description** |
| **1. Recall** | To be able to recognise definitions or procedures. |
| **2. Define** | To be able to define definitions or procedures. |
| **3. Rephrase** | To be able to use their own words to describe definitions or procedures. |
| **4. Apply** | To be able to apply definitions or procedures to problem-solving activities. |
| **5. Create** | To be able to apply definitions or procedures and create their own solutions to a defined problem. |
| **6. Active** | Using knowledge from the lesson which they apply to scenarios they have researched/designed themselves. |

# Worksheet

The worksheet associated with this lesson is available either in Excel or as a PDF that can be printed. The answer worksheet is available in both formats too.

|  |  |  |  |
| --- | --- | --- | --- |
| **Worksheet section ID** | **Description** | **Task-type** | **Number of questions** |
| 1.1 | Data ethics risks | Recall | 1 |
| 1.2 | Data ethics risks | Rephase | 1 |
| 1.3 | Data ethics risks | Apply | 2 |
| 1.4 | Data ethics risks | Active | 1 |
| 2.1 | Data frameworks | Define | 1 |
| 2.2 | Data frameworks | Apply | 4 |
| **Total** | | | **10** |

# How you can use this lesson

This lesson has been created by effini in partnership with Data Education in Schools and Skills Development Scotland.

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A picture containing text, clipart

Description automatically generated

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# Alternative format

**If you require this document in an alternative format, such as large print or a coloured background, please contact**

**hello@effini.com**

**or**

**4th Floor, The Bayes Centre**

**47 Potterrow**

**Edinburgh**

**EH8 9BT**