

Changemakers: Creativity and Value Creation (ACCA5033)

Friday, August 8, 2025 2:07 PM

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Course: BSc Data and Information Systems

URL: [Project Proposal](#)

Mindmeister Map

Friday, August 8, 2025 2:07 PM

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Aim and Objectives

Friday, August 8, 2025

2:08 PM

Project Aim

The overarching aim of this project is to explore and propose a comprehensive framework for leveraging data-driven insights to proactively enhance support mechanisms and significantly improve retention rates for neurodivergent students within UK Higher Education institutions.

Project Objectives

To achieve this aim, the following specific objectives will be addressed:

1. To investigate current data collection practices, existing support provisions, and their perceived effectiveness for neurodivergent students across UK Higher Education institutions.
2. To identify and critically evaluate key data points and suitable analytical techniques that could yield actionable insights for proactive support interventions and predict potential retention risks for neurodivergent student profiles[1].
3. To propose a conceptual data pipeline and an analytics dashboard design tailored to facilitate the efficient collection, secure storage, robust analysis, and accessible visualisation of relevant student data.
4. To analyse and recommend best practices for ethical data governance and privacy, specifically addressing the sensitive nature of collecting and utilising data related to neurodivergence, ensuring student autonomy and protection from bias[2-3].
5. To recommend actionable, data-informed strategies and interventions for universities to implement, designed to improve the academic success, well-being, and ultimately, the retention rates of neurodivergent students, fostering a neuro-inclusive educational environment.

Research Philosophy

Friday, August 8, 2025

2:11 PM

The most appropriate research philosophy for this project is Positivism. Positivism holds that knowledge is based on observed, measurable phenomena and that genuine inquiry should be based on a scientific approach to social reality. Given my role in the university's MIS Data Department and the project's focus on leveraging existing quantitative data, this philosophy is highly suitable.

Positivism is fitting because it prioritises quantitative methods and objective analysis to identify patterns and relationships within data. The project aims to use available institutional data to understand correlations between student behaviour and outcomes, which is a core tenet of this philosophy. By relying on a systematic approach to analyse existing data, the project seeks to generate a robust, evidence-based framework for support. While a pure positivist approach might overlook the complexity of human experience, this project's focus on proposing a technical framework for data analysis, rather than a full behavioural study, makes it a pragmatic and realistic choice for this task.

Search Tools and Strategies

Friday, August 8, 2025

2:11 PM

Identifying robust and relevant research is foundational for this project. A systematic approach using appropriate search tools and strategies is important.

Appropriate Search Tools and Research Databases

To identify comprehensive research, a multi-disciplinary approach to database selection is necessary, reflecting the intersection of data science, education, psychology, and disability studies.

Academic Databases:

- IEEE Xplore and ACM Digital Library: Essential for research on educational data mining, learning analytics, predictive modelling in education, data visualisation, and ethical AI/data governance [1][4].
- PsycINFO (via APA PsycNet) and The British psychological society: Crucial for research on neurodevelopmental conditions (autism, ADHD), their impact on learning, psychological support, and student well-being in an academic context.
- Grey Literature and Policy Documents: Utilise resources from UK government websites for policy, and disability support organisations for practical guidance and lived experience reports[5].

Effective Search Strategies:

Combining keywords with Boolean operators and other search techniques will maximise the relevance and breadth of search results.

- Boolean Operators (AND, OR, NOT):
- Truncation (*) and Phrase Searching (""):
- Citation Chaining: Reviewing reference lists of highly relevant articles and using "cited by" features to find newer, related research.
- Filtering: Applying filters for publication date, article type and language.

By systematically applying these tools and strategies, the research will be robust, comprehensive, and directly relevant to optimising neurodivergent student support and retention through data-driven insights in UK Higher Education.

References

Friday, August 8, 2025 2:11 PM

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- [4] N. Dixon, R. Howe and U. M. Richter, "Exploring learning analytics practices and their benefits through the lens of three case studies in UK higher education," *Research in learning technology*, vol. 33, pp.1–14, Feb 10 2025. doi: 10.25304/rlt.v33.3127. Available: <https://doaj.org/article/dbacd4fe448741788a8c6c8ba432e27b>
- [5] J. Lewis, S. Stiebahl and UK Parliament, "Student mental health in England: Statistics, policy, and guidance." <https://commonslibrary.parliament.uk/research-briefings/cbp-8593/>

Validity, Reliability, Generalisability and Ethical Considerations

Friday, August 8, 2025 2:08 PM

To ensure the integrity of this research, strategies will address key methodological and ethical principles.

Validity

Will be ensured by focusing on the validity of the data points themselves. My role in the MIS Data Department provides a direct understanding of data quality, and I will use metrics that are a true representation of student activity.

Reliability

Will be maintained by using standardised data extraction processes for quantitative data and applying analytical tools uniformly. A pilot study will also help refine data collection instruments for accuracy.

Generalisability

May be a limitation. Since the project focuses on a conceptual framework for using institutional and open-source data. The findings will be framed as a conceptual model, which can be adapted by other UK HE institutions, rather than definitive conclusions applicable to all.

Ethical Considerations

- **Data Protection and Anonymisation:**

All data will be handled with the utmost care, adhering strictly to UK GDPR and institutional data governance policies. My current role provides practical knowledge to ensure data is anonymised or pseudonymised before analysis[1-2]. Research also points to the importance of comparing responses and ethical considerations in higher education to other sectors, which can inform our own ethical practice[3].

- **Bias Mitigation:**

Strategies will be in place to address potential bias. I will be transparent about the potential for datasets to be inherently biased and will employ methods to ensure any analytical models are fair and do not inadvertently discriminate against specific neurodivergent profiles.

Pilot Data Collection Method

Friday, August 8, 2025 2:12 PM

A purely quantitative, data-driven approach will be used, focusing on readily available data from institutional and open-source records.

Quantitative Data Collection

- **Analysis of Existing Institutional Data:** I will conceptually outline how to access and analyse anonymised, existing institutional data. This includes academic performance, support service attendance rates, and student records. This data would be used to identify patterns, trends, and potential correlations related to neurodivergent student retention.
- **Analysis of Open-Source Data:** Data will also be collected from publicly available sources such as the Office for National Statistics (ONS), the Office for Students (OfS), and the National Autistic Society. This will provide a broader national context on neurodivergency and student outcomes, which can be correlated with institutional data.

Pilot Data Collection Method and Feedback (See Appendix)

A pilot study is essential to test the feasibility and refine the focus of my data collection methods. I have designed a pilot data collection instrument in the form of a conceptual data schema, which is included in the Appendix. The purpose of this pilot is to test the clarity and relevance of the proposed data points and their relationships.

Through a process of self-critique, I identified that some of the initial data points were ambiguous. Based on this, I have refined the schema to include clearer definitions and more specific data types. This feedback has helped me improve the project's focus by underscoring the importance of precise data definitions, which is critical for effective analysis.

Different Types of Quantitative and Qualitative Analysis

Friday, August 8, 2025 2:12 PM

This section outlines different types of analytical approaches used in research, including how they can be applied to this project.

Quantitative Analysis: This type of analysis focuses on numerical data and measurable variables to identify patterns, test hypotheses, and make predictions. For this project, I will use descriptive statistics to summarise data from institutional records and open-source reports. Inferential statistics will be used to make broader inferences through techniques like correlation analysis to explore relationships between variables and regression analysis to build predictive models that identify students at a higher risk of non-retention [4].

Qualitative Analysis: This type of analysis is used to interpret non-numerical data, such as text, to understand meanings, experiences, and contexts. A structured approach using content analysis will be employed to derive insights from existing textual data within institutional and open-source records. This method systematically identifies and quantifies recurring themes and keywords, which can then be used to create quantitative metrics [5].

References

Friday, August 8, 2025 2:12 PM

- [1] D. Tzimas and S. Demetriadis, "Ethical issues in learning analytics," *Education Tech Research Dev*, vol. 69, no. 2, pp.1101–1133, Apr 1 2021. doi: 10.1007/s11423-021-09977-4. Available: <https://www.jstor.org/stable/27285758>
- [2] F. Siddiq and D. Murchan, "Towards a code of ethics for using technology-enabled data and related analytic approaches in educational assessment," *Assessment in education : principles, policy & practice*, vol. 31, no. 5-6, pp.376–400, Nov 1 2024. doi: 10.1080/0969594X.2025.2453138. Available: <https://www.tandfonline.com/doi/abs/10.1080/0969594X.2025.2453138>
- [3] A. Braunack-Mayer, et al., "Ethical issues in big data: A qualitative study comparing responses in the health and higher education sectors," *PloS one*, vol. 18, no. 4, pp.e0282285, Apr 25 2023. doi: 10.1371/journal.pone.0282285. Available: <https://www.ncbi.nlm.nih.gov/pubmed/37097990>
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- [5] K. Krippendorff, "Content Analysis: An Introduction to Its Methodology," 2019. doi: 10.4135/9781071878781. Available: <https://cir.nii.ac.jp/crid/1130282272640086912>

Unit 1

Friday, August 8, 2025

2:08 PM

Topic 1

Section 1

Reflect

Make a list of 5 things you have used or activities you have engaged in that would not have been around 10 years ago.

Consider different aspects of your life, such as **study**, **preparing meals**, **entertainment** and **communication**.

Which of these has changed your life for the better and why?

- AI tools
- Streaming Services
- Cryptocurrency
- Smart Phone Technology
- Augmented / Virtual Reality

Apply

Now that you have watched the video, **which invention** do you think has had the biggest impact on the development of society as we know it today?

Anti-Biotics / Medicine

Why do you think this innovation has had such a big impact? Think about how you would **justify your choice**.

It enables society to live longer and healthier lives compared to previous era's where certain illnesses would kill populations.

Is innovation changing things for the better?

Answer the following three questions.
Click **next** once you have chosen.

Across the world, how did deaths per year from natural disasters change in the last century?

- A. More than doubled
- B. Remained about the same
- C. Decreased to less than half

Is innovation changing things for the better?

Answer the following three questions.

On average, women aged 30 have spent how many years in school? (Men of the same age have spent 8 years)

- A. 7 years
- B. 5 years
- C. 3 years

Is innovation changing things for the better?

Answer the following three questions.

In the last 20 years the percentage of people living in extreme poverty worldwide has...

- A. Almost doubled
- B. Remained about the same
- C. Almost halved



✓ You have completed Section 1!

You should now recognise the evolutionary positive impact, importance and benefit of creativity and innovation in society.

Back

Continue >

Section 2

What is the fourth Industrial Revolution?

Revolution		Year	Information
	1	1784	Steam, water, mechanical production equipment
	2	1870	Division of labour, electricity, mass production
	3	1969	Electronics, information technology, automated production
	4	?	Cyber-physical systems

Reflect

As you can see, the characteristics of each industrial revolution have changed a lot over time.

Now you have seen an overview of the fourth industrial revolution, we will look at some of the new technologies that will potentially change our way of living.

Technologies are changing our world

The World Economic Forum (2016) has identified six technologies that will change our world:

Computing capabilities ✓

Big data ✓

Digital health ✓

The digitisation of matter ✓

The Internet of Things (IoT) ✓

Blockchain

Blockchain

Only a small fraction of the world's GDP is currently held on Blockchain, the shared database technology where transactions in digital currencies such as the Bitcoin are made.

However, Blockchain is forecast to boost the global economy by **\$1.7 trillion by 2030**, as almost two thirds of global business leaders (61%) are placing **digital transformation of core business operations and processes** among their top three priorities as they rebuild from Covid-19.



Apply

Of the technologies listed by the **World Economic Forum**, which, if any, do you think will have the biggest impact in your discipline area in the next 3-5 years.

Justify your answer on the forum with reference to evidence.

Big data will have the greatest impact in my discipline area as the more data available provides more information and insights into lots of various aspects of life on a much wider scale. This will also allow for further innovation and implementation of technology to improve society. [Big Data for Sustainable Development | United Nations](#)

Check

Drag the revolution to the correct definition.

a. Steam, water and mechanical means of production

First Industrial Revolution

These are the correct definitions for the first and fourth industrial revolutions.

If you'd like to remind yourself of the definitions of each, let's [revisit that slide](#).

d. Cyber physical systems

Fourth Industrial Revolution

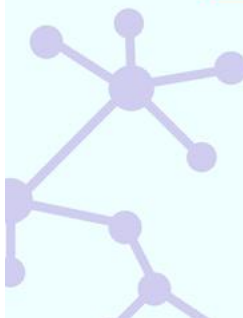
Check

By 2025, what percentage of people are expected to be wearing clothes connected to the internet?

☐ 5%

☒ 10%

☐ 15%



Within the next decade, how many sensors are estimated to be connected in the Internet of Things?

☐ One billion

☐ One million

☒ One trillion

Submit



✓ You have completed Section 2!

You should now be able to identify concepts used to describe the progress of technology and innovation.

Back

Continue >

Section 3

Defining Creativity

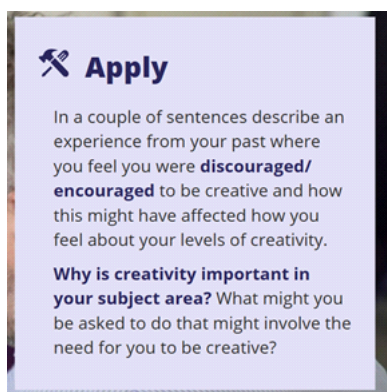
This session explores the way you think about creativity and how creative you are. You will also be challenged to think of your personal interests and passions as sources for idea generation.

Introductory activity -

Do you consider yourself to be a creative person? **Justify your response.**



I consider myself a creative person because I am always thinking about new/innovative ideas and have a curious mind thinking about alternative ways.



I was discouraged from creativity during school as I have a different way of thinking and learning from the standard education system. I was encouraged by my family to be creative as they are all fairly business minded and continuously thinking about business and improving.

Creativity is important in my subject area as thinking critically and creatively about data collection and insights to encourage others to think differently about processes and innovate new ideas we need to get creative with how we collate information and interpret data. Inviting new solutions for various technologies.



✓ You have completed Section 3!

After completing this section, you should

- Think of yourself as someone capable of being creative (if you don't already)
- Identify personal passions as sources for idea generation.

Back

Continue >

Topic 1 Completed

✓ Unit 1 Topic 1 completed!

You should now:

- Recognise the evolutionary positive impact, importance and benefit of creativity and innovation in society.
- Identify concepts used to describe the progress of technology and innovation.
- Think of yourself as someone capable of being creative (if you don't already)

Back

Exit ✕

If you have taken notes using the in-built notebook, you can now export them.

Export my notes ↗

Here are listed the references that are used in this topic.

References 📖

References

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Topic 2

Section 1

Reflect

Describe the last time you felt as though you were being creative. For example, you might have been painting, playing a musical instrument, sewing, or cooking. **How did it make you feel?**

The last time I was being creative was thinking of an idea and the process for my final year project proposal for the module Industrial-Based Research. It made me feel positive and confident in the direction I am going.

Check

Using creativity to **avoid stress** is:

- ☐ A contemplation tool
- ☒ A distraction tool
- ☐ A means of self-development to face challenges by building up self-esteem and confidence

Correct!

When we use creativity simply to avoid something challenging or ignore something we find stressful, it is a **distraction tool**.

Only when we use creativity to give us the mind space to reassess problems in our lives and make plans can we consider it a **contemplation tool**.



You have completed Section 1!

You should now be able to:

- Recognise the link between creativity and feelings of wellbeing
- Identify ways in which you can reclaim your creative confidence or inspire creativity in others.

[Back](#)

[Continue >](#)

Section 2

Ontology

☐ Objective Ontology
 ☐ Subjective Ontology

Epistemology

☐ Foundationalism
 ☐ Coherentism
 ☐ Pragmatism

Axiology

☐ Ethics
 ☒ Aesthetics

Check

Correct

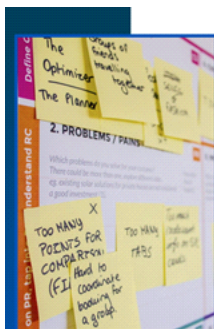
That's right! You selected the correct response.

Axiology is the study of what is valuable.

Epistemology is the study of knowledge.

Ontology is the study of being.

Continue



✔ You have completed Section 2!

Upon completion of this sub-section, you should be able to:

- Hold a conversation that can confidently include the definitions of Ontology, Epistemology and Axiology
- Define your research philosophy using this terminology
- Understand how your philosophy can impact your investigation.

Back

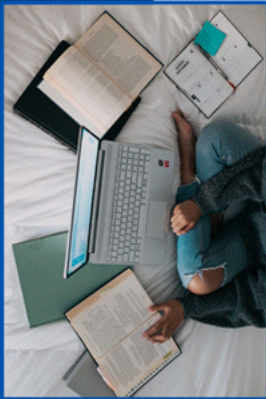
Continue >

Section 3

Reflect

As you are reading each of the different sorts of research philosophy, it is likely you will be drawn to it or not. Choose how you feel about the following research philosophies. **Is there an outright winner for you?**

	Support	Indifferent	Against
Positivism	☒	☐	☐
Critical Realism	☒	☐	☐
Interpretivism	☒	☐	☐
Postmodernism	☐	☒	☐
Pragmatism	☒	☐	☐



✓ You have completed Section 3!

Upon completion of this sub section, you should be able to define your research philosophy as one of five constructs.

[Back](#)[Continue >](#)

Topic 2 Completed

✓ Unit 1 Topic 2 completed!

You should now:

- recognise the link between creativity and feelings of wellbeing and understand how to strengthen that link in your own life;
- define your research philosophy using the new terms Ontology, Epistemology and Axiology and understand how these philosophies can impact your investigation;
- define your research philosophy as one of five constructs.

[Back](#)[Exit ✕](#)

If you have taken notes using the in-built notebook, you can now export them.

[Export my notes ↑](#)

Here are listed the references that are used in this topic.

[References 📖](#)

References

BBC, (2019) *Even a small amount of creativity can help you cope with modern life, reveals new research by BBC Arts and UCL*.

Kelley, D. (2012) *How to build your creative confidence*, TED Talk. [Access: https://www.ted.com/talks/david_kelley_how_to_build_your_creative_confidence?language=en]

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Topic 3

Section 1

Yes, I use this	Name	Information
☐	ERIC: Education Resources Information Center	
☐	Google Scholar and Google Books	
☐	Internet Archive Scholar	
☐	JSTOR	
☐	Project Gutenberg	
☒	PubMed	
☒	ResearchGate	
☐	Semantic Scholar	


Reflect

Here is a list of some of the **most popular databases** for academic study.

Which ones do you use? **Select the buttons** of that you do use.

For databases that you don't know, **click their name to see more**.

Can you think of any other databases? Share any that aren't listed here on your **Moodle** forum.

You can also share any comments about the websites here and how you find their usability.

I also use IEEE Xplore, ACM and the UWTSD library. The websites are all quite user friendly and easy to navigate or find articles. Especially IEEE Xplore, which I favour the most.



You have completed Section 1!

You should have rediscovered appropriate databases of what is known in your area of research.

Back

Continue >

Section 2

Check

1. A keyword is like a...

- ☒ A word that unlocks others.
- ☒ A word like a hashtag that summarises the meaning of a sentence.
- ☒ A way of distilling meaning that can be used to search databases.
- ☒ All of the above.

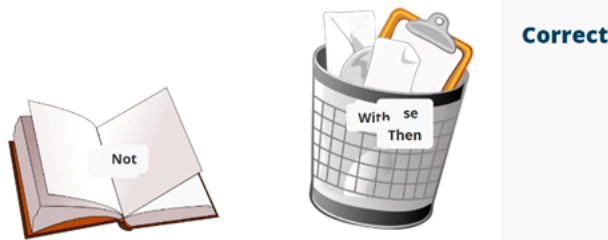
? Check

2. We can locate the keywords in our research by...

- ✗ Asking the library staff
- ✗ Using a piece of software
- ✓ Remove all superfluous words

? Check

3. Drag all the correct common Boolean operations to the book. Drag the incorrect options into the bin.



Section 2 is completed but no screenshot due to a known bug in the system.

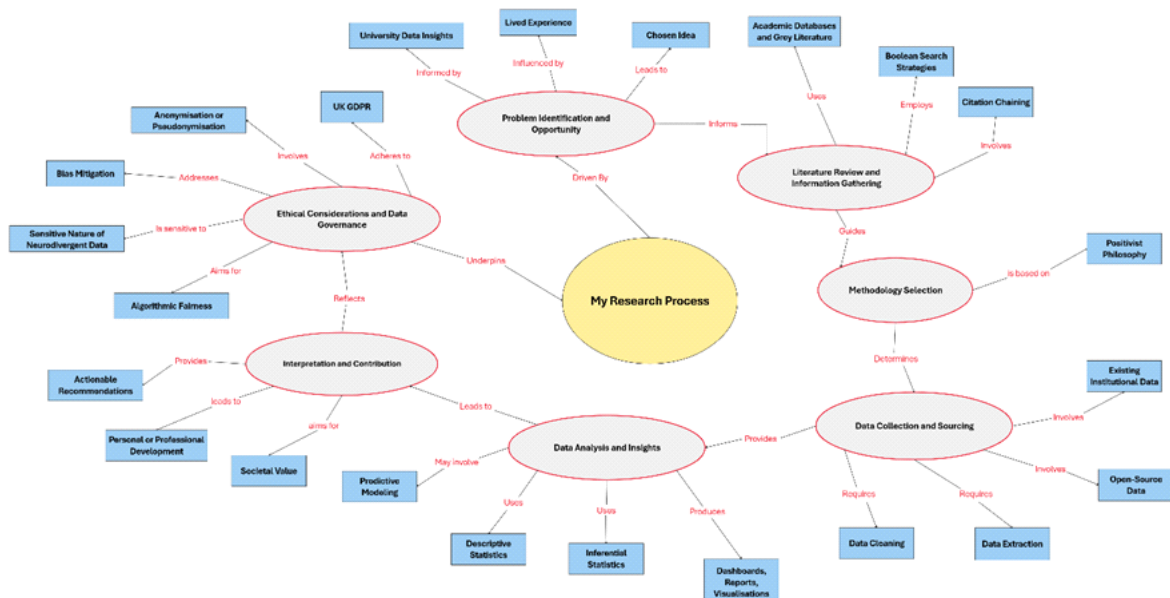
Section 3

✂ Apply

After watching the video, **create your own concept map**.

Use whatever you feel most comfortable with – an application like Microsoft Whiteboard, or a real whiteboard, or just pen and paper.

Try and identify **propositions** and **crosslinks**, and how these would apply to how you research.



Reflect

Consider your research assignment.

Can you think of a **focus question** that you could outline what is going to be in or out of scope for your research?

Write it down using the Notes icon down below or elsewhere.

My focus question is: What role can predictive dashboards play in smarter support systems for neurodivergent learners in higher education?



You have completed Section 3!

Upon completion of this sub-section, you should be able to create your own concept map and come up with concepts that you can use for your literature search.

Back

Continue >

Topic 3 Completed

This topic is completed but the system has a bug, and it will not continue to the completed topic page.

Topic 4

Section 1

Reflect

You have come to university to study a particular subject, but what is the **area of interest** that has caused you to take time to study this?

Enter your answer into the box below. You will revisit this later.

I have chosen to study applied data science in University because technology has advanced significantly over the last few years and has become ingrained into society. Data is everywhere and is used to gain more knowledge into the workings of the world in various sectors from healthcare, IT to Business and more. I am interested in understanding and utilising this information/data to contribute to society for the improvement of processes and newer technology. It is also very prevalent and the core of how AI works.

Check

Question 1 of 3

Which of these are good research questions?

Read each set of questions as they appear below and select which you feel is the best research question of the two.

 What effect does the pandemic have on people's minds?

 What effect has the isolation of young adults had on their mental health?

Correct!

A is not specific enough. What effect? What people? Which pandemic? You can see with question B that data can be collected from primary and secondary sources and that the targets are clearly defined.

Check

Question 2 of 3

Read each set of questions as they appear below and select which you feel is the best research question of the two.

 What factors led to homosexuality being legalised in the UK in 1967?

 How do Welsh rugby fans relate to the LGBTQ+ movement since Gareth Thomas announced that he was gay?

Correct!

A is too broad and has probably been researched already. B identifies an underexplored aspect of the topic that requires investigation.

Check

Question 3 of 3

Read each set of questions as they appear below and select which you feel is the best research question of the two.

 Where do most immigrants come to the UK from?

 What are the similarities and differences in the experiences of recent Syrian immigrants in the UK?

Correct!

A is too simplistic, asking for a straightforward fact that can be easily found online. B is complex and a comparative question that requires a detailed discussion to answer.

Reflect

At the beginning of this section you said your area of interest was:

I have chosen to study applied data science in University because technology has advanced significantly over the last few years and has become ingrained into society. Data is everywhere and is used to gain more knowledge into the workings of the world in various sectors from healthcare, IT to Business and more. I am interested in understanding and utilising this information/data to contribute to society for the improvement of processes and newer technology. It is

Thinking about what you have learnt throughout this section and **applying** it to your area of interest, what is it that will make your research at university meaningful?

Take a few minutes to identify those key points.

My research at the university will be meaningful as it has the potential to open doors for further research in education policy for neurodivergent students and providing more tailored approach to support in their studies. It has the scope to make a real change to the futures of some students equipping them with necessary education to succeed in the real-world employment sector. Hopefully narrowing the gap of high levels of unemployment in autistic adults for example.



✓ You have completed Section 1!

A systematic way to walk through the literature on your chosen subject that, with iteration, will lead to the epiphany moment of the direction of your research.

Back

Continue >

Section 2

Reflect

Think back to when you made a purchase of something valuable. Maybe it was a pair of glasses, a car, a prom dress or suit. Reflect on the process that makes you decide whether to purchase it or not.

What did you do before parting with your money?

 Submit your answers to the Word Cloud.

 Review all answers on the World Cloud.

 AhaSlides

What did you do before parting with your money?

analysed the market

6

compared value for money

1

You can submit multiple times.

Submit

Check

Take a few moments to answer the following four questions to help reinforce your understanding of this section.

Question 1 of 4

True or false? A hypothesis is really a question that can be used to predict the outcome of your research.

✓ True

✗ False

Correct!

A hypothesis is really a question that can be used to predict the outcome of your research. Just like the example of buying a car, it frames an answer with a question that can be tested. As we have seen above, you may have several hypotheses that address different parts of your research.

Check

Question 2 of 4

A good hypothesis should have the following:

- ☐ Relevant variables.
- ☐ A specific group.
- ☐ A predicted outcome.

☒ All of the above.

Correct!

A good hypothesis should have a way of approval or rejection with a test, that answers positively or negatively. A test could be an experiment, observation or using statistics. When using a statistical hypothesis, we weigh up the odds and come to a balanced conclusion.

Check

Question 3 of 4

One way to phrase a hypothesis is to:

☒ Phrase it as a correlation.

☐ Phrase it as a corporation.

☐ Phrase it as a relation.

Correct!

In this approach, you spot a correlation where you state the predicted relationship between the variables.

You can also phrase your hypothesis as an IF_THEN statement or compare and state the differences between two groups.

Check

Question 4 of 4

When you see a question with the letters (H0) before it you know it is the:

☒ Default position if the subsequent hypothesis tests fail.

☐ Hypothesis that has null values associated with it.

☐ Hypothesis that is the first one in the list.

☐ All of the above.

Not quite...

If your hypothesis is using some statistics to analyse the question being answered, you will also have to write what the answer falls back to if no association is found. This default fallback position is called the null hypothesis and it is written with 'H0' before it. The subsequent tests are written with the number after it, (H1, H2, H3...).

Apply

To summarise. The key points to formulating your hypothesis is (Select each of the checkboxes to reveal key elements):

Use these approaches in an order that you think is appropriate for your study. **Apply** what you have learnt in this section to **phrase a hypothesis** on your chosen subject.



Phrasing as an IF_THEN statement.

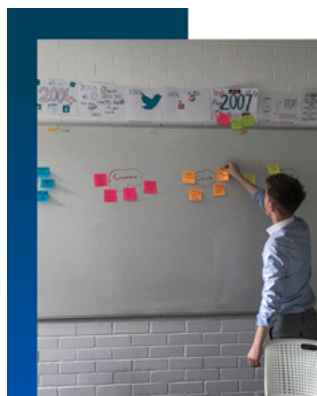


Phrasing as a correlation between two variables.



Comparing the difference between two groups.

Hypothesis: If Universities utilise a smart dashboard to provide tailored support strategies, then the rate of neurodivergent students succeeding in education will improve compared to those who do not use a smart dashboard.



✓ You have completed Section 2!

How to create a series of testable questions that, once answered, will further the understanding of your research question.

Back

Continue >

Section 3

Reflect

Before you dive into this section, take a few minutes to reflect on these questions:

- How do you **truly** feel when you learn something new?
- How do you **truly** feel when your told that you're wrong?

When I learn something new, I feel further enlightened and proud of the new knowledge or skills that have been gained.

When I am told that I am wrong I feel disappointed. However, this usually fuels the desire to explore where I went wrong and how to overcome the issue by heavily researching the topic.

Check

Question 1 of 2

Which **two instincts** are in conflict when we are learning from feedback?

- ☐ The worry of not finishing on time.
- ☒ The joy from learning something new.
- ☒ Fear of being shown up for being wrong.
- ☐ The feeling of success from completion.

Check

Question 2 of 2

According to Heen's TED talk, the people who actively sought critical feedback were:

- ☐ Less successful.
- ☒ More successful.
- ☐ Very upset.
- ☐ Ignorant.

Correct!

Most people will say that learning new things results in a feeling of joy. They will also report that when someone tells them that they are wrong they feel uncomfortable or upset. Overall, feedback is a vital conversation you must use to improve your ideas, but the process is not naturally joyful.

Correct!

According to Heen (2014), those who sought critical feedback are said to adapt more quickly to new roles, they report higher satisfaction, they get higher performance reviews, and they accelerate their own learning. This also changes the way other people see them.



✓ You have completed Section 3!

Now you have completed this section, you should be able to use feedback to improve the focus of your problem statement/research question or, in fact, any learning scenario.

It is important that you take some time to reflect on what you have learnt in relation to identifying the question that you are researching.

Back

Continue >

Topic 4 Completed

This topic is completed but the system has a bug, and it will not continue to the completed topic page.

Unit 1 Topic 4 completed!

You should now:

- Have a systematic way to walk through the literature on your chosen subject, which leads to the direction of your research.
- Understand how to create a series of testable questions.
- Use feedback to improve the focus of your problem statement/research question.

If you have taken notes using the in-built notebook, you can now export them.

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Here are listed the references that are used in this topic.

[References □](#)

[Back](#) [Exit ✕](#)

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Unit 2

Friday, August 8, 2025 2:12 PM

Topic 1

Section 1

Reflect

Take some time to review your **best** past assignments and choose which approach you took from the following:

1. Your investigation built an answer from existing evidence and then went to show its use.
2. Your investigation observed a situation and then supported it with a theory.
3. You answered your investigation by reviewing several solutions to an observation and choose the best fit.

Which approach best describes the route you took?

The approaches I took were a combination of “Building an answer from existing evidence and then went to show its use” and “Observing a situation and then supporting it with a theory”.

Check

Take a few moments to complete this activity, which will help you summarise what you have learnt in this section.

Question 1 of 3

Zeeta is really interested in fast cars. She can test several sorts of alloy wheels at a racing circuit before concluding which ones to use. What sort of research is she doing?

☒ Inductive

☐ Deductive

Not quite...

Inductive research attempts to base its conclusions on patterns that are observed over time. The assumption assumes that what has happened when we were observing will continue to happen in the future.

? Check

Question 2 of 3

Austin researches the performance data for a particular brand of soap powder. It provides evidence that in their research it makes shirts whiter than white. He decides to try out the powder on his white tablecloths and concludes that it makes them whiter too. What sort of reasoning is he using?

✓ Deductive

✗ Inductive

? Check

Question 3 of 3

When Aneka reads the horse racing tips from her newspaper, what sort of reasoning is she hoping they have done before advising her?

✓ Abductive

✗ Logic



Correct!

Inductive reasoning is the mutual opposite of deduction. In our research, we observe a pattern of 'special cases' and 'increase' this to become a larger general principle, that can be applied universally to other phenomena we or the reader of our assignment have yet to see.

Correct!

Abductive reasoning recognises the chance that a particular conclusion is, on balance, true or false.

✓ You have completed Section 1!

You should now be able to demonstrate an understanding of the difference between the forms of logical argument and judgement.

Back

Continue >

Section 2

Reflect

Look back at a piece of work that you have received a **good mark** for. **Re-read it**. Is this work a shopping list of facts and statements that you have learnt in class, or have you **applied your knowledge** to a problem you have observed?

I applied learned knowledge through independent study to a problem I have observed.

Check

In this knowledge check activity you will be presented with three research questions. Using what you have learnt in this topic, select whether the question is good or bad.

Question 1 of 3

Do students who engage in the additional revision classes perform significantly differently on tests than students who do not participate?

☒ Good

☐ Bad

Check

Question 2 of 3

Why do students seem so apathetic? Select whether the question is good or bad.

☐ Good

☒ Bad

Check

Question 3 of 3

Do general education teachers evaluate student homework differently than special education teachers, based on five criteria? Select whether the question is good or bad.

☐ Good

☒ Bad

Correct!

Yes, it is specific and clear. One knows who the participants will be, and one knows that student performance on state tests is the problem.

Correct!

This is not specific or clear, nor does it reflect an intervention, if one is planned, or a target group of participants. Better questions might be: Are science students more engaged in class discussions when a response strategy is used? What are the reasons for apathy among various groups of high school students?

Not quite...

It has some clarity, and the problem is evident, but there is not enough detail in the five criteria.



✓ You have completed Section 2!

You should now be able to demonstrate an understanding of the purpose of research and recognise the importance of reading around the subject.

Back

Continue >

Section 3

Reflect

Having read the descriptions and thinking about the course you are attending, spend a few moments contemplating these questions:

- What do you think is the **predominant method of research** in your subjects: quantitative or qualitative?
- Now think of the **alternative method**. What subjects would favour that sort of research?

My subject's predominant method of research is quantitative.

The alternative method of research, qualitative would be favoured in subjects such as English Language, Art, or drama etcetera.

Network

Using your **forum**, in 100 words, describe why **mixed method research** is applicable or inapplicable for your subject.

Mixed method research is highly applicable to my subject, Applied Data Science. While data science heavily relies on quantitative analysis (i.e. statistical modelling, algorithm development, predictive analytics) to uncover patterns and build solutions

from huge datasets, the qualitative aspect is key for problem identification and contextual understanding.

Initial problem framing often requires qualitative insights from stakeholders and subject experts to grasp open ended issues, managing data collection and producing a hypothesis. Following the analysis, qualitative methods can validate models, interpret complex findings, and understand the usability of the developed solutions (i.e. interviews, focus groups).

Correct! Yes, you correctly identified the quantitative and qualitative statements. Apply this level of thinking in your own subject area.	Quantitative drop zone - Focuses on testing theories and hypotheses - Analysed through math and statistical analysis - Mainly expressed in numbers, graphs, and tables - Requires many respondents - Closed (multiple choice) questions - Key terms: testing, measurement, objectivity, replicability	Qualitative drop zone - Mainly expressed in words - Requires few respondents - Open-ended questions - Analysed by summarizing, categorizing, and interpreting - Key terms: understanding, context, complexity, subjectivity - Focuses on exploring ideas and formulating a theory or hypothesis
	Quantitative drop zone - Experiments - Observations recorded as numbers - Surveys with closed-ended questions	Qualitative drop zone - Observations described in words - Interviews with open-ended questions - Literature reviews that explore concepts and theories

Apply

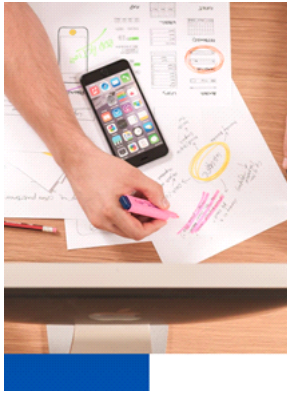
Take sometime to think of **appropriate questions** to this scenario. Keeley is attending an interview for a job at UWTSD as a trainee librarian. Imagine that you are the person interviewing her. Can you...

- Think of a **qualitative question** that would give you some data on her librarian skills?
- Think of a **quantitative question** that would reveal relevant data on her suitability as a person who knows about books?

Use the skills you have developed in this topic to further your own research. Remember to also use the **library database** to identify suitable research methods for your subject area. Ask your tutor for some recommendations.

Qualitative Question: Can you describe a time where you helped someone find the information they required? How did you approach this situation and learn from this experience?

Quantitative Question: If someone asked you for a recommendation for a Data Science related textbook, would you be able to advise them? Can you name five excellent literary reads in the last 3 years?



✓ You have completed Section 3!

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to the research methodology.

You should understand the different academic methods that you will use to conduct your research.

Back

Continue >

Topic 1 Completed

✓ Unit 2 Topic 1 completed!

You should now:

- Be able to demonstrate an understanding of the difference between the forms of logical argument and judgement.
- Be able to focus your research onto a work that is relevant for the audience reading and ultimately brings value to the domain that you are studying.
- Understand the different academic methods that you will use to conduct your research.

If you have taken notes using the in-built notebook, you can now export them.

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Here are listed the references that are used in this topic.

References ↗

Back

Exit ✕

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Topic 2

Section 1

Network

Given an appreciation of the different approaches to data collection, **can you think of a way of collecting data** that would be appropriate for your next assignment?

If any aspect of your research involves people's responses, **how will you account for the Hawthorne Effect?**

Note down your approach on the **forum**.

For my next assignment or research, the appropriate way of collecting data involves collection of data from secondary sources such as published reports, government organisations, internal records, online databases, and websites. Therefore, it will not involve individual people's responses.



You have completed Section 1!

You should now be familiar with different methods for collecting and analysing qualitative data that you can use in pursuit of your research and understand how the sample of data that you are collecting reflects on your research.

Back

Continue >

Section 2

Check

In this knowledge check activity you will be presented with three research questions.

Question 1 of 3

What do we call it when we reduce the data of the population into a smaller manageable unit? We call it a...

 Sample

 Snowball

Correct!

A sample is a group of people, objects, or items that are taken from a larger population for measurement. The sample should be representative of the population to ensure that we can generalise the findings from the research sample to the population as a whole (Bineham, 2006).

? Check

Question 2 of 3

Which of the following are relevant reasons for why we have to reduce the data we research into a smaller unit? (Choose which ones you think apply)

- ☒ Your time and resources may be stretched
- ☐ There are limited people who have experiences you are studying
- ☐ There are limited people/results with the relevance to the area you are studying

? Check

Question 3 of 3

When you select a sample from the population by picking the names out of a hat, what type of sampling are you conducting?

- ☐ Unusual sampling
- ☒ Random sampling
- ☐ Stratified sampling



Not quite...

If your sample size is large, it may limit your ability to produce findings that represent your population as a whole. It is therefore good practice for triangulation purposes to recruit a variety of respondents (e.g., children, adults, service users and providers).

Correct!

In this approach, every piece of data is considered to be equally relevant. This means if you include it in your research it is based on a random chance whether it's included or excluded from the sample you study.

✓ You have completed Section 2!

You should now be able to consider how the acquisition of your data will impact your research.

[Back](#)[Continue >](#)

Section 3

My research is about...	Most like	Somewhat like	Neither	Somewhat unlike	Most unlike
	Score 5	Score 4	Score 3	Score 2	Score 1
Testing a causal relationship	☐	☐	☐	☐	☒
Understanding the general opinions of a group	☐	☐	☐	☒	☐
Gaining the perceptions of a group	☐	☐	☒	☐	☐
Understanding something in its natural setting	☐	☒	☐	☐	☐
Understanding the culture of a community 1st hand	☐	☐	☒	☐	☐
Understanding current or historical events or practice	☒	☐	☐	☐	☐
Analysing populations where you don't have access	☐	☒	☐	☐	☐

Reviewing your answers

Take a moment to see what impact your instinctive answer is using the ranking scale below. **Reflect on the commitment that your research will take.** Have you access to the time or materials to do your research?

Testing a causal relationship	☐	☐	☐	☐	☒
Understanding the general opinions of a group	☐	☐	☐	☒	☐
Gaining the perceptions of a group	☐	☐	☒	☐	☐
Understanding something in its natural setting	☐	☒	☐	☐	☐
Understanding the culture of a community 1st hand	☐	☐	☒	☐	☐
Understanding current or historical events or practice	☒	☐	☐	☐	☐
Analysing populations where you don't have access	☐	☒	☐	☐	☐

The end of year project is 5-6 months in timescale and have access to data through the university systems. Additionally, have access to data via the Higher Education Statistics Agency.

Reflect

Take some time to **critically analyse and evaluate** the data collection plan for your research project. Remember to include:

- The type of collection,
- size of sample,
- and how you would go about collecting the data.

Remember you can make notes and export them using the in-built feature below.

I will be collecting data through a mixture of both quantitative and qualitative methods. Potentially using a Sample size that is either Purposive or Convenience, depending on the data that is readily available for collection. The data will be collected via Archival Research, Experiment and Secondary Data Collection.

Check

Question 1 of 2

If you wanted to understand the general characteristics or opinions of a group of people you would use a...

- ☒ Survey
- ☐ Interview
- ☐ Experiment

Check

Question 2 of 2

A 'Likert scale' is?

- ☒ Respondents specify their level of agreement or disagreement on a symmetric agree-disagree scale for a series of statements
- ☐ A way of confirming the validity of experimental research invented by Donald Likert in 1967

Correct!

This method will be based on you conducting a survey that can be distributed online, or in person over a phone or in a live meeting. It can produce mixed data (quantitative and qualitative) based upon how the questions are framed.

Correct!

A good solution to measure success would be to consider a 'Likert scale'. A Likert scale is a five-point answer like the one you have used in the previous 'research approach' activity.



You have completed Section 3!

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to data collection and sampling.

You should now be able to work out what your approach is to collecting data for your research.

[Back](#)[Continue >](#)

Topic 2 Completed

✓ Unit 2 Topic 2 completed!

You should now:

- Be familiar with different methods for collecting and analysing qualitative data including data sampling.
- Be able to consider how the acquisition of your data will impact your research.
- Understand your approach to collecting data for your research.

Back

Exit ✕

If you have taken notes using the in-built notebook, you can now export them.

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Here are listed the references that are used in this topic.

References 📖

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Topic 3

Section 1

🧠 Reflect

The **Torrance Test of Creative Thinking** is one way of measuring problem solving ability in people. It's broadly used to see how creative you are such as, creating an image from standard objects.

For fun, **take a few minutes** and try to come up with as many uses for a **house brick** as possible. After the two minutes is up, count how many responses you have (Torrance, 1981). If you have time, ask your fellow learners how many uses they have defined.

Some uses for a house brick are: build a house, use it as a weight anchor for a balloon, break a window, stop a car from rolling, use it to build legs for a table, bookends, doorstops, garden furniture, fire pit, pizza oven, planters and stepping stones.

Check

In this drag and drop knowledge check activity, drag the correct type of thinking to their respective descriptions.

✗ **Answer 1:** ___ thinking is based on what is already known and broadly correlates with deductive thinking. It takes an existing idea and tries to reduce the solution to something that is the 'correct' answer.

✗ **Answer 2:** ___ thinking is where we try to produce as many ideas as we can, irrespective of their plausibility.

Not quite...

A converging thought is one that is based on what is already known and broadly correlates with deductive thinking.

Divergent thinking is the absolute opposite of convergent thinking. This approach is where we try to produce as many ideas as we can.

Reflect

Spend some time thinking of the ideas that you admire. These could be products or technology. They could be new ways of working or they could be pieces of art. Reflect on **how the idea has used the SCAMPER approach**.

Note down **three examples** that spring to mind in the notes section here. Describe how each idea has used the SCAMPER approach.

TESLA

- S – Replaced gas engines with Electric batteries
- C – Mixed cars with clean technology
- A – Used battery tech from laptops in cars
- M – Made electric cars faster and smarter
- P – Change cars from 'unclean energy' to smart and clean energy
- E – Got rid of dealerships by selling online
- R – Changed the car buying and driving experience with software updates and self-driving

iPhone

- S – Replaced buttons with touchscreen
- C – Combined phone, camera, internet and apps
- A – Adapted computer functions into a phone
- M – Made phones sleeker, smarter and user-friendly
- P – Turned phones into all-in-one life tools
- E – Removed keyboards, styluses and physical media
- R – Changed how we use phones with app-based design

AI

- S – Replaces human tasks with automation

- C – Combines data, algorithms and computing power
- A – Adapts human thinking to machines
- M – Improves speed, accuracy and decision-making.
- P – Helps in solving problems, saving time and enhancing work.
- E – Removes repetitive, boring or dangerous jobs.
- R – Changes how work, learning and communication happen.



✓ You have completed Section 1!

You should now be familiar with divergent and convergent thinking and understand a technique that will guide you to think divergently.

Back

Continue >

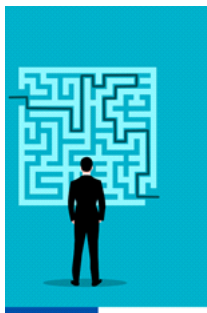
Section 2

🧠 Reflect

Take a moment to think of a famous person who you know is a **divergent thinker**.

This could be somebody like musician Lady Gaga, inventor James Dyson or artist Pablo Picasso.

A famous divergent thinker that I can think of is Elon Musk



✓ You have completed Section 2!

You could use this open and closed mind approach given by Cleese to frame your current research project or assignment. Make some time and space for your ideation. Allocate a time to spend on open and closed thinking then deliberately action the two types of thinking as described above.

You should now understand that simply producing ideas is not enough. Divergent creativity needs to be bridled with convergent thinking to make something that is actionable.

Back

Continue >

Section 3

🧠 Reflect

Take some time to unpack this following scenario:

Gawain has decided to buy an expensive new suit for his job interview at the library. His partner Delyth disagrees with him. She knows that they do not normally dress formally at the library.

What was the problem Gawain was really addressing?

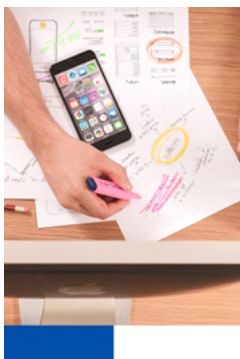
Gawain was trying to address the dress code through assumptions and his impression that he gives to others.

Network

In a **forum post**, critically evaluate a problem statement you have used, or will use, in an assignment.

Remember to use the 'Four Ws' to unpack the problem and note any conclusions made, making sure to identify any **bias** that may have been incorporated into your ideas.

The problem I have identified is that there is a non-comprehensive and tailored approached to studying. Considering this could be a bit too broad. Using the Four W's, I realised that I need to define: What the study will focus specifically on, who will be involved in the research and development, where the data will be sourced from and why the study will merely use a specific neurodivergent type or cover the spectrum of neurodivergent conditions. The conclusion is to identify these in the project proposal and additionally, in the research I conduct throughout the project especially in the lead up to it. My ideas contain some bias as it stems from my own experience of navigating higher education following secondary level education with neurodiversity.



You have completed Section 3!

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to techniques for generating creative solutions.

You should now be able to work out what your approach is to collecting data for your research.

[Back](#)[Continue >](#)

Topic 3 Completed

Unit 2 Topic 3 completed!

You should now:

- Understand the difference between divergent and convergent thinking.
- Be able to identify how divergent creativity needs to be bridled with convergent thinking to make something that is actionable.
- Think about the problem an idea is meant to solve before jumping to a conclusion.

[Back](#)[Exit ✕](#)

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Here are listed the references that are used in this topic.

[References ↗](#)

References (page 1 of 2)

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Topic 4

Section 1

Reflect

Oscar Wilde is quoted as saying:

"The cynic knows the price of everything and the value of nothing."

What do you think this means? Think about it and, when you're ready, **click the icon below to reveal the answer.**

I think it means that someone who is just greedy is only focussed on materialistic things or money and doesn't value anything else.

Check

Incorrect

You did not select the correct response.

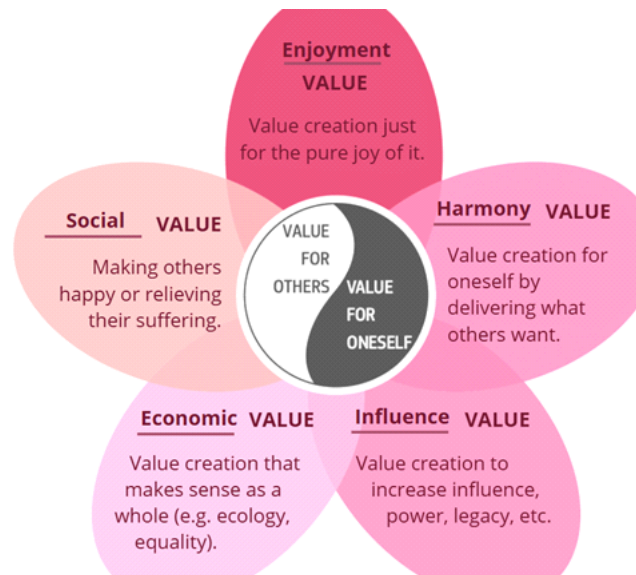
Enjoyment value: Value creation just for the pure joy of it.

Economic value: Value creation for oneself by delivering what others want.

Influence value: Value creation to increase influence, power, legacy, etc.

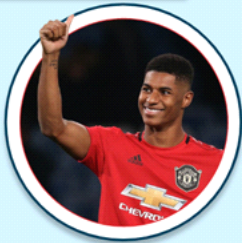
Harmony value: Value creation that makes sense as a whole (e.g. ecology, equality).

Social value: Making others happy or relieving their suffering.



Marcus Rashford

10



Enjoyment value	3
Economic value	5
Influence value	5
Social value	5
Harmony value	4

Apply

Take a moment to review **Marcus Rashford**, the Manchester United Football star.

Think about the children's game of Top Trumps try to explain the value that he gives to the world in the **5 dimensions defined by Lackeus**. Give a score of up to 5 in the table for each type of value you feel that Rashford encourages.

Use the link below to a **BBC article** to start your research.

TOP TRUMPS

Enter your score for each value in the grid to the left.

[Check the Lackeus diagram and its descriptions to help.](#)

[Marcus Rashford: Feeding Britain's Children - inside his campaign to tackle child hunger](#)

- **Enjoyment** – Score 3: Marcus Rashford created the campaign out of the good willingness to want to support other struggling families.
- **Economic** – Score 5: The campaign aims to create equality amongst communities with a high level of poverty.
- **Influence** – Score 5: To increase and influence more safeguarding against these issues faced by many. Increase awareness and influence the power of the government to do something about it.
- **Social** – Score 5: Wanting to alleviate the suffering of the children in Britain.
- **Harmony** – Score 4: This is undoubtedly something many others want to see less of i.e. hungry children.

Apply

From your answers, you thought that Rashford mostly has:

- Economic value
- Influence value
- Social value
- Harmony value

Why did you make this choice?

Justify your answer by writing a description of how Rashford provides each value you chose or why he doesn't provide a certain value, using the notes section or a medium of your choice.

 Dive deeper

I said he does provide the value of enjoyment to a level of 3. However, I scored this lower than others as I believe that this isn't just out of pure enjoyment because he had an aim to improve the conditions of the children in Britain.



✓ You have completed Section 1!

Upon completion of this sub-section, you should be able to **define value** in **one of five dimensions** by **Lackéus**.

We also looked at the concept of how the sustainability agenda developed by the United Nations.

[Back](#)

[Continue >](#)

Section 2

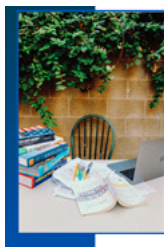
Reflect

Have you ever noticed that over time stuff tends to get **tatty and unorganised**?

Look at the first page of your university notebook. Generally, the notes at the beginning were pristine when you started, and now look **tired and tatty**.

Now think of how much time you take to organise your household documents: driving license, pay slips, bank statements, etc. Now **how long does it take** for someone in the family to **mess them up again**?

It does not take long to mess up the organisation of things again.



✓ You have completed Section 2!

You should now be able to talk confidently about why attempts to improve value can fail, and discuss the 15 core competencies and **Entrecomp**.

[Back](#)

[Continue >](#)

Section 3

Reflect

Click the tabs below to remind yourself of the two different frameworks.

Which framework do you prefer to use, and why you think it matches your ideas of creating value?

I prefer the framework of Tsunesaburo Makiguchi because it promotes and empowers people. It is an encouraging type of framework by creating meaning in all aspects of learning and contributing to society in a positive way. It encourages the development of both the individual and society.

Dive deeper

Looking at your project, who are the relevant people you should consider when developing it? Using this understanding, consider how you can create value using your chosen framework to apply to your project.

Write an introduction that includes your answer to this for your project.

This report outlines a project focused on Optimising Neurodivergent Student Support and Retention through Data-Driven Insights in UK Higher Education. The project aims to leverage existing university data to proactively enhance support and improve retention for neurodivergent students. Its development involves key stakeholders including neurodivergent students (whose experiences drive the project, informed by my own lived journey), university management (seeking actionable insights for strategic planning), and MIS Data Department staff (providing the technical expertise). This data-driven framework will create significant value by enabling personalised, evidence-based interventions, improving operational efficiency for support services, and contributing to better-informed national policies for greater inclusivity in UK Higher Education.

Check

What are the two competing ideas about cognitive dissonance when referring to education? Choose the correct options from each list.

Accelerating	an education	Progressing	in an education
Acquiring		Proceeding	
Assuming		Participating	
Absorbing		Plagiarising	

Correct

That's right! You selected the correct response.

The answers were: **acquiring** and **participating**.

This refers to **cognitive dissonance**, where both arguments have merit: an education requires both approaches.

? Check

The approach called “effectuation” is an appreciation that events can be viewed from two different points of view. What are they called?

Create		Earn
Cost		Effect
Cause	and	Educate
Check		Elect

Correct

That's right! You selected the correct response.
The answers were: **cause** and **effect**.



✓ You have completed Section 3!

You should now have an appreciation on why you should consider the principles of adding value with your project.

Back

Continue >

Topic 4 Completed

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You should now:

- Be able to define value in one of five dimensions.
- Talk confidently about why many attempts to improve value fail.
- Have an appreciation on why you should consider the principles of adding value with your project.

[Back](#)

[Exit](#) ✕

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[References](#) ↗

Unit 3

Friday, August 8, 2025 2:12 PM

Topic 1

Section 1

Reflect

Take some time to reflect on what you already know about the **importance of networks**.

The importance of networks is to advance knowledge through sharing and gaining. Collaborating can be excellent in bringing together many different types of people and specialists to encourage further creativity and innovation.

Apply

Thinking about the video you have just watched:

- What did the video tell you about the **power of networks**?
- Have you, or anyone you know, been presented with opportunities through **personal connections**?

Note down these connections and their importance. These may help you to identify stakeholders later on.

The video tells us that the power of networks is vital to encourage inspiration, new ideas, acquiring more knowledge.

I know a variety of people who have been presented opportunities through their personal connections.

Check

Take a few moments to answer the following questions to help you summarise what you have learnt in this section.

Question 1 of 4

Valuable resources that a good personal connection could bring include (Choose the resources you think are applicable):

- ☒ Leads and personal recommendations
- ☒ Potential suppliers and customers
- ☒ Financial resources

Check

Correct!

Personal connections can play an important role in the development of ideas and the success of new ventures by providing access to valuable resources including:

- Leads and personal recommendations,
- Potential suppliers and customers,
- Financial resources.

Check

Question 2 of 4

What would the frequency of contact be in an 'Active Network'? (Select one frequency of contact):

- ☐ Little/no contact
- ☐ Contact now and then
- ☒ Regular or ongoing contact
- ☐ Always contacting

Check

Question 3 of 4

What would the reciprocity of contact be in a 'latent network'? (Select one):

- ☒ Relationship is one-sided
- ☐ Relationship is equal
- ☐ Relationship is non-existent
- ☐ Relationship has never been established

Check

Question 4 of 4

What are the three qualities of a good network?

- ☐ Open, Diverse, Shallow
- ☒ Open, Diverse, Deep
- ☐ Closed, Diverse, Shallow
- ☐ Closed, Open, Deep

Correct!

In an active network, there is regular or ongoing contact. You will usually have spoken to those within the network over the last six months. For example, a former boss who has remained an informal mentor and you talk every few months.

Not quite...

In a latent network, there is little or no give and take; relationships are one-sided. For example, an industry sales representative who gives you information on current trends.

Correct!

According to Willburn & Cullen (2014), the three qualities that make up a good network are that they are:

- Open,
- Diverse,
- Deep.



You have completed Section 1!

You should now be able to demonstrate what a personal contact network is and define what makes a good network.

In your own time, analyse your own network. Try to identify areas of your network that are active and latent. How would you improve your network?

[Back](#)[Continue >](#)

Section 2

Network

Why is creativity so important?

1. **Identify** the stakeholders linked to the community park improvement project.
2. **Map** them on to a power/interest matrix.
3. **Post the matrix to the forum** along with notes about why you think stakeholders fall into a particular category.

Power		Local Authority	Community Group
	High		
	Low	Irregular Users	Regular Users
		Low	High
		Level of Interest	

The Local Authority has high power for the transfer of the park to the community group and has low interest in the park as shown by the transfer of ownership.

The Community Group has expressed interest in the park and has the power to make the improvements and decisions as its now owned by them.

The Regular users have shown a lot of support for the park demonstrating a high interest in the project but they have low level of power in what goes on with the improvements.

The Irregular users of the park will undoubtedly lack any power to make any changes to the park and will have a low level of interest in the park as demonstrated by their low level of usage.



✓ You have completed Section 2!

You should now understand and be able to assess the importance of stakeholders in developing your idea.

[Back](#)

[Continue >](#)

Section 3

✂ Apply

You should now know that a stakeholder analysis is a process of identifying these people before the project begins; grouping them according to their levels of participation, interest, and influence in the project.

Using what you have learnt so far, spend some time **creating your own power/interest matrix**, making sure to identify all key stakeholders and their level of support. Remember, it is key to identify potential blockers early on.

	High Power	Low Power
High Interest	• University Management • MIS Data Team	• Neurodivergent Students • Student Support Services
Low Interest	• University IT Department • Funding and Regulatory Bodies	• General University Staff



✓ You have completed Section 3!

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to the power of networks.

You should now be able to create a stakeholder map for a specific project.

Back

Continue >

Topic 1 Completed

References

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You should now:

- Be able to demonstrate what a personal contact network is and define what makes a good network.
- Understand the importance of stakeholders in developing your idea.
- Be able to create a stakeholder map for a specific project.

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References ↗

Back

Exit ✕

Topic 2

Section 1

🧠 Reflect

Before delving deeper into this section, take some time to think of a time where you needed funding support.

Who did you think to approach?

Why did you choose them over someone else?

I approached my parents for funding support when I needed it in the past because we are close and I knew they will support me.

? Check

Question 1 of 3

Tess has an idea she would like to develop and needs some mentoring before she reaches out to investors. Which is the best funding option?

- ☒ Accelerator
- ☐ Venture capital
- ☐ Crowdfunding
- ☐ Loan

Correct!

An accelerator offers a short but essential period of mentoring along with a small seed investment. Furthermore, being accepted in the top accelerator programmes is not easy due to high competition.

? Check

Question 2 of 3

Ewan and his partner are looking to expand their pizza business and need a new oven. Which is the best funding option?

- ☐ Accelerator
- ☐ Venture capital
- ☐ Crowdfunding
- ☒ Loan

Correct!

A small business loan offers you a convenient way to finance your business activities. A loan can be used for almost any business purpose, such as boosting cash flow, purchasing equipment, recruiting staff and covering unexpected bills.

? Check

Question 3 of 3

Suki has an idea she is ready to take to market but is not sure how it will be received. Which is the best funding option?

- ☐ Accelerator
- ☐ Venture capital
- ☒ Crowdfunding
- ☐ Loan

Correct!

Crowdfunding is one of the best ways to test an idea in the market. In this method, the company can share the idea in the market and add incentives to the purchases. The company would be able to raise a lot of capital to cover the complete production of the product, as well as learn about the demand in the market.

Not quite...

As you know, there are a number of different support and funding options available to support and develop your idea. It is therefore strongly suggested that you revisit these funding options and improve your understanding.

[Reveal correct answers](#)

Accelerators	a small seed investment with a period of mentoring
Incubators	where entrepreneurs can develop their ideas
Angel investors	investment during their early stages of growth
Venture capital	an approach to funding charities or social enterprises
Loans	convenient financing for almost any purpose
Bootstrapping	funding the business via the use of personal funds
Crowdfunding	the best ways to test an idea in the market/gain funds
Venture philanthropy	a person or a firm that offers funds for % of ownership

✓ You have completed Section 1!

You should now be able to demonstrate an understanding of the types of funding available for enterprise and research projects, and select appropriate sources of funding in relation to requirements.

[Back](#)

[Continue >](#)



Section 2

Reflect

In task 1 of this module, you looked at 'the power of networks'. We explored situations where we have perhaps benefitted from a **network connection** or have been able to **benefit others**.

➤ **How does this fit within adding value?**

Take some time to explore where value has been added in these situations.

Network connections or being able to benefit others, added value by: knowledge sharing, provision of resources, mentorship or support, collaboration of ideas, increasing visibility and credibility.

Check

Take a few moments to answer the following questions to help you summarise what you have learnt in this section.

Question 1 of 3

What is 'Benchmarking'?

- ☒ A point that something can be compared to
- ☐ A limit point
- ☐ Something that cannot be changed

Check

Question 2 of 3

True or False. Added value refers to the negative results obtained from actions undertaken following Benchmarking.

- ☐ True
- ☒ False

Check

Question 3 of 3

When looking at research, added value refers to what?

- ☐ Value for money of university fees
- ☐ Time gained through studying
- ☒ New knowledge and understanding of the subject being researched

Correct!

'A benchmark is a standard, measure or point of reference which things can be compared' (Oxford English Dictionary, 2021).

Correct!

Added value refers to the positive results obtained from actions undertaken following benchmarking, or when compared to a 'business as usual' approach.

Correct!

When looking at research, added value refers to the new knowledge and understanding of the subject being researched. This can be achieved through benchmarking research and using the current research to address any gaps by adding new perspectives and insights.



You have completed Section 2!

You should now understand and be able to show knowledge and understanding of the concepts of benchmarking and 'value added'.

Back

Continue ➔

Section 3

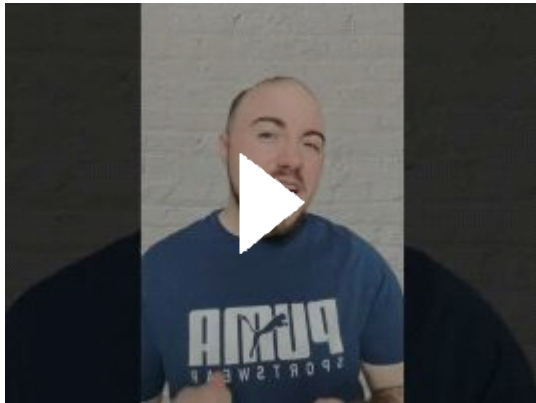
Apply

Now it is your turn. **Create your own crowdfunding video** based upon what you have learned in this section. Your video should be around **2 minutes** long and introduce your idea/business with a view to securing the target funding you have set.

Post this video to YouTube as 'unlisted' and share the link with your peers in a forum post.

Review your peer's videos and let them know what you thought of it and, how much you would pledge to their campaign.

YouTube video link: [Project campaign](#)



✓ You have completed Section 3!

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to acquiring funding.

You should now be able to create a contemporary funding campaign for a new venture.

[Back](#)

[Continue >](#)

Topic 2 Completed

✓ Unit 3 Topic 2 completed!

You should now:

- Be able to demonstrate an understanding the types of funding available for enterprise and research projects, and select appropriate sources of funding in relation to requirements.
- Be able to show knowledge and understanding of the concepts of benchmarking and 'value added'.
- Be able to create a contemporary funding campaign for a new venture.

[Back](#)

[Exit ✕](#)

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[References ↗](#)

References

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Topic 3

Section 1

Apply

Reflecting on Robertson's definitions of **narrative coherence** and **narrative fidelity**, how would you rate Dove's Selfies campaign?

5 is excellent, 1 is poor.

If you haven't already, **watch the video below** and then drag the markers on the graph to rate it.





1 **2** **3** **4** **5**

Narrative coherence

Does the video make sense? Does each component form a meaningful part in the overall structure?

1 **2** **3** **4** **5**

Narrative fidelity

Does the story seem accurate to true life experiences and human nature? Can you relate to it and identify with the characters?

Reflect

So you rated the **narrative coherence** of the Dove campaign as: **5**

and its **narrative fidelity** as: **5**

What were the strengths and weaknesses of the campaign?

Now, reflecting on your own life, what experiences have you had lately and how could you use them to create stories? How would you make these stories coherent and true to life?

Can these experiences relate to a project idea you have in some way? Could you make a persuasive narrative for that project?

The Dove campaign strongly resonated with women by reflecting their daily experiences. However, it faced criticism for brand hypocrisy, as its parent company sold contradictory products. Also, while promoting inclusivity, the campaign arguably kept the focus on physical appearance, still emphasising external validation.

My experiences as an autistic person navigating work and study can challenge the UK wide narrative of an autistic person's capability. By sharing authentic stories of struggles, autistic strengths, and barrier removal, I could create a persuasive project narrative rooted in real-life triumphs.

Check

Match the different types of empathy to their descriptions by dragging the grey boxes in line with the correct descriptor.

Somatic empathy	The ability to feel what another person is feeling
Cognitive empathy	The ability to understand someone's response to a situation
Affective empathy	The ability to respond to other people's emotions appropriately

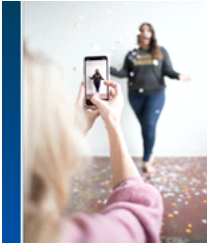
Correct

That's right! You selected the correct response.

Somatic empathy is the ability to feel what another person is feeling.

Cognitive empathy is the ability to understand someone's response to a situation.

Affective empathy is the ability to respond to other people's emotions appropriately.



✓ You have completed Section 1!

Upon completion of this sub-section, you should be able to demonstrate the use of storytelling to frame an idea and as a persuasive communication tool.

Back

Continue →

Section 2

Check

What is one of the benefits of self-confidence?

- ✓ Resilience
- ✗ Heightened ego
- ✗ Behaviour problems

Correct!

One of the **benefits** of self-confidence is **resilience** - the improved ability to 'bounce back' from challenges and failures.

Check

What do authentic leaders have?

- ✗ The ability to recall information
- ✓ Purpose
- ✗ Behaviour problems

Correct!

According to Northouse (2017) authentic leaders have a sense of **purpose**, knowing what they are about and where they are headed. Purpose manifests itself as **passion**.



✓ You have completed Section 2!

You should now demonstrate an understanding of the importance of self-confidence and authenticity when presenting your idea, concept or product.

Back

Continue →

Section 3

Network

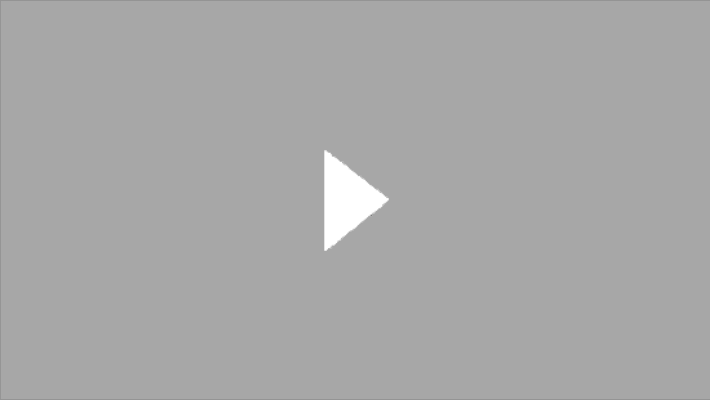
Think of a time where you have had to present. How did the presentation go?

Compare this to a TEDx talk or a Dragon's Den pitch. Are the elements discussed in this session present? Can you incorporate them into your presentations?

Look online for an example of a good presentation and **share it in the forum**.

When I had to present previously, I was filled with anxiety and nervousness. I mainly followed a script and tried to remember what to say during blanking of the mind from. The elements in this session were not present and could be incorporated into presentations.

A good presentation example was the introduction of the iPhone by Steve Jobs:
[Steve Jobs iPhone 2007 Presentation \(HD\)](#)



✔ You have completed Section 3!

Upon completion of this section, you should be able to utilise competent presentation skills to communicate or pitch your concepts, ideas or products.

[Back](#) [Continue >](#)

Topic 3 Completed

✔ Unit 3 Topic 3 completed!

You should now:

- Understand how the use of storytelling can frame an idea and as a persuasive communication tool.
- Implement tools to improve self-confidence and authenticity, especially when presenting your idea, concept or product.
- Be able to communicate or pitch your concepts, ideas or products (with some practice).

[Back](#) [Exit ✕](#)

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[References ↗](#)

References

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Topic 4

Section 1

Reflect

"Prototyping is the conversation you have with your ideas"

(Wujec, as quoted in Hoang, 2020)

Spend some time thinking about the quote above.

What do you think is meant by this statement?

I think the statement "Prototyping is the conversation you have with your ideas" means to visualise, explore and play with ideas. Bringing ideas to life to make informed decisions for executing ideas.

Check

Take a few moments to complete this activity, which will help you summarise what you have learnt in this section.

Question 1 of 3

What is prototyping?

- ☒ A process for narrowing focus to a specific, meaningful challenge
- ☒ Allowing an authentic audience to interact with your proposed solution
- ☒ An experimental process of implementing ideas into tangible forms

Check

Question 2 of 3

What does feed forward mean?

- ☒ Looking at what we could be doing next
- ☒ Looking back at what you have done

Check

Question 3 of 3

Why do we test? Select which reasons you think apply.

- ☒ Testing your ideas can move you beyond the 'thinking without limits' creative phase and determine which of your ideas is likely to gain attention
- ☒ The more flexibility there is for optimising your initial idea
- ☒ Testing your ideas can allow you to keep on target and steer clear of bad decisions

Correct!

Prototyping is an experimental process of implementing ideas into tangible forms. To research, these tangible forms could come in the shape of questions, presentations and discussions.

Correct!

Being able to feed forward is a core skill we all need to develop. Traditionally, feedback is viewed as an uncomfortable process. One way of moving the discomfort of the idea of feedback is to remove the rear-view idea of looking back at what we have done and instead frame the experience as one that looks forward to what we can be doing next.

Not quite...

Testing your ideas can move you beyond the 'thinking without limits' creative phase, help you determine which of your ideas is likely to gain attention, provide more flexibility for optimising your initial idea to develop an idea that is truly beneficial, and regular testing can help you to find the strongest option to take forward and improve underperforming concepts.



✓ You have completed Section 1!

You should now be able to demonstrate an understanding of the key stages of prototyping and the process of testing.

Back

Continue ➔

Section 2

🧠 Reflect

Think back to your first year, specifically to an assignment or task where you produced an **end product** - good or bad. For example, an essay, presentation or physical/digital object.

Using what you have learnt about prototyping and agile thinking so far, **can you identify where these techniques and processes may have improved your end product?**

Remember to note down how this may have improved your end product, so you can revisit and apply this same level of thinking to future assignments or tasks.

Prototyping and agile thinking would have significantly improved my previous website and PHP development assignment. Prototyping would've allowed me to test multiple design and functionality iterations early on, leading to smoother functions. An agile approach, with its iterative phases, would've enabled continuous feedback, resulting in more robust functionality and an overall better user experience.

🧐 Check

Take a few moments to complete this activity, which will help you summarise what you have learnt in this section.

Question 1 of 4

Producing a piece of work that looks and operates close to the finished article is:

- ✓ High-fidelity testing
- ✗ Low-fidelity testing

🧐 Check

Question 2 of 4

Producing a rough representation of ideas and concepts that help us validate our direction is:

- ✗ High-fidelity testing
- ✓ Low-fidelity testing

🧐 Check

Question 3 of 4

Which are examples of low-fidelity prototyping?

- ✗ Research proposal
- ✓ Storyboarding
- ✓ Conversations & Role play

🧐 Check

Question 4 of 4

The benefits of low fidelity testing are?

- ✓ It's quick and inexpensive
- ✗ Any changes will take a lengthy period of time to action
- ✓ Disposable

Correct!

High fidelity prototyping is producing a piece of work that looks and operates close to the finished article. Getting to this point allows users to interact with the idea or product in much the same way as the finished article.

Correct!

Low-fidelity prototypes are rough representations of ideas and concepts that help us validate our direction. This approach facilitates the adding of value from the outset and engages with those who have an interest in our project throughout.

Not quite...

Examples of low-fidelity prototyping include quick and inexpensive options such as:

- Storyboarding,
- Sketching,
- Paper/card modelling,
- Conversations and role play.

Correct!

The benefits of low-fidelity prototypes are:

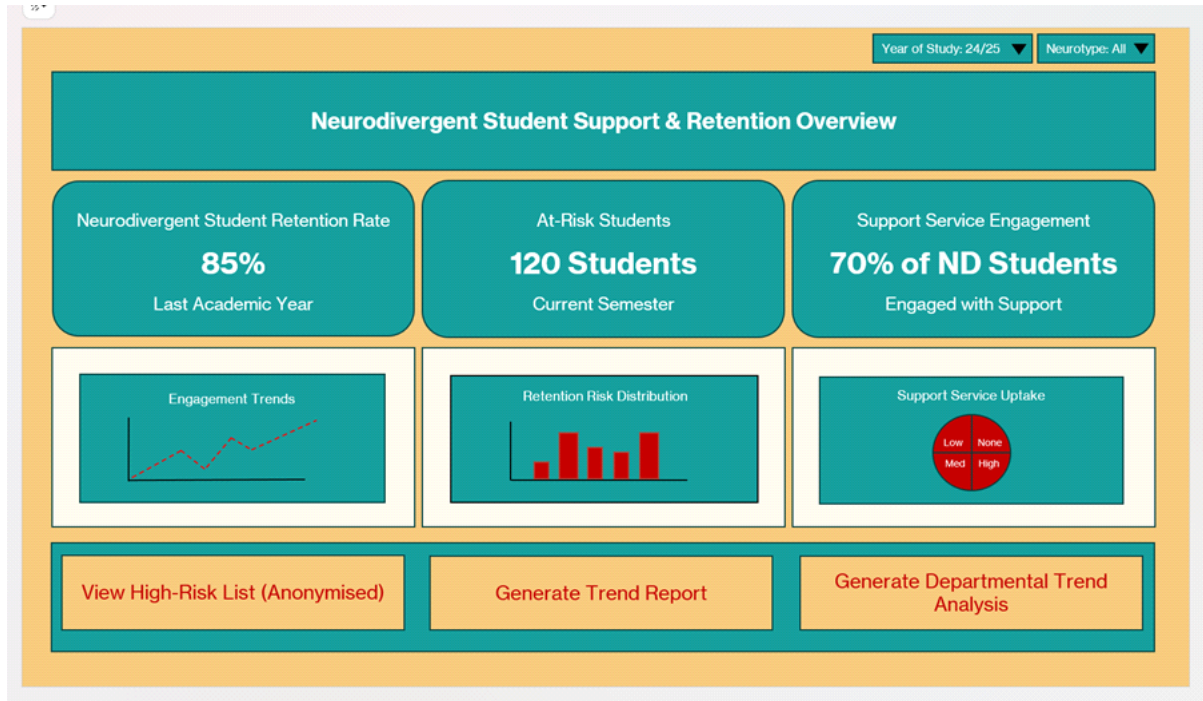
- Quick & inexpensive
- Ability to make instantaneous and incremental changes
- Disposable
- Gives overview of concept with minimal time and effort.

Within this section, we will start to take a more **practical approach** to developing our understanding and purpose of prototyping and testing.

Consider how you might create a prototype for your project and how you would test it.

Create your prototype and **upload evidence** of its creation along with a **statement** about how you will go on to test the prototype onto the forum.

Remember to **review** not only your feedback but **provide** feedback to your peers as well. This is called peer feedback.



The prototype will be tested through self-critique to evaluate its conceptual design. This process involves a walkthrough to assess the dashboard's usability, clarity, and relevance for university staff. I will critically evaluate if the visuals are easy to interpret, if the insights are actionable, and if the data is presented ethically. This allows me to refine the design and ensure the framework aligns with the project's objectives before any real-world development.

✓ **You have completed Section 2!**

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to testing your ideas and getting feedback.

You should have a deeper understanding of developing ideas and be able to apply this to your own work.

[Back](#) [Continue >](#)

Topic 4 Completed



Unit 3 Topic 4 completed!

You should now:

- Be able to demonstrate an understanding of the key stages of prototyping and the process of testing.
- Be able to demonstrate an understanding of agile methodologies and identify prototyping techniques and their value.
- Have a deeper understanding of developing ideas and apply this to your own work.

Back

Exit ✕

If you have taken notes using the in-built notebook, you can now export them.

Export my notes ↑

Here are listed the references that are used in this topic.

References ↗

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Unit 4

Friday, August 8, 2025

2:12 PM

Topic 1

Section 1

Reflect

Sometimes students will say that their subject **does not require** an understanding of quantitative analysis. However, qualitative data **will appear in every medium**. Taking your subject as a trial, use Google and type:

"Quantitative research of ____"

What results do you see? Note these down in 'My notes' for future reference.

When searching "Quantitative research of Data Science" in google, the results show that it is numerical data often used in data analysis, data collection, visualisation etc. to analyse and find patterns, trends and relationships in databases.

Network

Think about your research. **What sort of quantitative analysis could you make to help it?**

Frame an **example question** that would use descriptive statistics and inferential statistics that would be relevant in the domain you are studying, then submit this along with your research idea to the **forum**.

If you're finding it difficult to frame an example question and identify the quantitative analysis, review the answers of others and analyse how they would apply to your own research.

Descriptive Statistics Question:

- What is the average academic success rate for neurodivergent students compared to other students at the university over the last five years?

Inferential Statistics Question:

- Does the frequency of support service usage predict a statistically significant increase in the academic performance of neurodivergent students?

? Check

Question 1 of 2

Would a survey of 300 students, chosen at random, from your university and asking them the question: "On a scale from 1-5, how satisfied are you with your professors?" be a good sample?

✓ Yes

✗ No

? Check

Question 2 of 2

Could research of the recovery of people from Covid living on the island of Jersey be used be applied to people living in the city of New Delhi, India?

✗ Yes

✗ No

✓ It depends

Correct!

The survey has been conducted at random to avoid any bias. The survey will of course have some bias as it is a sample of the entire university, but it has mitigated this by randomising the trial.

Not quite...

It depends. Do you think that the people living in Jersey are comparable to the people who live in New Delhi? If yes then the research is valid, if not then the research should not be used in the New Delhi context.



✓ You have completed Section 1!

You should now be able to imply a numerical precision to arguments in a casual way that brings a lack of precision to our work.

Back

Continue >

Section 2

⚙️ Reflect

Creating **charts** is a fantastic way of understanding the data we collect. The software most people are familiar with is called **Excel**. Excel can take the tables of numbers you collect on your research and present them as **bar charts**, **line charts** and **scatter charts**. These can be copied into your research in the usual way.

Think back to any research you have conducted, how did the authors present the data they have collected? How have you presented data in the past? Do charts make data, especially complex and large volumes of data, easier to read?

The authors in my past research showed data in various types of charts. I have presented data using a wide range of charts, such as bar, line, scatterplots and pie charts etc. Charts make reading and interpreting data more user friendly by removing noisiness of lots of varieties of values and grouping them together into categories, therefore highlighting the results instinctively.



What graph or chart would be best to describe the correlation between **academic success to students reading age results**?

Why would you use this?

Make sure to note down your reasoning for future reference.

A scatterplot chart would be best to describe the correlation between academic success and students reading age results. This can easily show both linear and non-linear correlations. Visually it could potentially show clustering, trends, and outliers.

Network

From the examples you have seen in this section, **which graph would you most likely use in your field of study and why?**

Submit your thinking to the **forum** and remember to review the answers of others, this will help you to understand and determine the best type of graph for your research.

In my field of study, Applied Data Science, line charts are essential for identifying trends in time-series data, crucial for forecasting and monitoring. Scatterplots are vital for revealing correlations between datasets, helping to spot relationships and outliers for model development. Alternatively, other charts such as Bar charts and histograms are also utilised often in this area.



✓ You have completed Section 2!

You should be able to analyse data using different examples of graphs and charts and present data using a variety of methods.

 Dive deeper

Back

Continue >

Section 3

Reflect

Consider the quote by Aristotle:

"The aim of art is to represent not the outward appearance of things, but their inward significance."

Is this something you agree with?

Yes, I agree with this.

Reflect

Consider the quote by Aristotle:

"The aim of art is to represent not the outward appearance of things, but their inward significance."

Now look at the website below:

 Information is beautiful (c.2022)

Take a moment to look through some of these beautiful charts. **Do you think that these are works of art?** Or do they manage to convey **more meaning** because of the way that they have been drawn?

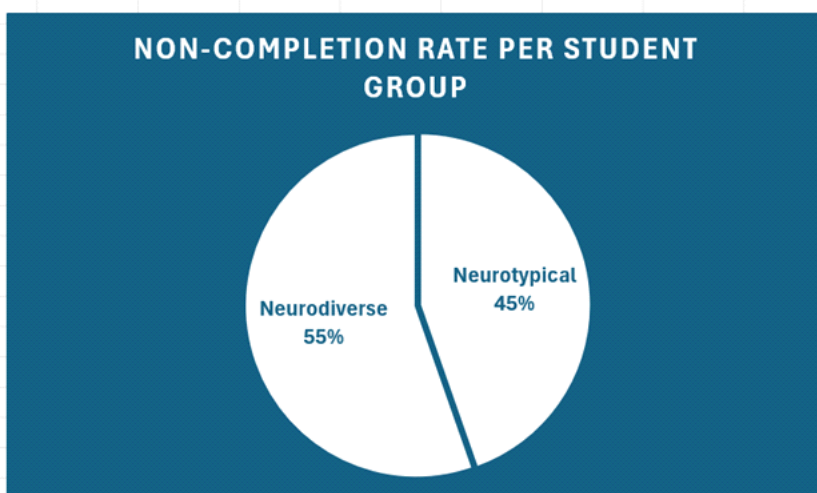
The charts manage to strongly convey more meaning because of the way they visualise all types of data in a variety of ways.

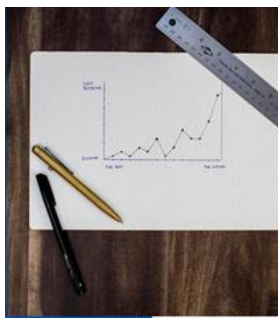
Network

Create a chart for a piece of research you are currently undertaking. You should create it following the **'Visual Hierarchy'** that has been previously discussed.

Discuss your chart with your peers submitting your chart to the **forum**.

What do they think? Can you improve?





✓ You have completed Section 3!

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to statistical analysis.

You should now have a deeper understanding of creating charts that communicate in the best way possible.

Back

Continue >

Topic 1 Completed

✓ Unit 4 Topic 1 completed!

You should now:

- Be able to imply a numerical precision to arguments in a casual way that brings a lack of precision to our work.
- Be able to analyse data using different examples of graphs and charts and present data using a variety of methods.
- Have a deeper understanding of creating charts that communicate in the best way possible.

If you have taken notes using the in-built notebook, you can now export them.

Export my notes ↑

Here are listed the references that are used in this topic.

References ↗

Back

Exit ✕

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Topic 2

Section 1

Consider why a researcher might use qualitative research methods and list some benefits and disadvantages of this.

Do qualitative methods suit all research?

What are the limitations of qualitative research methods?

A researcher might use qualitative research methods to collect data, for example, from surveys. The benefits of this methodology are that it explores more personal experiences and concepts, aiming to understand the participant's narrative in a deeper, more personable way. Qualitative methods are well-suited to a diverse range of research topics. However, this approach is not suitable when numerical statistics are required from the data collection. Furthermore, this method can be susceptible to bias, as interpretations are based on the personal beliefs and commitments of both participants and researchers. In contrast, quantitative research methods typically yield evidently factual and statistically verifiable data.

Apply

Take at least 15 minutes to write out your plan on how you would organise your data.

- Will you adopt any of the suggestions as above?
- Do you have any further points to add?
- You may want to consider where you may store the recording files - cloud storage, USB, etc. What are the benefits of cloud storage?

My Data Organisation Plan

For my project, I will use a positivist research approach focusing on quantitative data analysis. This involves a systematic plan to organise and manage institutional and external data from various sources to ensure it is clean, secure, and ready for analysis.

My data organisation plan is as follows:

- **Data Ingestion and Storage:** I will use a data pipeline to extract data from multiple institutional and external sources, including the Management Information Systems (MIS) student records and support service attendance records. This data will be ingested into a central data warehouse.
- **Data Cleansing and Validation:** To ensure reliability, the data will undergo a rigorous cleansing process. This includes removing duplicate records, standardising data formats, and validating data points against predefined quality rules.
- **Data Anonymisation:** Before any analysis, all personal data will be anonymised and pseudonymised to protect student privacy and adhere to UK GDPR regulations.
- **Data Analysis and Reporting:** The cleansed and anonymised data will be used for statistical analysis and to power my project's conceptual analytics dashboard.

- **Cloud Storage:** I will store all of my data on a cloud storage solution rather than on local hardware like a USB drive. The benefits of cloud storage for this project are:
 - **Security:** Cloud providers offer robust security features, such as encryption and access controls, that are often more secure than a personal USB drive. This is crucial for protecting sensitive student data.
 - **Accessibility:** As a cloud-based solution, my data can be accessed from anywhere, making it easy to collaborate with others (if needed) and work from different locations.
 - **Scalability:** Cloud storage can be easily scaled up or down as needed, allowing me to handle large volumes of institutional data without investing in expensive hardware.
 - **Data Integrity and Backup:** Cloud providers have built-in redundancy and backup systems, which protect against data loss in the event of hardware failure.

Further Points

In addition to the above, I will also implement a strict version control system for all of my data scripts and analysis code. This will allow me to track all changes, collaborate effectively, and revert to previous versions if needed.

Reflect

Write a post in your **Module Blog** considering:

- Why is it important to begin to organise your qualitative data before data collection?
- How will this affect your planning for your qualitative research in future?

Pre-organising qualitative data is essential to ensure secure and sufficient storage. This proactive approach also warrants effective data collection methods, preventing rushed decisions and ensuring insights directly address the research question. Such foresight underscores the critical need for thorough planning in all future qualitative research, confirming data storage efficiency and relevance to my research area.



You have completed Section 1!

You should now have gained the knowledge of how to organise qualitative data ready for analysis.

[Back](#)

[Continue >](#)

Section 2

Reflect

Being able to sort your data and identify themes and patterns is the next stage in qualitative analysis and is often where your research starts to get exciting!

- Do you see patterns and themes in your everyday life?
- How do you recognise them and what do they look like?

Write a couple of sentences describing what a theme or pattern is.

There are various patterns and themes occurring daily. For example, the patterns most days follow is waking up, going to work, leaving work, going home, eating, going to sleep, and then repeat the process. This is a very common pattern and while it does not show up as a chart or visually. If the data was interpreted i.e. A timetable or schedule this could be converted to a chart to show patterns or themes. Another example could be weather forecasting. To show it is going to be hot or cold they will display a thematic map shaded in cool whites up too red to show comparisons of areas that are going to be hotter or colder. A pattern is a repetitive process that occurs, and it could come in various forms. It is the identification of a regularity and is predictable.

Apply

Create your own Theme Table template that you could use for your data.

You can use Microsoft Word or Excel to create your table as follows.

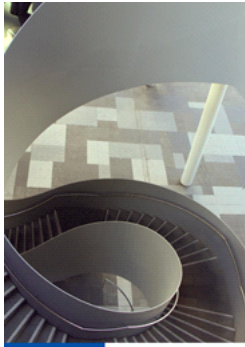
Author	Note	Initial code
Name of person	A copy and paste of an interesting part of their transcript.	A code that you would assign to it.

Theme	Sub-Theme	Keyword/Code	Source	Count	Notes
The main topic or high level category you being investigated	A more specific subcategory in the main theme	Specific words or phrases you are looking for in your data	Where the data was found	How many times the keyword/code appeared	Any important context or observation you have about that specific data point

Check

Question 1 of 1





✓ You have completed Section 2!

You should now be able to figure out the techniques to identify patterns and themes in your data.

[Back](#)[Continue >](#)

Section 3

Reflect

When you look at the example video transcriptions made from Dewi, Jordan, Anwen and Araf, can you identify what themes are the ones that appear to be significant?

Can you think how would you go about doing this as well as creating the evidence to be referenced in the future?

If you would like to view those transcriptions again, select the characters.

They are all students who have been inspired by past experiences and resilient to negative experiences to develop a passion that became a big part of their life after university. I could evidence this in an excel spreadsheet table.

Apply

Now that you understand what is involved in the thematic analysis of your qualitative data, we need to develop the approach using the Excel software.

Excel is a relatively simple tool to use and is generally available wherever you work. You have a free copy of the software as a student of UWTSD.

In this exercise, take 15 minutes to practise developing a theme table using the data in the previous section. The steps you should follow will be presented on the next slides.

Student	Quote	Initial Code	Theme	Notes
Dewi	"I caught chicken pox. It left me with this scar that I've got on my forehead. I was embarrassed about it at first, but I make a joke of it these days."	Joke about scar	Resilience & Self-Acceptance	Demonstrates overcoming a negative physical incident.
Dewi	"The big thing that I now do since uni is that I play football in an amateur league. I've been doing that since I was at university."	Amateur league football	Development of a Hobby	Hobby started at university continues into adult life.
Jordan	"I attended a lecture that inspired me to collect video games... I now have over 2000 games"	Video game collection	Development of a Hobby	A passion that began with an experience at university.
Jordan	"Recently my collection was featured in a museum exhibit in my hometown."	Museum exhibit	Impact of Hobby	Hobby becomes a significant, public part of his identity.
Anwen	"A big thing that happened when I was in my 20s and studying was that I caught malaria... It hasn't affected me as I still travel to amazing places."	Caught malaria	Impact of Major Incidents	A major health incident that was overcome.
Anwen	"I have always lived in Swansea, so I have been interested in travel... inspired when a charity... invited us to go to Africa."	Inspired to travel	Development of a Hobby	A hobby was directly inspired by a university experience.
Araf	"I did my first Triathlon at Tenby beach in my first term, but I broke my leg in a scooter accident later that year so I don't compete anymore."	Broke leg, can't compete	Resilience & Adaptability	A negative incident changed his hobby, but not his passion.
Araf	"I love to keep fit. I tend to run at least 10 miles every week"	Loves to keep fit	Development of a Hobby	Passion for fitness continues in a modified way.

Apply

Step 1

In this step, add some columns to your existing worksheet to accommodate the data you are going to process.

- Column A should read Source #. The # in this case stands for number.
- Column B should read Note #
- Column C should read Author
- Column D should read Note
- Column E should read Theme
- Column F should read Initial Code

Here is a screenshot of how this would look:

	A	B	C	D	E	F
1	Source#	Note#	Author	Note	Theme	Initial code

Step 2

In the previous exercise, you identified initial codes of your own.

Watch this video of how you could code the **#movedhome** and **#sport** codes into a more sophisticated table.

Apply

Step 3

Now using the codes that you identified, complete your thematic research.

If you have not already worked it out, try to identify the notes that imply **#competition**, **#illness**, **#home** as well as the ones identified in the last section.

	A	B	C	D	E	F
1	Source #	Note #	Author	Note	Theme	Initial Code
2						
3		1	Jordan	I moved here from North Yorkshire to study business at the University	#movedhome	
4						
5						
6						
7						
8	2	1	Dewi	I studied for a nursing qualification at the university having previous in	#movedhome	
9	2	2	Dewi	The big thing that I now do since uni is that I play football in an amateur	#sport	
10						
11						
12						
13		3	Anwen			
14						
15						
16						
17						
18	4		Araf	This started when I did my first Triathlon at Tenby beach in my first ter	#sport	
19						

Step 4

A thematic table now has the initial codes.

In this video, watch how themes can be identified from the codes created.

Step 5

At this stage you will have transcribed a number of themes and initial codes.

If we could sort the data based on these codes, then it may reveal more information about the interviews. Using Excel, we can make these investigations using the 'Sort' facility.

Watch this video to see how we can use the Excel to sort the data and reveal thematic evidence.

Apply

Step 6

This is an iterative process.

So having sorted the data it may give you an understanding of what to spot in the initial codes and in turn reveal new themes that may not have been apparent when first reading the interviews.

To do this you will need to use your judgement to identify other themes from the initial codes.

For example, you may start to see that an argument that could be built that some of the most powerful experiences that the graduates had come from extracurricular activities rather than their lessons.

Can you see how using this approach you could create evidence that the students have significant experiences from non-academic activity?

Source#	Note#	Author	Notes	Theme	Initial Code	Quote
1	1	Dewi	A specific health issue from his time at university.	#illness	Caught chicken pox	"A major incident during my time at UWTSD was that I caught chicken pox."
1	2	Dewi	A passion for sport developed at university.	#sport	Plays football	"The big thing that I now do since uni is that I play football in an amateur league. I've been doing that since I was at university."
2	1	Jordan	A direct reference to changing location for university.	#movedhome	Moved from North Yorkshire	"I moved here from North Yorkshire to study business at the University of Wales Trinity St David."
2	2	Jordan	A specific instance of competing against another group.	#competition	Competed against Manchester	"...we competed against Manchester."
3	1	Anwen	Another instance of a significant health issue.	#illness	Caught malaria	"...I caught malaria. I've always lived in Swansea, so I have been interested in travel."
3	2	Anwen	A direct reference to her original hometown.	#home	Always lived in Swansea	"I've always lived in Swansea, so I have been interested in travel."
4	1	Araf	A specific instance of competing in a sporting event.	#competition	Competed in Triathlon	"...I did my first Triathlon at Tenby beach in my first term, but I broke my leg in a scooter accident later that year so I don't compete anymore."
4	2	Araf	Another passion for sport and fitness.	#sport	Loves to keep fit	"I love to keep fit. I tend to run at least 10 miles every week..."

Yes, I can. Using this approach, I can create evidence that students have significant non-academic experiences by systematically finding and counting themes in the transcripts that are unrelated to their formal studies.

For example, themes like #competition and #sport provide direct evidence of non-academic activities. I can then present these findings to show that a student's experience is not defined solely by their academic life.



✓ You have completed Section 3!

You should now have demonstrated an understanding of the use of Excel as a qualitative analysis software.

Back

Continue >

Topic 2 Completed

✓ Unit 4 Topic 2 completed!

You should now:

- Have demonstrated knowledge and understanding of how to organise qualitative data ready for analysis.
- Have figured out some techniques to identify patterns and themes in your data.
- Have improved the understanding of the use of Excel as a qualitative analysis software.

If you have taken notes using the in-built notebook, you can now export them.

Export my notes ↑

Here are listed the references that are used in this topic.

References ↗

Back

Exit ✕

References

IndianScribes (2018) *Interview Transcript Format*. Available at: <https://www.indianscribes.com/interview-transcription-guide/> (Accessed: 28 July 2022).

Topic 3

Section 1

Reflect

Reflect on your own experiences.

What does failure mean to you?

What mistakes or failures have you made in the past that really **set you back**?

Failure can be devastating and demoralising if you let it be. But ultimately it means that I was unable to do it the first time and that it's a lesson to learn from to try again. I have made many mistakes and failures. The most notable being overly passionate about an idea but not taking the necessary smaller steps to achieve it. Leading to

failed ideas from the inability to execute it.

 **Apply**

At the beginning of the section, we asked you to reflect on mistakes or failures that challenged you in the past.

Make some notes about what you learned from the experience, applying the **growth mindset** that Dweck discusses.

 Dive deeper

I learned that I had not developed the skills required “yet” and that I needed to continue trying to learn and develop on those skills to be able to succeed in the future.



 **You have completed Section 1!**

Upon completion of this section, you should recognise failure is a mechanism for learning.

[Back](#) [Continue >](#)

Section 2

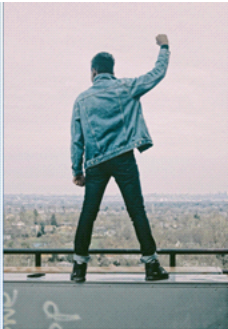
Network

Based on the themes in the resources you have seen so far and what you have learnt in this section, think of a **famous, 'successful' individual** and **write down on the forum** how you now perceive them in terms of both success and wellbeing. For example, what do you now think of Michael Jackson's success?

When considering your review of achievement in the introduction activity, did you consider **wellbeing** as part of it? **What do you think now?**

I have learned that failure and success are not merely outcomes in themselves. Rather, they stem from an individual's growth mindset and corresponding actions (or lack thereof). For example, Bill Gates is a 'successful' person, and I perceive that his company, Microsoft, did not achieve its stature through a miracle, but through

determination and resilience when encountering stumbling blocks, through failing and learning. He demonstrates strong wellbeing in that he possesses a robust mindset for growth and development. I did not initially consider wellbeing when thinking about achievement, but I now firmly believe it is a strong component of any growth and success.



✔ **You have completed Section 2!**

Upon completion of this section, you should be able to identify the link between success and wellbeing, often distilled into the popular saying of 'winning at life'.

[Back](#) [Continue >](#)

Section 3

Reflect

From when we are children, we are taught that **failure is not an option**. Yet we are not taught how success is achieved. Too often it seems like if someone is smart or lucky or special, they can succeed without ever tasting failure.

Can you think of someone famous or a personal acquaintance that seems to be successful from having been lucky?

By this we mean someone that has some claim to success from something they did rather than winning the lottery.

An example of this could be, Miley Cyrus who is successful, famous and is a talented individual. However, she has been in the spotlight since she was a young girl akin to her father being widely famous as Billy Ray Cyrus. She was able to spring into success easily through this connection to fame and success directly.

Network

Often enough, when considering success, we tend to think of famous individuals. But is that simply a reflection of what society identified as success?

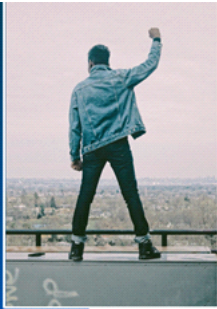
Consider a person that you think is successful but is not famous then consider these questions:

1. What makes them successful?
2. Is their success recognised? By whom?
3. Does lack of fame make them less successful?
4. What motivated your choice? What criteria did you use?
5. Can you explain why your chosen individual achieved success, but not fame?

Write and post 100 words to the forum of why your chosen individual is successful but not famous.

The person I believe was successful but not famous is a late family member. His success stemmed from a strong mindset, relentless determination, and the support of his wife. Though not publicly known, he was deeply respected by family and his community for his charitable acts and kindness. Fame never defined him; instead, its absence fuelled his drive. I chose him because of his perseverance in pursuing his dreams despite setbacks. I measured his success through consistent effort and impact. Even after losing everything, he rose again, proving that true success lies in

resilience, purpose, and the lives he touched.



✓ **You have completed Section 3!**

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to organising and analysing qualitative data.

You should now be able to understand the concept of success from different perspectives.

[Back](#) [Continue >](#)

Topic 3 Completed

✓ **Unit 4 Topic 3 completed!**

You should now:

- Recognise that failure is a mechanism for learning.
- Identify the link between success and wellbeing.
- Recognise the concept of success from different perspectives.

If you have taken notes using the in-built notebook, you can now export them.

[Export my notes ↑](#)

Here are listed the references that are used in this topic.

[References ↗](#)

[Back](#) [Exit ✕](#)

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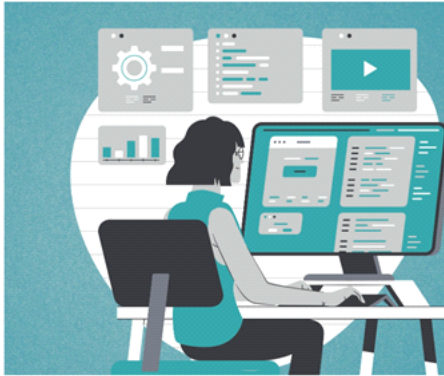
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Topic 4

Section 1

Reflect



Take a moment to work out why you are studying.

Why is it that you are setting yourself the hard work of creating your project or assignment?

Can you think of one word that encapsulates all of this?

I am setting myself the hard work of creating my project or assignment because I am determined to develop and grow into a great long running career with lots of opportunities to seize.

One word that encapsulates all of this is: **CATALYST** - The spark of setting a transformation in motion.

Reflect

In the previous topic, you may have recalled a mistake that you have made in life that caused you to learn.

Now for some serious thinking: in all honesty, and keep it private to yourself, when you explain this mistake to a third party, do you make yourself seem better than you were?

Most people when being honest will say that they do. Being aware of our hindsight bias will help us innovate better versions of ourselves.

Dive deeper

Watch the Buzan video and write notes about it.

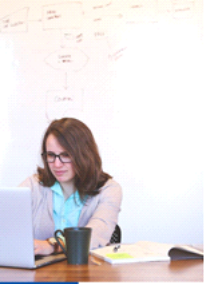
 Two-Point-Four. How to use the brain more effectively (video)

Tony is an inventor of a mind mapping technique.

There are 4 steps:

1. Is realising the power of your brain i.e. your brain is more powerful than a supercomputer
2. Make your brain your hobby i.e. enrich your knowledge by utilising it.
3. Use your left and right side of your brain i.e. your left side and right-side control different elements so strengthening both sides will increase your creativity significantly

4. Daydream i.e. daydream about big ideas and then work to execute them.



✓ **You have completed Section 1!**

You should now have recognised some techniques that you can use to improve your learning.

[Back](#) [Continue >](#)

Section 2

Reflect

Watch this video from Jess Louise as she talks about mind mapping to revise for her exams.

When you watch this video, take particular attention to how she is summarising the outputs of Friedrich Engel's work.

Do you think you could do this for your work?

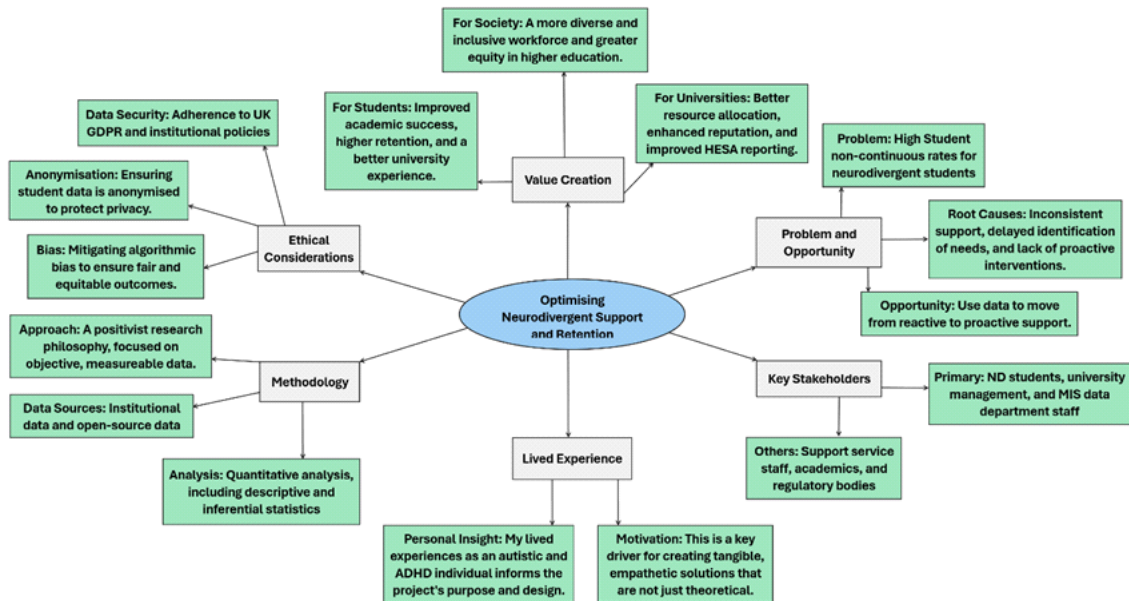
This approach can be used for my work to summarise points or take notes at a more detailed level.

Apply

Create a mind map of the research that you have done.

Consider how Jess Louise did the same with Fredrick Engel's work and, if it helps, imagine that you are studying like she was for an exam. What are the main points that would appear on this map?

From these points, you will establish keywords that should inspire you to think about what you should include in an abstract.



Keywords for an Abstract:

- Neurodivergent students
- Higher education
- Student retention
- Data-driven insights
- Learning analytics
- Quantitative analysis
- Data quality
- Ethical framework
- Proactive support
- UK HE policy



✓ You have completed Section 2!

You should now have identified the things in your project that you care about which are important enough to showcase to others.

Back

Continue >

Section 3

Take a moment to create a poster.

- Work out what the title of your research and type it in to the heading. Does it fit? If not, you will have to think of rewording.
- Now find a photograph of yourself and add it to the template. Also choose an appropriate UWTSD logo from your academy site and add this in the appropriate place.

This can now be the template for any research posters you are asked to do in the future.

Upload your poster to the **forum** and give feedback about one other poster (try to choose someone who has not yet had a feedback).

Optimising Neurodivergent Student Support and Retention through Data-Driven Insights in UK Higher Education



Problem

- Neurodivergent students face significant challenges leading to a lower retention rates.
- This project aims to use data to create a proactive, not reactive, support system.

Aim

To propose a data-driven framework that enhances support and improves retention for neurodivergent students in UK HE.

Methodology

A positivist approach using quantitative data for analysis from:

- institutional records (MIS)
- Open sources (HESA, ONS, etc.)

Value

Creates value for:

- Students (better support)
- Universities (improved reputation)
- Society (a more diverse workforce)



Tyler Williamson (2237644)
BSc Data and Information Systems



✓ You have completed Section 3!

You should now have acquired some skills that you can apply to create a poster illustrating your research.

[Back](#)

[Continue >](#)

Topic 4 Completed

✓ Unit 4 Topic 4 completed!

You should now:

- Have recognised some techniques that you can use to improve your learning.
- Have identified the things in your project that you care about which are important enough to showcase to others.
- Have acquired some skills that you can apply to create a poster illustrating your research.

Back

Exit ✕

If you have taken notes using the in-built notebook, you can now export them.

Export my notes ↑

Here are listed the references that are used in this topic.

References ↗

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Conceptual Pilot Study

Friday, August 8, 2025

4:10 PM

Data Schema and Self-Critique

This document outlines the conceptual pilot study designed to test the feasibility and clarity of the proposed data collection method for the project. The primary instrument is a data schema, detailing the key data points to be extracted from both the university's Management Information Systems (MIS) and UK-wide open-source data. The pilot was conducted through a process of self-critique to identify and address potential issues prior to full-scale research.

Initial Conceptual Data Schema

This schema represents the first draft of data points intended for collection and analysis, drawing from two main sources: internal institutional data and external open-source data.

Institutional Data:

1. Data Point: Anonymised student ID, declared disability status (autism/ADHD), age, and year of study.
 - a. Purpose: To segment the student population and understand basic correlations between demographics and academic outcomes.
2. Data Point: Module completion status (pass/fail).
 - a. Purpose: To measure academic success.
3. Data Point: Attendance at disability support meetings.
 - a. Purpose: To track engagement with support services.
4. Data Point: Days since last assignment submission.
 - a. Purpose: To identify potential student disengagement.

External Open-Source Data:

1. Data Point: Reports and statistics from UK government sources (e.g., Department for Education, HESA) on national student retention and disability trends.
 - a. Purpose: To contextualise institutional findings within broader national trends.
2. Data Point: Data from UK-based charities (e.g., National Autistic Society) on the experiences and challenges of neurodivergent individuals.
 - a. Purpose: To provide a wider context on neurodivergent experiences beyond the university setting.

Self-Critique and Feedback

Through a structured self-critique, several areas for improvement were identified. This process simulates the feedback loop of a pilot study and is crucial for refining the research design.

Critiques:

- **Data Point Ambiguity** – The initial schema uses attendance at disability support meetings as a single data point. This is ambiguous. It doesn't capture the frequency, duration, or type of support received, making it difficult to draw meaningful conclusions.
- **Data Integration and Standardisation** – The schema doesn't address how to effectively combine the diverse institutional data with the broader, often unstructured, external open-source data. There is a risk that data from different sources may not be comparable, which could undermine the analysis.
- **Ethical Considerations** – While the schema mentions anonymised data, it does not detail how sensitive institutional data would be handled alongside publicly available information to prevent re-identification. The ethical implications of using this data from both sources must be explicitly addressed.

Revised Conceptual Data Schema

Based on the self-critique, the data schema has been refined to be more precise, robust, and ethically sound. The schema now accounts for the integration of both institutional and open-source data.

Institutional Data:

1. **Student Demographic Data:** Anonymised student ID, declared disability status (autism/ADHD), age, and year of study.
 - a. **Rationale:** Retained for population segmentation.
2. **Academic Performance Data:**
 - a. **Data Point:** Pass_Rate_by_Semester (Percentage of modules passed each semester).
 - b. **Rationale:** Refined to a more granular, time-based metric for trend analysis.
3. **Support Service Data:**
 - a. **Data Point:** Support_Usage_Frequency (Count of sessions per semester, disaggregated by support type, e.g. academic, counselling).
 - b. **Rationale:** Amended to capture a more detailed and useful measure of support engagement.
4. **Disengagement/Retention Risk Data:**
 - a. **Data Point:** Days_Since_Last_Academic_Action (A consolidated metric tracking days since the last submission, attendance record etc.).

- b. Rationale: To provide a more holistic and accurate view of student engagement beyond just assignment submissions.

External Open-Source Data:

1. Data Point: National_Retention_Trends (Time-series data from HESA or DfE on student retention rates, disaggregated by disability if available).
 - a. Rationale: To provide a national benchmark and context for institutional data.
2. Data Point: Neurodiversity_Challenges_Keywords (A frequency count of key terms and themes from charity reports on common challenges faced by neurodivergent individuals).
 - a. Rationale: To inform the project's hypotheses and provide quantitative context to numerical findings.

Ethical Oversight and Data Integration:

1. Data Point: Data_Anonymisation_Protocol (A field detailing the anonymisation method used, e.g. k-anonymity, to apply to institutional data).
 - a. Rationale: Added to explicitly track and document the ethical handling of sensitive institutional data.
2. Data Point: Data_Standardisation_Plan (A plan to standardise terminology and data formats between institutional and external sources).
 - a. Rationale: Added to ensure the comparability and integrity of data from multiple sources.