Unit title:	Visualising and Communicating Data
SQA code:	J6VF 47
SCQF level:	7
SCQF credit points:	8

History of changes

Publication date: September 2022

Version: 01

Version number	Date	Description	Authorised by

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Unit template: January 2022

Unit title:	Visualising and Communicating Data (SCQF level 7)

Unit purpose

This is about individuals identifying appropriate visualisation tools based on the data context to present and communicate insights in a form that is tailored to meet audience needs.

Learning outcome

To present insights to stakeholders utilising easy to understand narratives and visual data summaries that illustrate and support the insights in line with organisational requirements.

Performance requirements	**Knowledge and understanding**
1. Identifying visualisation and reporting deliverables from the data analysis requirements specification. 2. Selecting visualisation tools to convey the data outcomes effectively. 3. Designing visualisations with relevant delivery media using relevant design tools. 4. Creating graphical visualisations of data to support easy and accessible interpretation using visualisation tools. 5. Presenting analysis outcomes through storytelling supported by related data visualisations to build key messages. 6. Producing standardised reports and dashboards, automating these as appropriate. 7. Producing reports and technical documentation. 8. Delivering verbal in-person presentations, reports, non-narrative visuals, in progress meetings or emails. 9. Documenting assumptions, methods and tools used to visualise data in a way they can be referenced by colleagues in future. 10. Documenting visualisation solution outcomes and identify the implications of data insights, providing recommendations and next steps.	1. The main types of data visualisation including column, line, pie and bar charts, election donuts, area charts, scatter plots, choropleth and symbol maps and locator maps. 2. How to select the most appropriate visualisation methods for specific datasets. 3. Different delivery media including website, physicalising and infographic. 4. How to design data visualisations to meet requirements. 5. The industry standard tools and techniques used to visualise data. 6. The common patterns found in real-world data. 7. How to use data to create an engaging, informative, and compelling story. 8. Communication methods, formats, and techniques, including written, verbal, non-verbal, presentation, email, conversation, audience and active listening. 9. Communication tools and technologies for collaborative working and sharing data visualisations and data insights. 10. How to communicate results through basic narrative. 11. The different ways of communicating meaning from data in line with audience requirements. 12. How to produce clear and consistent technical documentation using standard organisational templates.

Performance requirements (continued)	Knowledge and understanding (continued)
	13. How to tailor and explain data and results to different audiences in a way that aids understanding and that is meaningful for decision making. 14. The key performance indicators (KPI) used as metrics on data outcomes, including reducing costs and improving the speed of decision making.

Additional information about the unit

Assessment (evidence) requirements:

There should be a mix of **product**, **performance** and **knowledge** evidence for this unit.

The evidence should be produced as a by-product of normal work activities. The evidence should relate to the learner's work role. For example, the visualisations generated will be those commonly employed in the workplace.

Examples of product evidence include dashboards and reports. An example of performance evidence is observation of the learner delivering a presentation. An example of knowledge evidence is written evidence that the learner knows the main types of data visualisation and how to select visualisations.

Most evidence should be sourced from routine work activities. However, simulation is permissible when it is not possible to produce all the required evidence in this manner. For example, some analyses may have to be evidenced using fictitious data if source data is confidential or high value.

Further guidance on the assessment (evidence) requirements for this unit, and other units, can be found in the Assessment Guidance document.

Guidance on instruments of assessment:

It is anticipated that most evidence will be generated as a by-product of routine workplace activities carried out as part of the learner's job role. However, there may be occasions when activities must be undertaken to satisfy specific performance requirements or demonstrate specific knowledge and understanding.

In these circumstances, learners will be required to acquire the new knowledge and understanding, and apply this to a relevant work task. In exceptional circumstances, it is permissible for learners to undertake a simulated task using an artificial dataset to produce the required product or performance evidence.

It may be possible for one type of evidence to imply another. For example, a presentation (performance evidence) may provide evidence of the learner's understanding (knowledge evidence) of types of visualisation, visualisation design and communicating through visualisation. Combining assessment (evidence) in this way is encouraged. However, it is vital that each piece of evidence is clearly related to performance requirements and knowledge and understanding.

Professional recorded discussion and / or personal reflective statements can be used to demonstrate knowledge and understanding.

Additional information about the unit (continued)

Details of the relationship between the unit and relevant National Occupational Standards (if appropriate):

This unit is related to the following National Occupational Standards:

TECIS806301: Assist in developing data visualisations.

TECIS806401: Develop and communicate data visualisations.

https://www.ukstandards.org.uk/

Details of the relationship between the unit and other standards or curricula (if appropriate):

Assessment requirements specified by a sector or regulatory body (if appropriate):

Please refer to the Overarching Assessment Strategy for Competence-based Qualification and the associated sector-specific guidance relating to Digital Technology (Diploma in Digital Technology at SCQF Level 8) produced by SQA Accreditation (2022).

Meta-skills signposting:

This unit aligns to the following meta-skills:

- Adapting
- Communicating
- Creativity
- Leading
- Sense making