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Guide to using Evidence in Higher Education

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Guide to Using Evidence

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INTRODUCTION

Foreword

We are, all of us, living and working "in an age of abundant data" (Daniel, 2015, p917).

This abundance is profoundly reshaping policy and practice across higher education, from the growth of learning analytics to the proliferation of student voice initiatives to emergence of the 'sticky campus', and much else besides. Data, or more accurately, the ability to engage critically with and generate evidence from it, is the price of entry into the debates and decision–making mechanisms driving (or resisting) change within institutions and across the sector. What we have seen in recent years is a "datafication of higher education" (Williams, 2018, p4).

The Evidence for Enhancement Theme (2017–20) is positioned to assist staff and students across Scotland's higher education institutions as they respond to this rapid growth in the availability of, and demand for, data and evidence. The Theme has helped individuals and institutions reflect on how they are engaging with this swell of data and evidence, on important gaps and inconsistencies to be addressed, and on where new data–driven approaches to enhancing learning, teaching and the student experience might be developed.

As part of this work, it is crucial that attention is paid to how data and evidence matter (or could matter) in the work of the students and students' association and union staff enrolled in systems of academic representation and service across the sector. Given their crucial role it is vital that these individuals and groups are supported to better understand and utilise the data and evidence they are generating and encountering through their work on institutional projects and committees, and as part of their efforts to maintain and develop representative structures and services.

This Guide to Using Evidence has been designed to do just this, to support and encourage students and students' association and union staff to actively engage with data and evidence. It offers an accessible introduction to a range of key ideas and concepts and a range of activities which allow readers to develop their own thinking and confidence in key areas. The ambition of its authors, QAA Scotland and the students who reviewed early drafts, is that students and students' association and union staff will reach for this resource as they prepare for committees, devise new campaigns, deliver services, and do all of the other things they do to enhance students' experiences and outcomes.

Underpinning all of this is a belief that students themselves, the institutions they are working with, and the sector as a whole, are better served when students are, and are seen to be, agents in the 'data landscape', not just subjects of it. Engaging with this Guide will help students and students' association and union staff to develop that sense of agency in themselves and foster it in others.

This Guide is a product of a student–led project coordinated by QAA Scotland as part of the Evidence for Enhancement Theme (2017-20).

Dr William Hasty, QAA Scotland
August 2019

Why is this Guide necessary?

Higher education is currently gripped by an 'ethos of measurement' (Spence 2019) which is directing institutional activity and guiding policy and practice both locally and across the sector. This is primarily driven by market forces, competition and the metrification of student supply and demand (Creative Arts Cluster 2018), which positions the evidencing of impact on student experiences as critical. Running parallel to this there has also been an increase in attention to the ways that data and evidence can be harnessed for the enhancement of learning, teaching and student support through institutional and collaborative initiatives, such as the current [Evidence for Enhancement](#) Theme. As such, those working or studying within higher education institutions are now exposed to continuous waves of data and evidence and have access at the click of a mouse to a plethora of reports and dashboards showing and analysing this in myriad ways. This includes students, especially those working with students' associations/unions in the representative system and with institutions on projects and initiatives.

The phrase 'evidence of impact' is now well-known beyond the realms of scholarly research, and this is not necessarily a bad thing. Beyond consumerism, there are fundamental moral and ethical motivations for understanding what works well and what doesn't, and importantly, how to make evidenced-informed decisions for positive change. However, the dominance of numerical measurement data (which is too often read in isolation from other kinds of evidence and interpreted in overly simplistic ways) within the sector has now spread beyond high level institutional comparisons and has infiltrated almost all areas of higher education. Evidence of impact must consider the variety of data sources which are available and can be used in relation to areas under investigation.

As the importance and variety of data becomes normalised within higher education discourses, the range and scope of potential data-users also expands. It is too often assumed that student engagement with the higher education data landscape is skewed to pre-entry and that data is only used to make informed choices. Once enrolled, institutions brief students on their engagement in data collection as data-subjects but dedicate less time to exploring how students routinely use institutional data sources, their own analytical data, or how student-generated data could be used strategically.

In recognition of the many ways in which students are positioned within the HE data landscape: as representatives; stakeholders; consumers; teachers; evaluators and informants; partners; storytellers; and change-agent (Trowler et al, 2018), this Guide will actively seek to disrupt the more limited notions of metrification of the student experience. It will highlight a range of evidence-informed approaches that can both empower student-led decision-making and also inform institutions of how to work more effectively with their students as collaborators for positive change.

Who is this Guide for?

This Guide is written for students - undergraduate and postgraduate - enrolled in systems of academic representation, or as other institutional agents, involved in processes such as:

- institutional (university and students' association/union) research and evaluation projects
- formal or ad hoc academic committees and student voice mechanisms
- developing and maintaining students' association/union representative structures and services as Student Representatives or Sabbatical Officers
- internal and external quality assurance and enhancement processes (e.g. course validation and ELIR narratives)
- sector-level initiatives and projects (e.g. Enhancement Themes).

Additionally, this Guide will be useful to students and students' association/union staff who:

- are considering their engagement in such processes, who wish to find out more about what good practice 'evidence-informed' collaboration can look like and achieve
- want to influence their representatives/student voice mechanisms to help their institutions to use evidence more effectively
- are involved, or interested, in academic governance, who would find it beneficial to consider contrasting perspectives which go beyond established convention
- want to access or generate institutionally relevant data for dissertations.

There are also developmental outcomes for students, students' associations/unions and institutions which follow from engaging with this Guide. These outcomes emerge from supporting the leadership and positionality of students as 'agents of the data landscape', including enabling:

- students embarking on organisational change (strategic and political)
- personal and professional development of students (evidence of higher-level skills for employability)
- development of students critical thinking approaches to enable challenge at all levels.

This Guide will also be of use to staff members who may be engaging in data use in higher education and those supporting students through training (e.g. Academic Representation Coordinators).

How should this Guide be used?

This Guide is designed in a series of eight sections which can be used individually or as a whole, dependent on previous knowledge and skills.

Each section includes content, activities and case studies to help develop your learning and encourage you to think critically about the content and its application. The aims of each section, along with the techniques to extend and apply your learning are outlined at the beginning of each section. A summary of each section called Evidence Essentials is provided towards the end.

There is an accompanying appendix with a glossary that explains the key terms that are highlighted in bold throughout the Guide. You will also find references and further resources, quiz answers and a 'Case Studies Revisited' section, which provide additional support.

Section 8 summarises key aspects of the Guide and will make the most sense when accessed after all other sections have been considered.

1. Introduction to Evidence
2. Using Evidence
3. Types of Evidence
4. Thinking Critically about Evidence
5. Existing Data Sources
6. Collecting Data
7. Evidence of Evidence use
8. Evidence and Impact

References and further Reading

Daniel, B. (2015) Big Data and analytics in higher education: Opportunities and challenges, British Journal of Educational Technology 46 (5): pp 904–920.

Williamson, B. (2018) The Hidden architecture of higher education building a big data infrastructure for the 'smarter university', International Journal of Educational Technology in Higher Education 15 (12): pp 1–26.

SECTION 1: INTRODUCTION TO EVIDENCE

By the end of this section you will be able to define and apply data and evidence to various contexts within higher education.

To extend your learning, access the Digital Glossary in the Appendix to continue to define and apply key terms.

To apply your learning, review the case studies throughout the rest of this Guide to help you consider 'real life' examples associated with the content of this section and others.

What is data and evidence in higher education?

If you are starting to think about data and evidence use in your current role or project, access Section 2 for an overview of how evidence might be used in higher education. Section 3 will provide an overview of the types of data which could inform your decision making. Thinking critically about the evidence you use and how it is collected is important – Section 4 will guide you through the questions you should ask at the beginning of a project and those you should reflect on continuously.

What is data?

Data is information collected for a specific purpose, including **research** and **evaluation**.

A **method** is required to generate data.

These methods produce **quantitative** (numbers) or **qualitative** data (words/visuals).

Analysis is necessary to make sense of data or data only exists as numbers or words/visuals.

There are a variety of data sources in higher education which can be analysed to help you explore a topic area or identified problem (**secondary data analysis**). Section 5 provides detail of existing data sources which you may want to access. In contrast, you may want to collect your own data using a suitable methodology (**primary data collection**). Section 6 discusses how you can choose the best method and design your own data collection tools.

What is evidence?

Data **+** **Anaylsis** **=** **Evidence**

Evidence brings together the analysis of your chosen data to answer a specific question. More than one source of data can be analysed to produce evidence. **Triangulating** data can provide a more robust evidence base and can strengthen any conclusions you are making. This would include identifying any data gaps or outliers in the evidence.

Section 7 is designed to support you with the communication of your evidence and contains checklists and reflective questions to ask yourself in 'evidencing the evidence'. The final section – Section 8 – focuses on impact and ongoing action and is designed to summarise and utilise all the content and learning from the previous seven sections. It is highly recommended that all previous sections are completed before engaging with this section.

Evidence Essentials One

Collating evidence is not always a logical or linear process. Data sources may not neatly corroborate and may even contrast each other. To make sense of your data landscape, spend some time reflecting on the process and the outcome. Evidence can include notes of unintended outcomes of the research/evaluation and personal reflections of the researcher/s. Once a conclusion has been reached, it is also important to state any limitations in the evidence base.

References and further Reading

Creative Arts Cluster (2018) (Collaborative authorship: Gunn, V, Mackay, J, Schrag, A, O'Neill, S, Bennett, S, Miller Judd, P, Kanhye, R, Cambell, A and Sexon, S) Scoping the Creative Arts Territory in the Scottish Context: Teaching Enhancements, Evidence Development, and the Interconnections with the Cultural Ecology of Scotland. Glasgow: QAA Scotland.

Spence, C W (2019). 'Judgement' versus 'metrics' in higher education management. Higher Education, May 2019, 77(5): pp761–775.

Trowler, V, Trowler, P and Saunders, M (2018) Responding to Student Voice: Insights into international practice. Glasgow: QAA Scotland.

SECTION 2: USING EVIDENCE IN HIGHER EDUCATION

By the end of this section you will be able to outline the ways evidence can be used within an institution.

To extend your learning, begin to explore these functions within your own institution.

To apply your learning, review the case study to help you consider a 'real life' example associated to the content of this section.
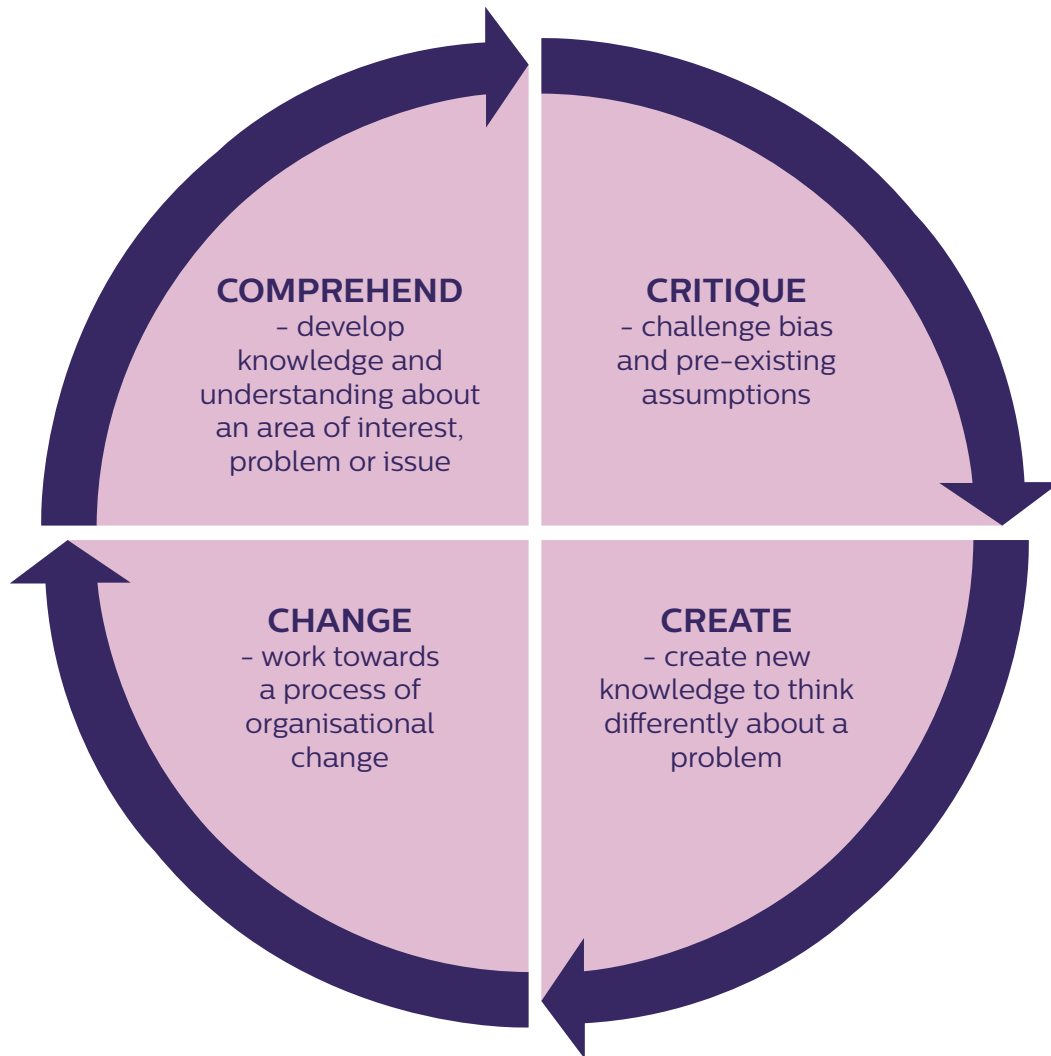
Why use evidence?

We use evidence every day to inform our thinking and to help us make decisions – consider the **data** gathered from customer photographs from restaurant visits, film critic's reviews and social media hashtags bringing together the views of so many on the latest television series.

We analyse these data sources and make judgements about those we value and those we might discount. We consider the views of others (the film is rated 5 stars, but your friend doesn't really like horror movies), and any limitations in the context/environment (the film is rated 5 stars, but it's only showing in a cinema 20 miles away). By doing this, we construct our **evidence base**, form an opinion, and are able to make **evidence-informed** decisions.

Within a complex organisation, like a university, there will be many reasons why it is important to use evidence. Indeed, in many circumstances, you be expected to engage with data and evidence. You could be engaging with data and evidence to:

COMPREHEND
– develop knowledge and understanding about an area of interest, problem or issue

CRITIQUE
– challenge bias and pre-existing assumptions

CHANGE
– work towards a process of organisational change

CREATE
– create new knowledge to think differently about a problem

Evidence Essentials Two

It is important not to assume that evidence gathered in one context using a specific methodology, will apply directly to another. Try to move from evidenced-based decisions to evidence-informed decisions to account for your own environment and limits of proportionality (Parsons, 2017). Proportionality realistically balances best practice against any limitations in time, resource and scalability.

When can evidence help you?

Here are a few examples of the ways evidence is used by students and students' association/union staff within higher education (adapted from NESTA, ND, 13).

Can you add in examples from your own institution? The first row has been completed as an illustration.

Use of evidence by students	Your example
To provide a rationale for an institutional research and evaluation project	Evidence: student response rate to SCEFs is often very low Project: Student Course Evaluation Form (SCEF): What Do Staff and Students Really Think About SCEF? Sandra Airio (Student Intern, University of Aberdeen); focus groups with students
To contribute an opinion within formal or ad hoc academic committees and/or student voice mechanisms	
To develop, maintain or review students' association representative structures and services	
To ensure that student voices are heard within internal and external quality assurance and enhancement processes	
To create effective campaigns and communications for the benefit of an identified student group	
To commission or decommission an intervention or service based on student need and/or value for money	
To develop a team or working group with a specific skill set to address an identified problem	
To design more effective programmes of activity to ensure success	

To apply your learning, review the case study below and answer the questions to help you consider a 'real life' example associated to the content of this section.

Mel, Student Welfare Officer at Algorithm University

Mel is a local Students' Association Officer leading a campaign about the creation of positive student mental health at Algorithm University.

Algorithm prides itself on having a sophisticated learner analytics programme which measures, collects, analyses and reports data about students and their contexts, for the purposes of understanding and optimising learning at Algorithm.

In a meeting with the University's Head of Student Wellbeing, Mel outlines some ideas concerning how a campaign could be developed and constructed in partnership with the University to: raise awareness of indicators of positive mental health, how to notice if personal mental wellbeing is being compromised, and how to find and access local support to enhance personal mental wellbeing.

In further discussion, the Head of Student Wellbeing surprises Mel by indicating that the learner analytics programme will automatically offer a comprehensive process of early alerting of students' needs with appropriate stakeholders. They suggest that any campaign should be constructed around this provision, into which considerable investment has been made, and urges Mel and the Students' Association to enthusiastically embrace supporting the learner analytics programme.

Mel feels slightly coerced by this interaction and rather sheepishly agrees to use the learner analytics programme as the central strand of the campaign. The Head of Student Welfare is delighted and asks Mel to be on the Learner Analytics Steering Group. They also state that it is really important that we don't duplicate effort unnecessarily by bamboozling our students with too many sources of information about particular wellbeing topics.

Mel leaves the meeting with a slightly uneasy feeling and some disappointment about the outcome but finds it very hard to rationalise why these feelings prevail.

Case Study Critique: Using Evidence in Higher Education

Consider the following questions and then see if you can reconstruct this case to have some improved outcomes for Mel. There is an alternative, refashioned version in Appendix A which provides one approach to providing an evidence-informed enhancement of this situation. Before accessing this alternative, see if you can do any better.

- What are your immediate thoughts about the case study? Why does Mel feel uncomfortable?
- How much knowledge do Mel and the Head of Student Wellbeing appear to have about each other's contexts in this interaction?
- What assumptions have you made about the meeting? In the meeting, what assumptions did Mel and the Head of Student Wellbeing display?
- What evidence was used by both parties to evaluate the scope of the campaign? Were any evidence sources used judiciously to aid understanding?
- How can Mel learn from the experience in order to examine ways of ensuring that ideas are translated into effective action?

Notes

References and further Reading

JISC (2018) Code of Practice for Learning Analytics
www.jisc.ac.uk/guides/code-of-practice-for-learning-analytics

NESTA (ND) Using Research Evidence: A Practice Guide, National Endowment for Science, Technology and the Arts
www.nesta.org.uk/toolkit/using-research-evidence-practice-guide

Office for Students (OfS) (2018) Mental health and wellbeing: a priority
www.officeforstudents.org.uk/news-blog-and-events/our-news-and-blog/mental-health-and-wellbeing-a-priority

Parsons, D (2017) Demystifying Evaluation, Bristol: Policy Press.
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www.enhancementthemes.ac.uk/en/current-enhancement-theme/optimising-existing-evidence/webinar-series

Sobe, N W (2018) Problematizing Comparison in a Post-Exploration Age: Big Data, Educational Knowledge, and the Art of Criss-Crossing Comparative Education Review, 62 (3): pp325-343.

Student Minds UK (2019) The University Mental Health Charter
www.studentminds.org.uk/charter.html

Universities UK (UUK) (2015) Student mental wellbeing in higher education: Good practice guide
www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2015/student-mental-wellbeing-in-he.pdf

Digital glossary for this section

Data   **Evidence Base**

SECTION 3: TYPES OF EVIDENCE IN HIGHER EDUCATION

By the end of this section you will be able to describe the content of different types of evidence base.

To extend your learning, complete the data hierarchy pyramid by reflecting on types of data used in your own context, current/new role.

To apply your learning, review the case study to help you consider a 'real life' example associated to the content of this section.

What type of evidence base do you need?

The evidence base you require will depend on the question you want to answer, the way you want to answer it, how you want to present that answer, and the time and resources you have. There are benefits and challenges of choosing **quantitative** or **qualitative** data for your **evidence base,** which you should acknowledge before you start. You should also scope out your intended audience and assess whether any source of **data** is restricted within a given period.

Quantitative data

Quantitative data is expressed numerically and has been generated using a structured and rigid data collection method. This means that the focus of the questions and the units for analysis have been prescribed by the researcher (e.g. closed questions in a survey) or an information management system (e.g. official student records data). The aim of quantitative data is to quantify variability in a large **sample** and look for patterns, trends over time, **correlations** and sometimes **causality** and **generalisability** to a population through statistical analysis. If you use quantitative data, it might look like this:

Course	Overall satisfaction	1 year trend	4 year trend	2018 Rank & relative position	2017
Course A	99%	15%		22/73	⬆ 4
Course B	97%	-4%		36/56	➡ 0
Course C	96%	18%		18/30	➡ 0
Course D	95%	11%		41/55	⬆ 3
Course E	93%	8%		13/35	➡ 0
Course F	93%	2%		12/71	➡ 0
Course G	92%	6%		22/74	➡ 0
Course H	83%	5%		6/18	⬇ -1

If you have an evidence base that contains only quantitative data....

You should have evidence from a large number of subjects with numerical data that describes their characteristics, attitudes or behaviours, which you can analyse to address the aims of your inquiry. Using a range of techniques, you can clearly focus on relevant data. This data has been collected relatively quickly, even with limited resources. Before analysing the data you will likely have constructed an evidence-informed **hypothesis** and considered how this would be tested. The evidence used to construct the hypothesis did not include the data you are using to test it, minimising the risk of bias (such as **confirmation bias**) in your results.

You can analyse quantitative data in a variety of ways depending on the questions you are asking and the needs of your intended audience. You can present the data in visually appealing charts and graphs to highlight key messages. It is now common to present data in eye-catching and often very effective visualisations and infographics. You can also provide findings such as '83% of students on Course H were satisfied with their course in 2018, which was a 5% increase from the previous year'. Using this numerical data alone, you would be unable to provide any in-depth conclusions for why satisfaction had increased but remains below the institutional Key Performance Indicators (KPI) – that's why it's red – and declining against sector competitors. Without observing behaviour, you are also relying on students self-reporting satisfaction and, in this case, memory recall over a three-year period.

> What other questions remain unanswered by this evidence? Make some initial notes here to reflect on at a later date.

Qualitative data

Qualitative data relies on the interpretation of words and visual information by the researcher. The data collection is more flexible and allows participants to add value to the data by directing the content. Qualitative data can be words (e.g. from an interview, focus group or a written document) or visuals (e.g. a photograph or artwork). Sample sizes are often small and a lack of generalisability is defensible. Rather, the intention is to create a rich interpretation of emotions and perceptions, often including reflections over a period of time. Your data might look like this:

> Person A: I really hate the feedback grids we use in this module, with yellow highlighter all over them.
>
> Person B: I agree, they're confusing and you can't really relate it to your own work. I never really know what the marker is looking for.

If you have an evidence base that contains only qualitative data....

It will normally take longer to collect and analyse this data, but you will gain a deeper understanding of the experiences of your participants and understand the challenges and opportunities they face. You have focused on enhancing the experience of a small group, rather than the entire student population, and you are clear to state the limitations of relating the findings all students at the institution. If you have the time and resource you should analyse the data with another researcher who could provide additional interpretations to help build conclusions, noting that it may be difficult to find a consensus. You have also generated some findings which were unexpected. If you had conducted a survey, your closed questions would not have allowed this information to surface. You were able to present findings such as:
'The researcher noted that the majority of the focus group participants reacted much more negatively to the processes used to administer feedback, rather than the time taken to return it'.

What other questions remain unanswered by this evidence? Make some initial notes here to reflect on a later date.
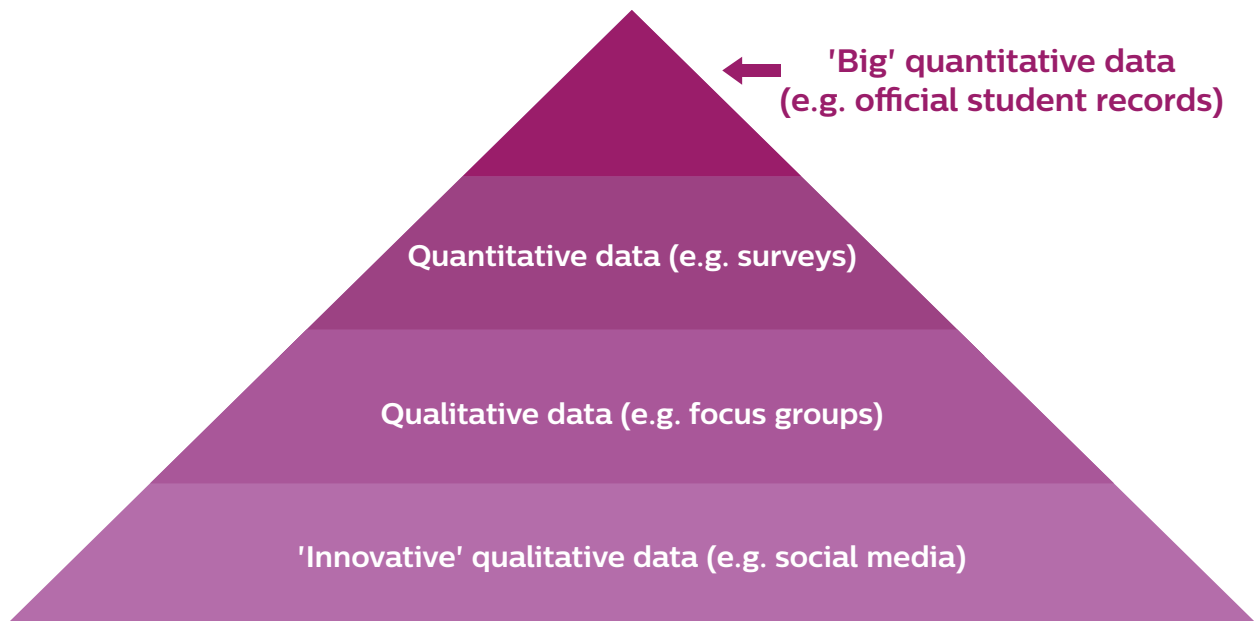
Analysing quantitative and qualitative survey data

The table below shows some of the key differences between qualitative and quantitative data by exploring how they compare when used in surveys.

Quantitative Survey Data	Qualitative Survey Data
Can tell you what your respondents are doing	Can tell you why your respondents are doing it
Will ask questions that have pre-determined answers designed by the researcher (**closed questions**)	Will ask questions which allow the respondent to add their own comments (**open questions**)
Will have a limited number of possible answers	Can offer additional answers by adding comments via an 'Other' response option
Answers (variables) become units of measurement and are analysed numerically, for example frequency counts, averages or measures of dispertion (range of lowest and highest nummerical scores)	Answers are analysed by reading written comments from all respondents and grouping them into themes
Results for each variable can be presented in charts or tables or analysed together to show relationships between variables	Results can be described as key themes with quotes taken from respondents to help illustrate key points. Qualitative data can also be analysed quantitatively (content analysis – a frequency count of key words or phrases)
Findings can be biased by the way the researcher has designed the questions and possible answers	Findings can be biased during the interpretation of the written answers

Exploring the dominant data hierarchy for evidence–informed decision making in higher education

Often resources are focused on the observable and 'easy to measure'. Quantitative data is sometimes viewed as evidence of the 'truth' and given greater weight than other forms of data. You may hear comments about 'hard' (quantitative) and 'soft' (qualitative) evidence within your institution. Often in higher education policy making and planning, large scale quantitative data sits at the top of the data hierarchy. This infographic provides more information so you are able to challenge – see 'data fallacies' or more information. Now consider the diagram below and whether you have experienced this in your role.

'Big' quantitative data (e.g. official student records)

Quantitative data (e.g. surveys)

Qualitative data (e.g. focus groups)

'Innovative' qualitative data (e.g. social media)

What types of data dominate in your context?
Can you create your own hierarchy that you can then aim to disrupt?
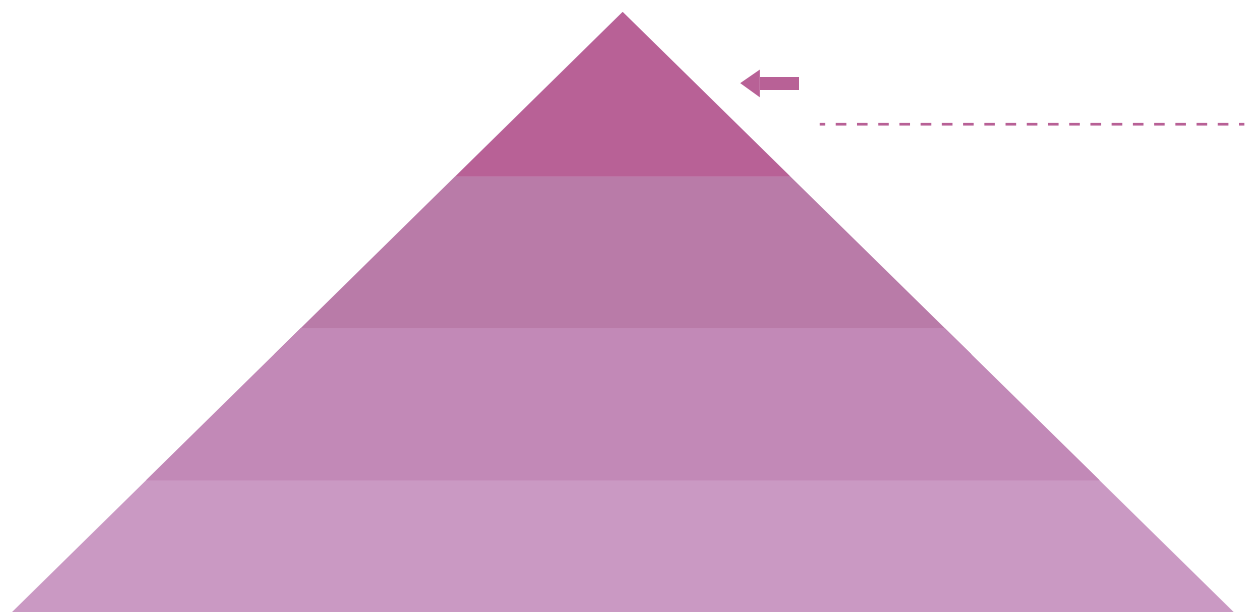
What evidence is often overlooked?

There are a wide range of possible sources of evidence available to you, and as the previous exercise shows, many of these sources are easily overlooked. The table below shows some types of evidence which are often overlooked and some questions for you to think about.
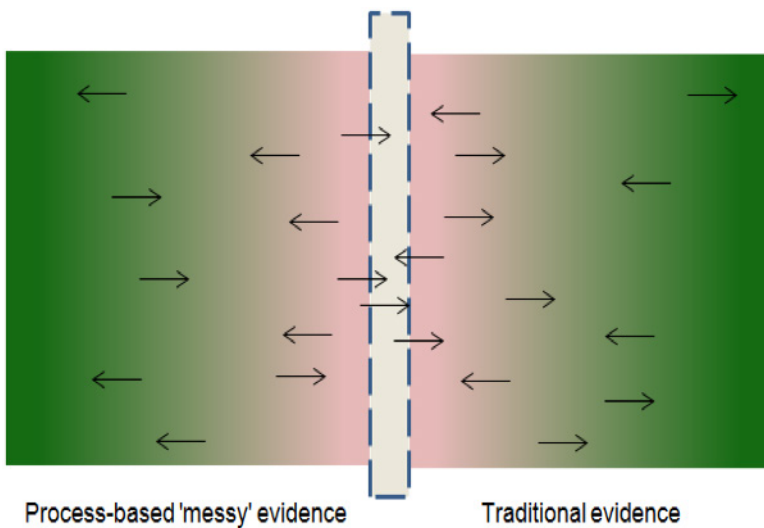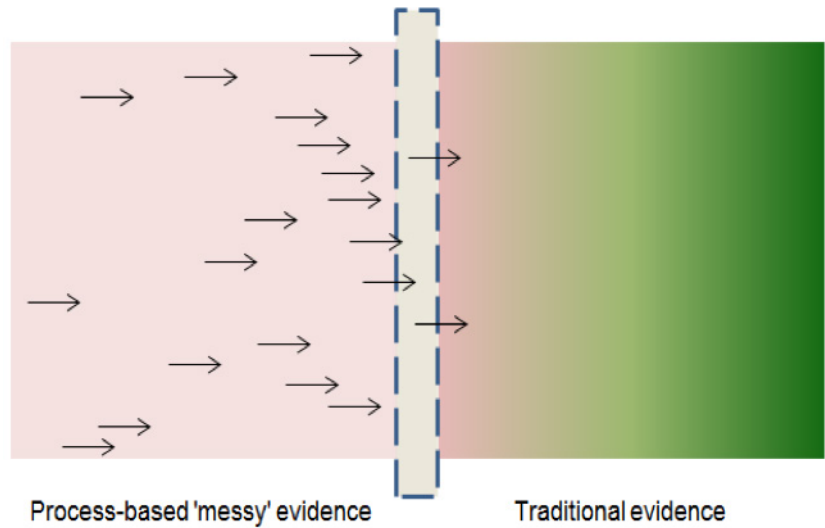
Evidence	Challenge questions
Innovative	What's written on your toilet walls and on social media? How could you make use of this feedback?
Anecdotal 'in the moment' reflections	How do you capture the end of lecture conversations?
Documentary sources	Can you systematically analyse meeting minutes, strategy documents and external examiner reports? Where is this data stored? How would you access this?
Evidence collected for a different purpose	Can you find out what had been done before and whether there is permissions to share? Do you have a repository for reports, papers and data?
Evidence of failure	Lack of success is often underreported, but what are the lessons learned?
Unintended outcomes and researcher reflections	What else happened as a result of this research/evaluation?
Process based	Are you only interested in the outcome, what about how you got there?

Evidence osmosis

A more productive way of considering types of evidence might be to imagine how we can use what have often been viewed as less traditional approaches in gathering evidence. Take a look at the following diagrams. You will see how closed thinking in 'The Norm' below limits how organisations can change for the better if resistant to new forms of evidence and ideas, i.e. only a few ideas get through, if any. Contrast that with 'The Future?' diagram in which more open-mindedness about what counts as evidence shows how valuing lots of approaches can lead to useful change.

The Norm

- Limited routes for 'messy' evidence
- Minimal absorption into traditional approaches and practices
- No permeability of the traditional within process-based forms of evidence
- Minimal changes to saturation density, i.e. nothing changes.

Process-based 'messy' evidence   Traditional evidence

Process-based 'messy' evidence   Traditional evidence

The Future?

- Fusion of process-based and traditional evidence approaches
- Possible absorption and valuing of lots of approaches
- Fully permeable
- Equalising of saturation density resulting in much learning and progress.

Case Study: Types of Evidence

To apply your learning, review the case study below and answer the questions to help you consider a 'real life' example associated to the content of this section.

Vic, Departmental Student Rep at the University of Enlightenment

Vic is a new Departmental Student Rep at the University of Enlightenment and has a keen interest in ensuring that the opinions of students who don't often get heard are surfaced. In preparation for the new role, Vic attends the Student Rep training offered by the University which focuses on 'Student Voice' mechanisms.

To Vic's dismay, this appears to be focused solely on the Reps' role in getting students to complete the annual Student Voice Survey (SVS) which is a lengthy quantitative survey offered to all non-final year undergraduate students in February, or the National Student Survey (NSS) for final years. The SVS has a very low response rate, normally averaging 15–17% but this is still seen as a good thing to encourage students to complete as it mirrors questions asked in the later NSS.

In the training Vic tentatively raises some of these concerns with the University's Head of Student Engagement, who listens sympathetically but tells Vic that as Enlightenment is a very traditional university, it tends to focus on robust quantifiable mechanisms that have credibility with our staff and with the majority of our students.

Further on in the training, Vic tries to raise these misgivings with other Reps to gauge their opinions. In discussion, Vic is surprised to find that all of the Departmental Reps present are full-time undergraduate students and all, except two, come from subjects grounded primarily in quantitative analysis.

Vic leaves the session as a 'fully trained Departmental Rep' but feels dissatisfied and inadequately equipped to challenge this Student Voice approach with either peers or with the Head of Student Engagement.

Case Study Critique: Types of Evidence

Consider the following questions and then see if you can reconstruct this case to have some improved outcomes for Vic. There is an alternative, refashioned version in Appendix A which provides one approach to providing an evidence-informed enhancement of this situation. Before accessing this alternative, see if you can do any better.

- What are your immediate thoughts about the case study situation? Why does Vic feel dissatisfied?
- How much knowledge did Vic and the Head of Student Engagement appear to have about each other's contexts in this interaction?
- What is the dominant discourse about Student Voice in the University?
- Should this be challenged, and if so, how?
- What assumptions have you made about the Departmental Student Reps training?
- In the interactions between Vic and the other Reps, what assumptions were prominent?

Notes

References and Further Reading

Bransby, T (2018) Data Fallacies to Avoid: An Illustrated Collection of Mistakes People Often Make When Analyzing Data, Data Science Central www.datasciencecentral.com/profiles/blogs/data-falla-cies-to-avoid-an-illustrated-collection-of-mistakes

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sparqs, Education Scotland, The Higher Education Academy Scotland, NUS Scotland, Quality Assurance Agency Scotland, Scotland's Colleges, Scottish Funding Council, Universities Scotland (2012) A Student Engagement Framework for Scotland www.sparqs.ac.uk/upfiles/SEFScotland.pdf

Digital glossary for this section

Causality

Confirmation Bias

Correlation

Data

Evidence Base

Generalisability

Hypothesis

Quantitative

Qualitative

Questions

Sample

SECTION 4: THINKING CRITICALLY ABOUT EVIDENCE IN HIGHER EDUCATION

By the end of this section you will be able to ask critical questions of your evidence base.

To extend your learning, complete an information sheet which clearly and concisely outlines the scope of your project.

To apply your learning, review the case study to help you consider a 'real life' example associated to the content of this section.

How critical are you?

If you can, take some time to think about your own **critical thinking** before you apply this to your evidence base. Explore the 10 statements below which argue a particular position.
Do these sentences make sense? Please discuss – which are true, false or contested?
You can find possible answers and a critical rationale explaining the reasons for those answers at the end of this section. Have a go first!

Statement	True	False	Don't know
1. Students eat fruit. Vegetarians also eat fruit. All students are therefore vegetarian.			
2. I know that I can give 110% to this assessment task.			
3. This course contains some small-scale exams but really it is virtually exam-free.			
4. All Students' Association hoodies are grey until you see a red one.			
5. In a previous life, I would have studied law.			
6. All students want to be satisfied. When they are dissatisfied it is because they have either a) not understood what really makes them satisfied or b) they are just unwilling to look at situations positively.			
7. Charging students fees for higher education is morally unacceptable as a recent poll shows that 54% of the UK population thinks so.			
8. Dr Know-All is a Nobel prize-winning scientist who insists that learning quantum mechanics is not that difficult, if students' learning is scaffolded appropriately. That's easy for her to say as she is obviously gifted, so you should pay no attention to her ideas.			
9. An unemployed careers advisor gave me advice on how to get a job. As if I am going to take any notice of their opinion!			
10. Always telling the truth with your friendship group is the right thing to do as people have a right to total honesty.			

What critical questions should you ask of evidence?

Do you have an evidence-informed rationale for your project?

Do you have a question which your evidence will aim to answer?

Have you assessed the politics and governance of your project and the potential for conflict of interest, bias or restricted access to data sources?

Do you need formal ethical approval for your project?

Have you been strategic about your design, accepting any restrictions on your time and capacity?

Can you outline the strengths and limitations of your methods and/or the methods used by others?

Can you defend the appropriateness, accuracy and quality of your findings?

Have you attempted to triangulate your findings with others sources of data to generate your evidence base, including those used in your rationale?

The following content and resources might help you to answer some of these questions.

Ethical dilemmas

It is important to ask ethical questions of your proposed project at the beginning of the process. This applies to projects which are accessing secondary sources or **collecting primary data**.

If you are collecting primary data with **research participants** you will need a clear information sheet and a consent form that can be signed and returned. Writing an information sheet is a good way of re-phrasing and simplifying your ideas for a more general audience.

If you are using data collected by others you should attempt to find out how ethical practice was ensured during data collection. You can use the following templates to guide you:

What should you be asking yourself?	What should you have in your information sheet?	
Have research participants provided **informed consent** to have their **data** analysed for this purpose?	What's this about?	We would like to work with you to …
	What will happen?	We will ask you to …
	How long will it take?	Data collection will take …
	Consent	If you agree to these conditions, please complete and return the attached consent form
Do research participants understand the rationale and process involved, including how their data will be used and the boundaries of **confidentiality** and **anonymity**? Have you provided research participants with a time bound right to withdraw?	Your rights	You do not have to discuss anything that you feel uncomfortable with. You will remain anonymous/your data will be anonymised by … You do not have to take part in this project, the process is entirely voluntary and you can withdraw from it within [add time limit] of data collection without giving us an explanation
Are you **GDPR** compliant in relation privacy and data storage?		In line with new Guidelines for Data Protection Regulation, this research adheres to the Privacy Notice to Research Participants which can be accessed [insert link]
Have you fully considered and mitigated for any possible harm that could arise from participation in this research?	Risks?	You may find discussing some of your experiences upsetting, and if you wish to withdraw from the data collection you can do so at any point without giving a reason why. Staff will be able to signpost you onto necessary support services, or access the links below [insert link]
Are you offering any incentives for participation?	Benefits?	In return for your participation we will be offering …..
How can participants contact the research team for queries and concerns?	For further information	For further information or to ask any questions regarding this project please contact [insert name and contact details]
How are participants ensured of ethical scrutiny?		All university research is reviewed to ensure that participants are treated appropriately and their rights respected. This study was approved by [insert committee], number [insert reference number]. Further information at [insert link]

|	Yes	No
1. I have read the Information Sheet for this study and have had details of the study explained to me.		
2. My questions about the study have been answered to my satisfaction and I understand that I may ask further questions at any point.		
3. I understand that I am free to withdraw from the study within the time limits outlined in the Information Sheet, without giving a reason for my withdrawal without any consequences.		
4. I wish to participate in the study under the conditions set out in the Information Sheet.		
5. I consent to my anonymised data/data anonymised once analysed [delete as appropriate] being used as follows: a) shared with _____ b) viewed by _____ c) used for _____		

Here is some useful further reading on ethics in higher education research:

Code of Practice for Learning Analytics – using student data as a basis for action/intervention
www.jisc.ac.uk/guides/code-of-practice-for-learning-analytics

Ethical Guidelines for Educational Research
www.bera.ac.uk/researchers-resources/publications/ethical-guidelines-for-educational-research-2018

The Research Ethics Guidebook: A Guide for Social Scientists
www.ethicsguidebook.ac.uk

Institutional Research and Evaluation Typology – conditions for formal ethical approval
wonkhe.com/blogs/it-aint-what-we-do-its-the-way-that-we-do-it-researching-student-voices
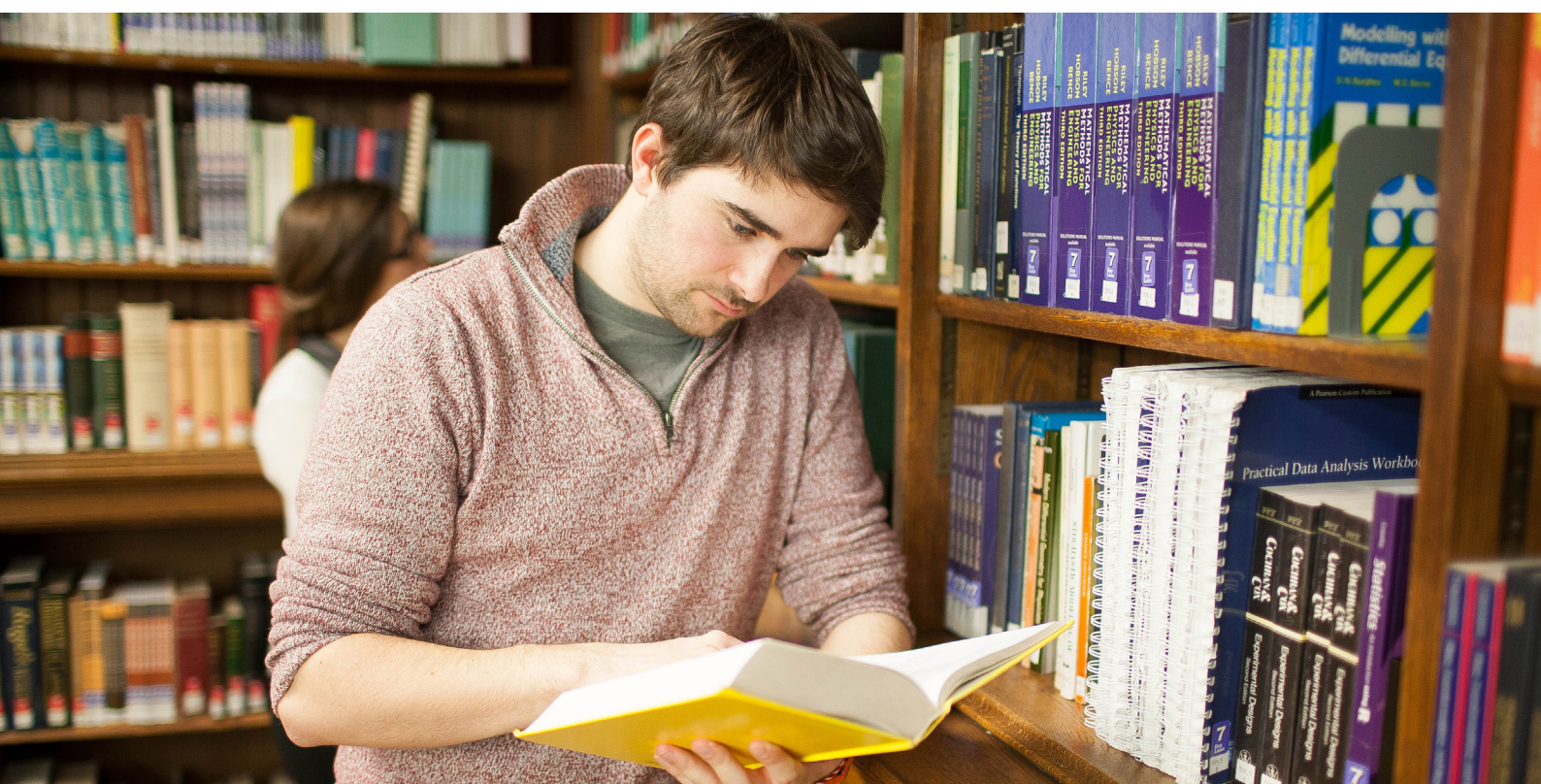
Factors affecting the validity and reliability/trustworthiness and authenticity of evidence

It is important to ask ethical questions of your proposed project at the beginning. If you are collecting your own data it is important to consider the factors that may affect your ability to report your findings with confidence. If you are using data collected by others, you will be unable to change the inherited design and your appraisal will determine whether the identified data becomes part of your evidence base.[1]

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1. Problem: The research instrument is not measuring what it was designed to measure as the questions are not aligned to the objectives of the project.

Example:	Your aim was to find out about academic *writing needs* but the questionnaire is finding out what *attitudes respondents have to library services*.
Considerations:	Develop an adequate evidence base to help design the instrument and if possible, test it via a **pilot study**. Remember that these can be subjective judgements about definitions, constructs and measures; there is no 'right' approach only a 'defensible' approach which shows that action has been taken to mitigate risk. Sometimes a funder, sponsor or **gatekeeper** will ask for questions to be added to a questionnaire for other purposes. In these circumstances you will need to balance methodological rigour with the feasibility of the project's success. If the data is from a secondary source (not collected by you as researcher), consider whether it is appropriate to use.

---

2. Problem: The quality of the data gathered across five focus groups is variable.

Example:	A research team of five Student Representatives each conduct a focus group with students on their course to discuss the use of their Virtual Learning Environment. Some focus groups last 15 minutes and some last for 45 minutes.
Considerations:	The physical setting, participant mood, interviewer mood, confidence, skills and presentation, group dynamics and incentives can all affect the reliability of data collection. To mitigate, pilot the data collection process as a research team, attempt to ensure some consistency, and keep reflective diaries which describe any factors affecting the set and setting which can be reported alongside your findings.

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1   Some of the following has been adapted from Kumar (2011: p182)

3. Problem: The researcher is unsure whether the data collected in an interview can be trusted.

Example:

During a series of 10 interviews with Programme Leaders about the importance of work experience for students, one participant stood out as contradicting the collective view of the others.

Considerations:

Not all data will lead you to the same conclusion. You could explore the reason for this difference of opinion in more detail (was it caused by the research process – see Problem 2 – or something else?). You may conclude that this participant is an outlier. You could also actively explore the trustworthiness of the data by reviewing and confirming the transcript with the respondent and triangulating the data with other sources.

Have you had an experience like this? What questions did you ask and what decision did you make?

Evidence Essentials Four

Critical thinking will develop alongside your confidence at navigating the data landscape. You will be required to make some tough decisions about what you can realistically achieve. You will need to scrutinise processes and defend your judgements. You will need to assess best practice and modify for your own context. Be open and honest in sharing what's worked and what hasn't. This will help those students who begin this journey after you.

How critical are you? Some possible answers. What do you think?

Statement	True	False	Don't know
1. Students eat fruit. Vegetarians also eat fruit. All students are therefore vegetarian. This is a spurious association. The wrong connection is made between two independent phenomena. Students' dietary choices are not governed by those who are vegetarian.		X	
2. I know that I can give 110% to this assessment task. This is inaccurate logic. By its very definition, '100%' is a finite and absolute entity, therefore it cannot be extended. There is a possible argument for using an over-extended absolute (in this case 110%) which, although illogical, is being used euphemistically to exaggerate the point.		X	
3. This course contains some small-scale exams but really it is virtually exam-free. This is limited absolutism – it misses the point. The language used here doesn't help. If the course contains exams, it can't be 'exam free', virtually or otherwise.		X	
4. All Students' Association hoodies are grey until you see a red one. This is false empiricism. Just because you have observed something consistently within your own context, this doesn't mean that alternatives don't exist elsewhere which then make the statement invalid.		X	
5. In a previous life, I would have studied law. This is false hindsight. You can't know what would have happened retrospectively as all kinds of contexts might have affected decisions made at the time.		X	
6. All students want to be satisfied. When they are dissatisfied it is because they have either a) not understood what really makes them satisfied or b) they are just unwilling to look at situations positively. These are inaccurate assumptions and inferences. The problem here concerns the assumption that all students want to be satisfied. In this statement, 'satisfied' is treated as a unitary concept, i.e. one which has the same meaning for all, yet we have no idea whether this is the case beyond speculation. Therefore the inference (a conclusion reached on the basis of evidence and reasoning) is also speculative and potentially inaccurate.		X	
7. Charging students fees for higher education is morally unacceptable as a recent poll shows that 54% of the UK population thinks so. This is an Ad populum fallacy (meaning 'appeal to the people'). Using the idea of the greatest number agreeing in order to justify an opinion does not necessarily make the opinion more accurate.		X	
8. Dr Know-All is a Nobel prize-winning scientist who insists that learning quantum mechanics is not that difficult, if students' learning is scaffolded appropriately. That's easy for her to say as she is obviously gifted, so you should pay no attention to her ideas. This is an Ad hominem fallacy (meaning 'to the man' or personalising the argument). This way of thinking mixes up assumptions about evidence that are known (i.e. Dr Know-All is uncontestably a Nobel prize holder) with evidence that is really opinion about the person dressed as 'fact' (i.e. personal qualities that Dr Know-All may, or may not, have).		X	
9. An unemployed careers advisor gave me advice on how to get a job. As if I am going to take any notice of their opinion! This is a Tu quoque fallacy (meaning 'you too' or turning the critique back against the proposer). Confusion displayed here about the personal status and context of an individual and their ability to be able to act in a professional capacity to offer appropriate advice.		X	
10. Always telling the truth with your friendship group is the right thing to do as people have a right to total honesty. This is equivocation (ambiguous meaning(s) or specifically relating to misinterpretation of words). Mix up between rights conferred in law (e.g. human rights) and the right moral action to take, which in this case is really about meeting desirable behaviours and expectations.		X	

To apply your learning, review the case study below and answer the questions to help you consider a 'real life' example associated to the content of this section.

Drew, President of the Students' Association at Nudge University

Drew, the newly-elected President of the Students' Association, has been invited to meet with Chris, the Director of Learning and Teaching Enhancement at Nudge. Chris has called the meeting to ensure that the Students' Association is 'on board' with the newly proposed learner analytics framework, an outline of which will be presented at the forthcoming University Court.

At the one-to-one meeting, Chris appears very excited about the proposed framework saying that if implemented, it will provide Nudge with a step change process for understanding about our more vulnerable students and allow us to intervene early in offering appropriate skills development and monitoring of specific student demographics.

Drew feels somewhat uneasy about these ideas but can't immediately articulate why. The meeting continues.

Chris discusses managing the proposal at Court and how it would be great if this could be a joint presentation between the University and Students' Association, especially as it would be much easier to get their approval if this has resulted from some partnership working between us around learner analytics.

A draft paper is then given to Drew and Chris outlines some sections in which the Students' Association could lead the discussion at Court.

For the final part of the meeting, Chris leads on the production of a presentation for Court, drawing on elements within the paper. Drew is invited to comment whilst Chris begins to edit the key points into a coherent set of slides.

Chris is thrilled that this co-created paper will be presented at Court. As Chris has to go to another meeting and needs to lock the office, they agree that Chris will finish the materials in due course and send to Drew for any further minor amendments.

As they leave Chris's office, Drew feels bamboozled by this interaction but has neither the time nor confidence to challenge what has just occurred in the meeting as they hurry off.

Consider the following questions and then see if you can reconstruct this case to have some improved outcomes for Drew. There is an alternative, refashioned version in Appendix A which provides one approach to producing an evidence informed enhancement of this situation. Before accessing this alternative, see if you can do any better.

- What are your immediate thoughts about this case study? Why does Drew feel bamboozled?

- How could Drew have prepared more effectively for this interaction?

- What are Chris's assumptions about a) the use of learner analytics as a robust form of evidence? and b) the role of the Students' Association in this interaction?

- Should this be challenged, and if so, how and by whom?

- How could Drew have manipulated the obvious power dynamics within this situation more positively?

- What could Drew now do, post-meeting, to take back some control?

References and Further Reading

JISC (2018) Code of Practice for Learning Analytics
www.jisc.ac.uk/guides/code-of-practice-for-learning-analytics

Katsomitros, A (2017) Big data – disruptive, distracting or adding value? London: Leadership Foundation for Higher Education.

Lumby, J (2015) In the wings and backstage: exploring the micropolitics of leadership in higher education London: Leadership Foundation for Higher Education.

sparqs (ND) Supporting Students
www.sparqs.ac.uk/support-students.php

sparqs, Education Scotland, The Higher Education Academy Scotland, NUS Scotland, Quality Assurance Agency Scotland, Scotland's Colleges, Scottish Funding Council, Universities Scotland (2012) A Student Engagement Framework for Scotland
www.sparqs.ac.uk/upfiles/SEFScotland.pdf

Tan, E R, Murray, M R and Loughlin, E (2019) Who's asking? An alternative methodology for engaging students in evaluation exercises Student Engagement in Higher Education Journal 2(2): pp29–46.

Digital glossary for this section

Anonymity	**Gatekeeper**	**Pilot**
Confidentiality	**GDPR**	**Validity/Reliability**
Critical thinking	**Informed Consent**	**Authenticity/Trustworthiness**
Data	**Research**	

SECTION 5: EXISTING DATA SOURCES IN HIGHER EDUCATION

By the end of this section you will be able to describe the sources of data which currently exist in higher education.

To extend your learning, complete the mapping activity of data sources which exist within your institution.
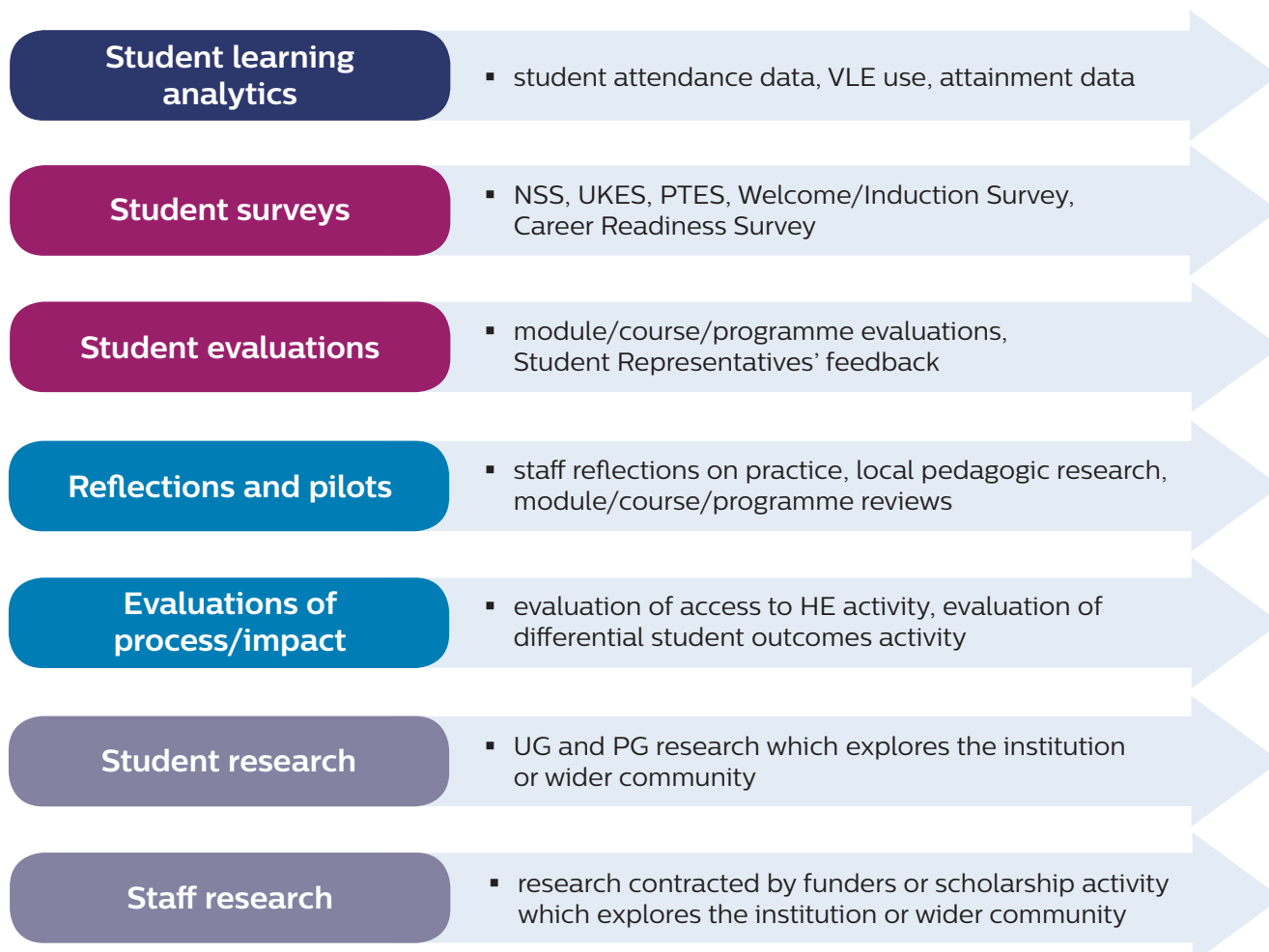
To apply your learning, review the case study to help you consider a 'real life' example associated to the content of this section.

Where can you find existing data?

Secondary data analysis allows researchers to use **data** which they have not collected themselves but will help answer their research question. It is useful to explore what secondary (existing) sources are available to you before you embark on any new **(primary) data collection**. This could save you time and resources, provide some insight into previous findings, add to your rationale for conducting your project, or provide sources which can eventually be **triangulated**.

The diagram below provides an overview of the type of **research** and **evaluation** which takes place within a higher education institution and examples of existing data sources which may exist (Austen 2018, 2019).

Student learning analytics	▪ student attendance data, VLE use, attainment data
Student surveys	▪ NSS, UKES, PTES, Welcome/Induction Survey, Career Readiness Survey
Student evaluations	▪ module/course/programme evaluations, Student Representatives' feedback
Reflections and pilots	▪ staff reflections on practice, local pedagogic research, module/course/programme reviews
Evaluations of process/impact	▪ evaluation of access to HE activity, evaluation of differential student outcomes activity
Student research	▪ UG and PG research which explores the institution or wider community
Staff research	▪ research contracted by funders or scholarship activity which explores the institution or wider community

When you engage with evidence, you should always ask yourself these critical questions:

WHY? Why was the data collected? The reason may be different to your own line of inquiry and this may create bias that you will need to acknowledge.

WHO? Who collected and now stores the data? You will need to explore whether they have permissions to share this with you for your intended purpose.

HOW? How was the data collected? The methodology and the sample will create some parameters for the analysis that you will need to work within.

WHAT? What are the limitations of the data? You will need to assess the inherited limitations of the secondary data source AND the limitations of carrying out your secondary data analysis.

To find out more about some of these data sources, and how they could be used, have a look at:

Sector data	HESA (Higher Education Statistical Agency): publish data on all aspects of the UK higher education sector
	Office for Students: provide advice and guidance on Teaching Excellence Framework data
	Unistats: compares UK higher education course data
Student analytics	JISC: includes guidance and services to explore data collection and analysis
	QAA Scotland webinar by Bart Rientes: The Power of Learning Analytics to Unpack Learning and Teaching: A Critical Perspective
Student Survey Data	HE Data Landscape Tool: 13 individual data guides on key data sources, collections and applications
	QAA Scotland webinar by Alex Buckley: Making Sense of Surveys

It will take some time to find out what data already exists within institutions, so build this into your project planning. If you are planning a project, complete the typology below and map out the existing data sources in your area of interest.

If you are not yet working on a project, choose a topic of interest or work through the illustrative example below:

Research question: Is the current academic timetable supporting a positive learning experience for students on Nursing courses?

Student learning analytics

Student surveys
- NSS Q16: "The timetable works efficiently for me" filter for BSC Nursing (Adult), BSC Nursing (Child)

Student evaluations

Reflections and pilots

Evaluations of process/impact

Student research

Staff research

Finding new secondary sources: thinking outside the (NSS) box

You should give some thought to where you might find useful evidence. Can you be creative, gather insightful data and save some time and resource? To make the most of the range of evidence available to you, you will need to think outside of the (NSS) box.

Sometimes data and evidence already exists… but it's not called data, or it hasn't been analysed in a way that allows you to easily add to your evidence base, or its isn't what you (or colleagues) would usually engage with.

For example, **qualitative** comments from documentary sources (such as a recent course or programme review) will not been collected for research purposes but can be rich secondary sources of data if you can find a way to gather and sort the information you need.

Always check you have permission for **analysis**. Section 4 discusses ethical considerations in more detail.

Consider the following examples and suggested further reading:

Data type	Such as...	Useful resources
Social media commentary	Student comments posted on Twitter or Instagram	Townsend L & Wallace, C University of Aberdeen: Social Media Research: A Guide to Ethics
Official documents	Minutes of meetings (e.g. staff/student committees led by Student Representatives, Students' Association forums) or external examiner reports	Coffey, A (2014) Analysing Documents in The SAGE Handbook of Qualitative Data Analysis
Student-led Teaching Award nominations	Student-led award nominations for teaching excellence or support	Lubicz-Nawrocka & Bunting (2019) Student perceptions of teaching excellence: an analysis of student-led teaching award nomination data, Teaching in Higher Education, 24:1, pp63–80 QAA Scotland, Feedback from Assessment project: Student-Led Teaching Award Nomination Data
Assessment	Using student assessment grades to show learning gain (impact)	Higher Education Pedagogies Journal, Learning Gain in Higher Education (2018, 3:1)

What other information could you access and use as data within your institution? (Make sure you ask yourself the 'Why? Who? How? What?' questions above for these new secondary sources of data.)

You may decide that your **analysis** of these secondary sources provides enough evidence for decision making...

But... you may now realise that more data is required to explore an area in detail or to access voices within the populations which are not currently represented. Section 6 discusses collecting new data.

Case Study: Thinking Existing Evidence

To apply your learning, review the case study below and answer the questions to help you consider a 'real life' example associated to the content of this section.

Alex and Taylor, student complainants, University of Datadwelling

Alex and Taylor have complained anecdotally to their Class Rep about a specific module they both sat recently on their programme. They believe it was too difficult to understand. They feel that the tutor, who is also the Programme Leader, marks too harshly and that the module content and delivery was significantly different to what they have experienced elsewhere on the programme.

They asked the Class Rep to raise these issues on their behalf before the module was considered at the Departmental Assessment Board. They didn't feel empowered to discuss this directly with the Programme Leader, so the Class Rep drew attention to their complaint with some trusted tutors prior to the Board.

Information that went to the Board included: numbers of students enrolled on the module; first-time pass rates; spread of attainment by classification; and an external examiner's report. There was also a set of qualitative information that could be gleaned from the standard module evaluation questionnaires.

Module metrics presented at the Board aligned with other modules on the programme at the same level. For example, 62% of students on this module obtained 60% or more as an overall average which was broadly consistent with other programme modules. There was a 3% failure rate, but that was accounted for by students failing to complete both of the two compulsory assessment tasks.

The external examiner fed back that the marking process was in line with the validated description, and was consistent with standards attained in similar modules at other institutions.

The external examiner also praised the intellectual challenge posed by the module and by the well-designed assessment elements that focused on learning and development rather than on tick-box approaches to meeting criteria on assessment grids.

At the Board, the trusted tutors raised the issue of the informal complaint received from the two students through the advocacy role of the Class Rep. Whilst preserving the complainants' anonymity, they did confirm that neither student needed to retake the module as a consequence.

In light of the metrics, external examiner feedback, that the students had both passed, and that their concerns had not been raised within the module process, the complaint was disregarded.

Following the Board, the Programme Leader expressed dissatisfaction with the way the complaint had been aired and was upset that the students didn't feel able to discuss this beforehand.

Despite pressure, the trusted tutors resisted naming the students concerned to the Programme Leader and they relayed the Board's decision to the Class Rep who then notified Alex and Taylor of the outcome, whom both felt very disgruntled, frustrated and ignored.

Case Study Critique: Existing Evidence

Consider the following questions and then see if you can reconstruct this case to have some improved outcomes for Alex and Taylor. There is an alternative, refashioned version in Appendix A which provides one approach to producing an evidence-informed enhancement of this situation. Before accessing this alternative, see if you can do any better.

- What are your immediate thoughts about the case study situation? Why do Alex and Taylor feel frustrated?
- How much awareness did the students and the Programme Leader appear to have about each other's motives in this interaction?
- What is the dominant view underpinning the use of data at the University of Datadwelling?
- Should this be challenged, and if so, how?
- What assumptions have you made about the Departmental Assessment Board?
- Was the approach initiated by Alex and Taylor, via the Course Rep and trusted tutors, appropriate in this case study?
- How could emerging data have been used at an earlier stage within the module to potentially diffuse or prevent this conflict?

Notes

References and Further Reading

Austen, L (2019) Using Evidence for Enhancement
https://blogs.shu.ac.uk/steer/2019/01/16/using-evidence-for-enhance-ment/?doing_wp_cron=1556880565.4775419235229492187500#

Austen, L (2018) 'It ain't what we do, it's the way that we do it'
– researching student voices, WonkHE, 27 Feb 2018
http://wonkhe.com/blogs/it-aint-what-we-do-its-the-way-that-we-do-it-researching-student-voices/

Coffey, A. Analysing Documents in Flick, U. (2014) The SAGE Handbook of Qualitative Data Analysis (online),
https://methods.sagepub.com/book/the-sage-handbook-of-qualita-tive-data-analysis/n25.xml

Jones-Devitt, S and LeBihan, J (2018) Use and abuse of the student voice: leaders' responsibilities for making positive use of student evaluations of teaching in Higher Education York: AdvanceHE.

Langan, A M and Harris, W E (2019) National student survey metrics: where is the room for improvement? Higher Education (Online April 2019)

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Lubicz-Nawrocka, T and Bunting, K (2019) Student perceptions of teaching excellence: an analysis of student-led teaching award nomination data, Teaching in Higher Education, 24:1, pp63–80
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www.qaa.ac.uk/scotland/focus-on/feedback-from-assessment

Townsend L and Wallace, C (2016) University of Aberdeen: Social Media Research: A Guide to Ethics
www.gla.ac.uk/media/media_487729_en.pdf

Various (2018) Special edition of the Higher Education Pedagogies Journal, Learning Gain in Higher Education (2018, 3:1)
www.tandfonline.com/toc/rhep20/3/V1?nav=tocList

Digital glossary for this section

Analysis	**Primary Data**	**Secondary Data**
Data	**Qualititive**	**Triangulation**
Evaluation	**Research**	

SECTION 6: COLLECTING DATA IN HIGHER EDUCATION

By the end of this section you will be able to make decisions about the most appropriate data collection method for your project.

To extend your learning, explore 'what else could you do? by doing your own research on alternatives to surveys and focus groups.

To apply your learning, review the case study to help you consider a 'real life' example associated to the content of this section.
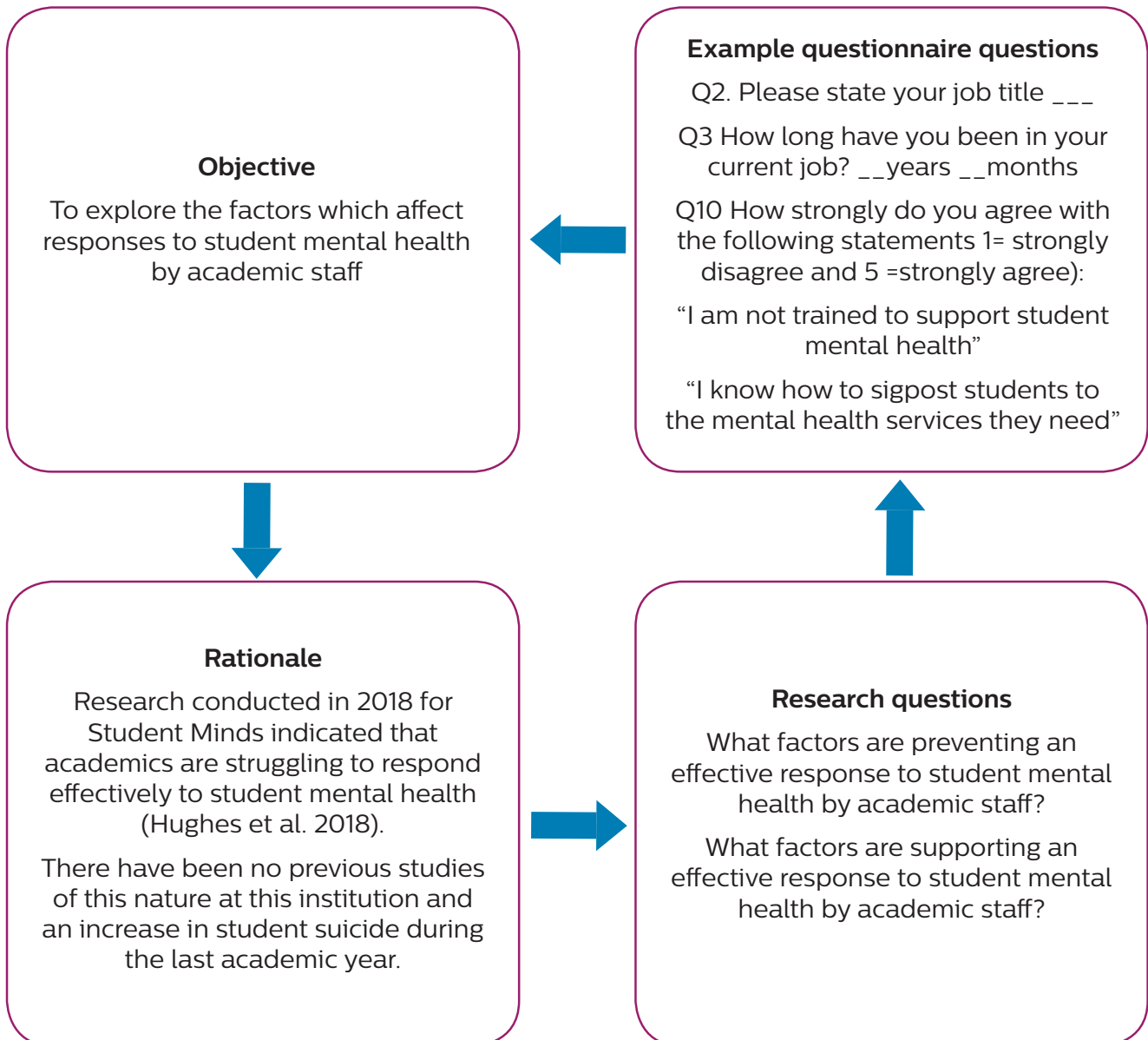
The research process

Section 4 of this Guide discusses thinking critically about: rationale; research questions; governance; ethics; strategy and design. Section 5 introduces **secondary data analysis** which adopts the methodology and data collection used by others and covered data from a variety of secondary sources. This section focuses on designing new tools (**research instruments**) to collect and analyse new primary data.

Conclusion → Ethics

Discussion

**Rationale
Research Question
Governance**

Strategy

Design

Data
Analysis

Data
Collection

Methods

In Section 3 we suggest that data hierarchies exist in higher education. Some types of **data** carry more weight that others and are more likely to be used to inform decision making. As data is generated from a **method**, it follows that certain methods are privileged over others and used more often. There are good reasons for using a method with known strengths; size and reach within a cross section of the student population at a single point in time will mean that a survey method, using a questionnaire as the research instrument, will be a good choice. A survey can provide quantitative and qualitative data derived from **closed and open questions**. Alternatively, focus groups can provide detailed qualitative data on a specific topic area. The researcher is able to analyse the spoken words and also reflect on social interactions, body language and group dynamics, and how any consensus is reached (or not).

Question mapping

It is important that any questions constructed by the researcher (for example, in a questionnaire or a focus group schedule) are based on a clear rationale AND linked to research aims/objectives and research questions. This will create a logical process from analysis to **synthesis** once the data has been collected.

Objective

To explore the factors which affect responses to student mental health by academic staff

Example questionnaire questions

Q2. Please state your job title _ _ _

Q3 How long have you been in your current job? _ _years _ _months

Q10 How strongly do you agree with the following statements 1= strongly disagree and 5 =strongly agree):

"I am not trained to support student mental health"

"I know how to sigpost students to the mental health services they need"

Rationale

Research conducted in 2018 for Student Minds indicated that academics are struggling to respond effectively to student mental health (Hughes et al. 2018).

There have been no previous studies of this nature at this institution and an increase in student suicide during the last academic year.

Research questions

What factors are preventing an effective response to student mental health by academic staff?

What factors are supporting an effective response to student mental health by academic staff?

Five methods – what you should and shouldn't do

If you choose to do a survey with students or staff, then…

Survey Do	Survey Don't
Use simple language and question construction	Avoid asking ambiguous, leading or double-barrelled questions
Pilot your survey to see how long it takes to complete, and whether the questions make sense and are in a logical order	Optimum survey length is 13 minutes to complete. Don't include too many questions or questions that are too complicated to answer
Make the survey easy to access (including for mobile devices if online)	Access links to **anonymity**. Don't create a generalised/open link if you want to track respondents from existing data or send personalised reminders to encourage completion
Vary questions types to include open (qualitative data) and closed (quantitative data) questions	Remember to plan for how all questions will be analysed. Don't add questions without a clear rationale
Promote the survey via known contracts/trusted sources to increase your **response rate**	**Survey fatigue** is an important consideration. Don't plan a survey without understanding your sample and their involvement in other data collection

You could use a Survey Research Design Checklist when designing your student surveys, such as https://blogs.shu.ac.uk/steer/files/2018/09/SRDC.pdf

If you choose to do a focus group with students or staff, then…

Focus Group Do	Focus Group Don't
Create a comfortable and welcoming environment for the data collection	The role of the moderator is important. Don't underestimate the skill required to encourage participation and deal with uncomfortable situations such as disagreement
Use a focus group to explore views and opinions AND how the group interacts during the discussion	An audio transcript can provide evidence of spoken interactions. Don't ignore visual aspects such as participant body language when reacting to silences or dominant voices. Making reflective notes during or directly after the session will help
Make the data collection engaging. Consider an activity (making lists, ranking/rating, storytelling, and game playing) to help generate discussion	Testing your focus group activity in your research environment will allow you to develop your confidence as a moderator. Don't assume that a pilot is unnecessary, so build this time into your project plan
Limit the number of participants to fewer than 10. Be prepared to adapt your activity if you have fewer than expected so the session is still engaging	Focus groups may last longer than an interview with a single respondent because there are multiple voices in the discussion. Don't plan for any less than an hour in length
Be strategic about who you invite to your focus group. Do you want a group with similar or divergent views? How will you access them?	Trust is a crucial element of a successful focus group. Don't invite participants that will unsettle others and close down discussions. Consider any power dynamics and conflicts of interest

Plan your focus group carefully. Think through different ways of engaging your participants. There are some ideas for engaging focus groups at: https://blogs.shu.ac.uk/steer/2019/05/01/ thinking-pedagogically-about-qualitative-research-in-he/

Survey and focus groups are useful approaches, but what else could you do?
Other research methods that are well suited to research in higher education include:

Interviews

...qualitative data collected from discussions with individual participants using a schedule of questions. Participant responses are interpreted through analysis.

Observations

...direct eye witness accounts of behaviour and activity as it happens. Researchers can either observe as a participant or a non-participant.

Documentary analysis

...qualitative comments from documentary sources will not been collected for research purposes but can be rich secondary sources of data if you can find a way to gather and sort the information you need for analysis. Always check you have permission for analysis.

Action research

...links research with practice such that the researcher constructs a process of change for practitioners and collects data through interviews or observations.

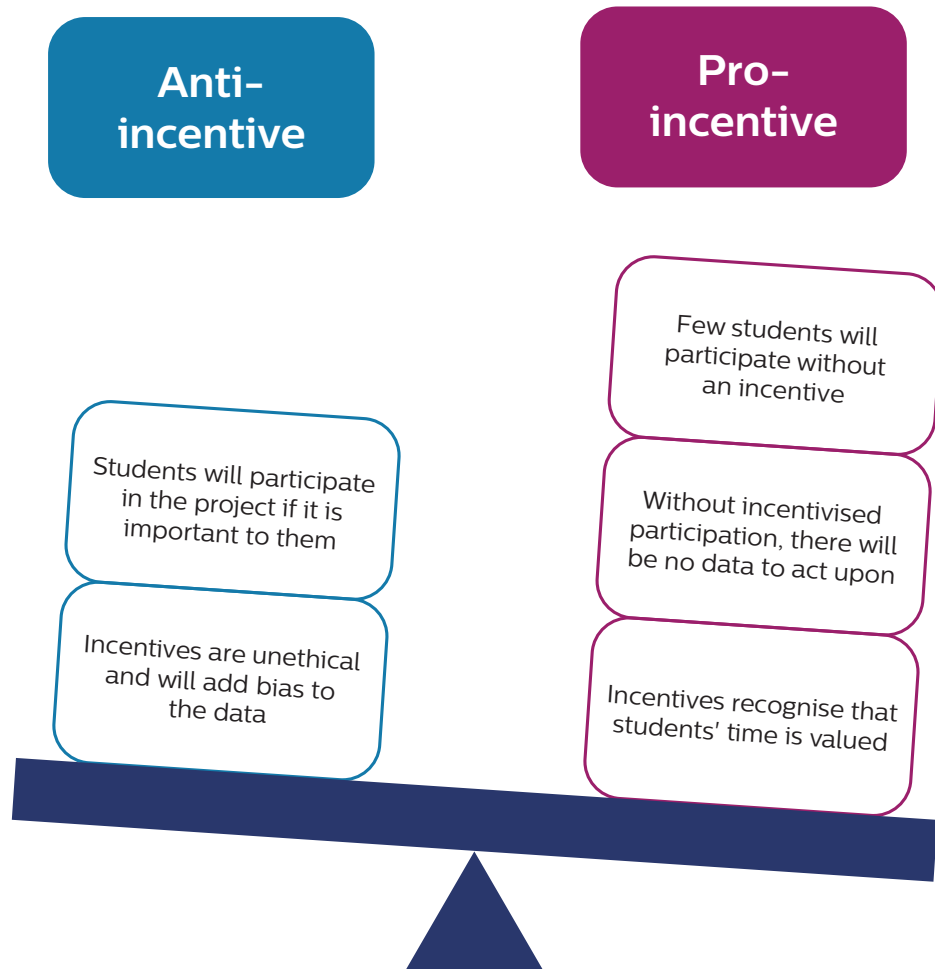**Experimental research/ evaluation**

...creates controlled conditions such that cause and effect can be explored.

It is increasingly common for research in higher education to offer incentives to students to encourage participation. There is a debate to be had, at the point of design, about the necessity for incentives which can include cash, gifts, vouchers, credit, lottery prize draws and charitable donations.

Anti-incentive

Pro-incentive

Few students will participate without an incentive

Students will participate in the project if it is important to them

Without incentivised participation, there will be no data to act upon

Incentives are unethical and will add bias to the data

Incentives recognise that students' time is valued

Choose what is the most appropriate for your data collection. Be honest about the use of incentives in any reporting, including your rationale and acknowledgement of any associated limitations. Head (2009) explores this is more detail and suggests that practical, methodological and ethical issues need to be considered before offering incentives, especially payment to research participants.

Evidence Essentials Six

A good grasp of how the data has been generated (either by yourself or others) will allow you to think critically about how it can be used within an evidence base. Adopting a mixed methods approach will allow for the strengths of one method to compensate for any limitations in another.

To apply your learning, review the case study below and answer the questions to help you consider a 'real life' example associated to the content of this section.

Blake, Student Research Officer at University of Enlightenment

Blake works as a Student Research Officer for the Students' Association at the University of Enlightenment. The role involves collecting and producing data about students' experiences at Enlightenment and using findings to lobby for change.

According to Higher Education Statistics Agency (HESA) data, Enlightenment has a large degree awarding gap between white students and those from a Black, Asian and Minority Ethnic (BAME) background, with BAME students being 25% less likely to achieve an upper second-class degree, or higher, than their white counterparts. This is completely out of kilter with the rest of the Scottish sector.

Blake has been asked to find out about BAME student's attitudes and beliefs about this difference and therefore constructs a Likert-scale survey to collect data which can then be used to inform the wider evidence-base at Enlightenment.

The survey consists of 30 questions with an additional open-ended space at the end for further free text comments. It is administered by a general email link to the whole student population and launched in the first week of the second semester and remains open for four weeks.

Despite a social media campaign and some incentives (including a free drink at the Student Union and entry into a prize draw to win a laptop) the response rate is very low, with a final rate of 1.7% across the whole student population.

Blake also receives some complaints from students about a range of matters underpinning the survey. These include: a perception that the survey questions are too crude and leading; that students have already recently completed something of a similar nature for the Race Equality Charter; due to the survey link going out generally, students not identifying from a BAME background complain they are unsure of whether to complete the survey too; the local Association's BAME Forum expresses annoyance that its members were not included in the survey design from the outset. Blake is also summoned by the University's Head of Ethics to find out why the survey does not appear to have formal ethical clearance.

Due to these reservations, the low response rate and the fact that reporting any findings will be severely restricted due to the lack of ethical approval, Blake decides to withdraw the survey and offers apologies to all affected.

Blake still thinks that it is a real pity that an opportunity has been missed to examine students' perspectives of why the awarding gap remains at Enlightenment. A relatively straightforward student survey was seen to be the most obvious data collection vehicle, so Blake is stumped as to how to take this forward more effectively by any alternative means.

Case Study Critique: Existing Evidence

Consider the following questions and then see if you can reconstruct this case to have some improved outcomes for Blake. There is an alternative, refashioned version in Appendix A which provides one approach to producing an evidence informed enhancement of this situation. Before accessing this alternative, see if you can do any better.

- What are your immediate thoughts about this case study? Why does Blake feel unsure about how to take this work forward?

- How could Blake have prepared more effectively when planning this data collection process?

- What are Blake's assumptions about a) the use of a survey as the data collection tool of choice in this context? and b) the level of ethical scrutiny, especially when linked to sensitive areas of investigation?

- What could Blake have done instead, in order to contribute more constructively to gaining insights into BAME students' attitudes and beliefs about the degree awarding difference?

Notes

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Digital glossary for this section

Analysis	Pilot	Survey Fatigue
Anonymity	Questions	Synthesis
Data	Research	
Method	Response Rate	

SECTION 7: EVIDENCE OF EVIDENCE USE: HOW DO YOU SHOW THAT YOU HAVE USED EVIDENCE IN YOUR DECISION-MAKING?

By the end of this section you will be able to understand the importance of creating audit trails which demonstrate evidence-informed decision making in higher education

To extend your learning, complete the Critical Checklist for Using Evidence Effectively activity at the end of this section, in relation to a planned intervention or activity

To apply your learning, review the case study to help you consider a 'real life' example associated to the content of this section.

Analysis and synthesis

Think about how you know you are being sufficiently analytical.

One of the biggest problems when using any kind of **evidence** is moving from description to analysis to synthesis. Use the following exercise about levels of critique to sharpen your skills when analysing evidence.

Worked example:

Situation	Level of analysis
The cat sits on the mat	Purely descriptive – *states what can be seen*
The cat sits on the mat: we need to explore why it's sitting there	Description plus limited critical analysis – *what can be seen plus we begin to reason and question*
The cat sits on the mat: having weighed up all available evidence, we can demonstrate an understanding of why it might be there	Extension of critical analysis into synthesis – *what can be seen plus comprehensive reasoning of all available evidence*
The cat sits on the mat: we perceive that the existing evidence does not explain adequately why it's there. We need to devise further ways to help explain the significance of this situation	Synthesis moves towards more comprehensive critical evaluation; represents recognition of the limits of existing knowledge upon which to build new explanation(s) – *what can be seen plus an evidence-informed approach acknowledging we need to examine gaps and maybe gather new evidence?*

Task: identify ONE piece of evidence arising from a situation of your choosing and see if you can progress it in a similar way to the 'cat' above. Place the situations (or facts) in the left-hand columns in the diagram below and align with the corresponding levels of analysis in the right-hand columns. This can be very useful to complete when considering how to become more analytical.

Situation	Level of analysis
	Purely descriptive
	Description plus limited critical analysis
	Extension of critical analysis into synthesis
	Synthesis moves towards more comprehensive critical evaluation; represents recognition of the limits of existing knowledge upon which to build new explanation(s)

Reporting and dissemination

It is really important to be systematic and thoughtful about how evidence and findings are reported. Considering who you are trying to influence and why is crucial at the outset.
A well thought out communications plan can provide a useful way to keep on track with when and how to report evidence and it also ensures that it will maximise influence. Ask yourself some critical questions about what you are going to do with evidence you find:

1. Have you got a communications and information–sharing (dissemination) plan before you start any form of inquiry?

2. How and when are you going to produce outputs? For example, will you be writing any interim findings, summaries, extended report?

3. Internal dissemination by project team? Such as Students' Association and University committees, internal conferences, internal media communications

4. How to launch findings? For example, you could do a 'soft launch' at the end of the project at the host institution, if appropriate. If any of the work is sponsored, your funder might want a 'harder' official launch before anything else occurs

5. Publication of output? Where will anything be hosted as there are lots of options here, including:

   - a relevant website
   - external and internal project members to promote via own networks
   - newsletters, blogs, email promotion and face–to face–meetings
   - social media sites such as Twitter, Instagram, Facebook
   - promotion to practitioners via any established organisational networks
   - promotion to senior leaders either directly or via their identified network
   - conference presentations by project team or individuals
   - open access to raw data to allow continued analysis of the topic area by other researchers or those gathering further evidence.

6. Check for any embargos or any other restrictions on publication and/or data sharing?

Action plans and activity logs

Action plans and activity logs can provide detailed outlines of tasks required to accomplish a goal and should be considered as really useful evidence of process. There are lots of freely available planning templates that can be downloaded but the easiest way is to create your own based on the following SMART principles:

Be **S**pecific

Use **M**easurable processes

Set **A**ttainable targets

Have **R**elevant goals

Ensure **T**imescales are taken into account

Scenario modelling (forward thinking)

Scenario modelling (also known as scenario planning) is an evidence-informed process used to improve decision making when creating possible future directions. During the process, current driving forces and potential drivers of change are explored in depth and evidence is gathered to examine the strengths and challenges of each possible future.

Sayers (2010) constructed A Guide to Scenario Planning in Higher Education which provides lots of worked examples of how evidence can be used to construct forward-facing alternatives. She states:

'Scenario planning does not claim to predict the future in entirety, it does increase awareness of the external environment and broaden the range of possible futures which are under consideration (and what policies and strategies would be best in each case.)
In straightforward terms, it helps organisations to 'prepare for what we don't think is going to happen' (p 5).

You might consider using and documenting scenario-modelling processes, as outlined above. They can provide a low-risk approach in helping to develop some evidence-informed alternative versions of possible futures within specific contexts. These can be revisited as very useful forms of contributory evidence when making decisions at a later point.

Stakeholder engagement

Stakeholders are individuals (or groups) who affect, or are affected by, a project or strategy. There are many ways to identify stakeholders you might want to include when using evidence to inform organisational change. Using a template to consider level of influence within any specific context, along with level of interest, can identify the right people to help in any evidence-informed process or initiative.

The following stakeholder analysis template can be used when planning any evidence-informed process:
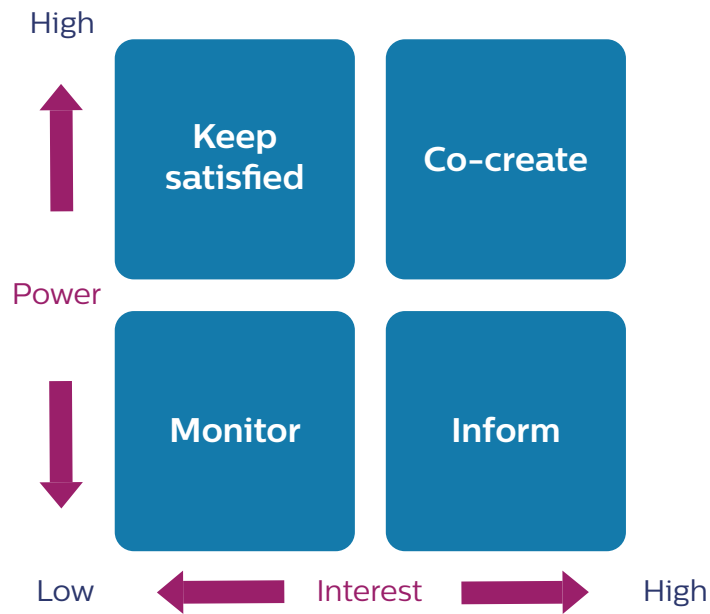
This results in four obvious combinations:

- Stakeholders identified with *low power* and low *interest* should be *monitored*
- Stakeholders identified with *high interest* but *low power* should be *kept informed*
- Stakeholders identified with *high power* but *low interest* should be *kept satisfied*
- Stakeholders identified with *high power* and *high interest* should *become co-creators*.

'Power' in this context doesn't necessarily relate to organisational hierarchy, it concerns those you consider have power in the particular area of change. For example, if you were collecting some form of student voice evidence around assessment then the President of the Students' Association and the Director of Learning and Teaching might have more power than the Principal in this context.

Focused and differentiated recommendations

- When considering and/or auditing use of evidence, don't forget to give some thought to how you feel the evidence should be used for change in a focussed manner. A good way of doing this is to consider who you think might find the evidence of most use and how? Accessibility is often considered when planning how to disseminate findings, so things like executive summaries are used frequently to incorporate headline messages alongside consideration of methods of communication.

- Do also remember to provide focus alongside accessibility. For example, if you have some differentiated recommendations for practitioners, policymakers and students, then you can always draw attention to those audiences in any specific summary.

- ☑ Do ensure that you consider how to audit your use of evidence throughout
- ☒ Don't assume that complex information is always easy to analyse
- ☑ Do produce a stakeholder plan so that you can be rigorous about engagement
- ☑ Do think about planning the focus of any dissemination of findings

The Critical Checklist for Using Evidence Effectively at the very end of this section will help you to cover all the obvious things concerning questions to ask yourself about using evidence, types of evidence, thinking critically, existing data and collecting data. If needed, revisit each section throughout this Guide and access the activities and case studies to ensure that you can answer the checklist questions confidently and competently.

Evidence Essentials Seven

It is important to know why you need to plan and audit how evidence is used to inform decision making (either by yourself or others). Doing so will allow you to justify your reasoning and any changes in direction. It also assists in the capture of unintended outcomes.

References and Further Reading

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Digital glossary for this section

Data   **Evidence**

A CRITICAL CHECKLIST FOR USING EVIDENCE EFFECTIVELY
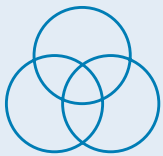
USING EVIDENCE

1. Have you considered why gathering evidence is useful? ☐
2. Does the proposed approach to gathering evidence help you? ☐
3. Why is it often important to gather more than one source of evidence? ☐
4. Have you considered how you will evaluate the evidence you found? ☐
5. What impact do you hope the evidence might have? ☐

TYPES OF EVIDENCE

1. Which kind of evidence is most important to fulfil what you need to do? ☐
2. Do you need to collect primary or secondary data, or both? ☐
3. Is there a type of evidence that is valued most within your organisation? ☐
4. What will you do if you can't find any useful evidence? ☐
5. Are forms of evidence always clear cut? ☐

THINKING CRITICALLY

1. How do you know that you have critiqued or gathered the best available evidence? ☐
2. Does the evidence presented have organisational or contextual significance? ☐
3. What assumptions underpinned your research questions or inquiry? ☐
4. How do you know that your assumptions were correct? ☐
5. How will any learning from the evidence be put into practice? ☐
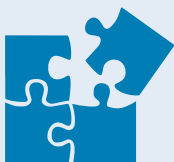
EXISTING DATA

1. Why was this data collected in the first place? ☐
2. Have you looked at the data quite critically rather than accepted it as a 'truth'? ☐
3. Is there a shelf life for data and, if so, for how long? ☐
4. Does data need to be accessible and when might restrictions be needed? ☐
5. What are the limitations within single sources of data? ☐

COLLECTING DATA

1. Do you need to collect data in order to answer a question? ☐
2. Why is the process underpinning how data is collected so important? ☐
3. Have you considered ethical issues fully before collecting any data? ☐
4. Have you considered any impact on participants in addition to findings? ☐
5. Have you considered how any unintended consequences will be reported? ☐

SECTION 8: EVIDENCE AND IMPACT

By the end of this section you will be able to identify the major constituents for effective use of evidence.

To extend your learning, explore some of the links and checklists provided.

To apply your learning throughout this Guide, review the case study to help you consider a 'real life' example associated to the content of this section and others.

Has your use of evidence had an impact?

This section pulls together all previous sections and ideally should be accessed when all other associated content has been completed. In contrast to other sections, this one starts with a case study in which things go really well. See if you can identify important points in the process and the actions that might have led to success.

Case Study for success

Morgan, Sam and Lou, Students' Association Leadership Team, Exquisite Evidence University

The Students' Association manifesto pledge concerned developing best practice approaches for engaging the fullest range of student voices in decision making. The three leaders set about designing an evidence-informed process to underpin the 'All Voices Included' campaign.

Before finalising the process, they knew it would be helpful to be informed by relevant global, national and local evidence. Sam constructed a literature search, which also included 'grey' areas such as local initiatives undertaken by other SA's and within Exquisite, too. The team were helped by one of the University's research librarians, whose role is to support such initiatives.

At the same time, Lou put together a stakeholder analysis plan which considered who might be able to help to realise All Voices Included at Exquisite and why their involvement would be useful. Morgan devised a communications strategy that recognised why different stakeholders might need information in different ways at different times. They invited colleagues to be part of a stakeholder group to advise and guide the process.

The Students' Association already had an excellent working relationship with the University's Evaluation and Research Team, so once they had drafted a tentative plan, they consulted with the team to explore how to evaluate intentions and achievements throughout the process.

With an outline plan in place, Morgan, Sam and Lou then met with other SA reps and University Learning and Teaching leads to define appropriate methods and to align with the Students' Association and University strategies for effective student engagement. To initiate change effectively, an [Appreciative Inquiry](#) approach was used, which focusses upon what works well rather than what goes wrong. Having taken advice from Exquisite's Evaluation and Research Team, the ROTUR method (Parsons, 2017) was applied to ensure that the amount of resources needed was proportionate to the scope of the initiative.

All through the process, the team were aware that the plan still needed to be analysed for criticality and for impact. A Stakeholder Group was therefore established, and their opinions and insights used as part of the evidence–base which shaped the initiative throughout.

As Exquisite's Heads of Quality and Learning and Teaching were committed members of the Stakeholder Group, their help in advising on dissemination, governance and impact on University policy and practice was invaluable.

Consequently, key findings and recommendations emerging from All Voices Included were considered in appropriate settings and the initiative resulted in a real step change for enhancing effective and equitable student engagement. It also meant that All Voices Included moved from being a mid-term project to a mainstreamed and sustainable part of everyday practice.

Involving a variety of stakeholders from the outset also ensured that some influential and productive relationships were forged, alongside seeing this as a positive partnership between the University and the local Students' Association.

As a postscript to the initiative, All Voices Included won several sector awards for developing effective student engagement. In gaining further recognition and impact, it had gone from being a manifesto pledge to one of the most thought–leading initiatives for student engagement, and its principles were adopted by many other universities.

Morgan, Sam and Lou were delighted: they had seen All Voices Included go from being their initial idea into a sector wide scheme that had positive influence for many students whose voices might never had been heard. The team also reflected upon the many skills that developing a well–considered evidence-informed process had yielded for them, too, that they could now demonstrate in subsequent studies and further employment.

Case Study Critique: Success

Consider the following questions to see if you can identify why things went well and why. It might be useful to cross reference with other elements of this Guide to help you work it out.

- Why is this case study 'successful'? What are your definitions for success when using evidence (whether generated, critiqued or both)?
- What leadership skills have Morgan, Sam and Lou displayed?
- How have they used partnership working effectively in influencing outcomes?
- What personal skills, impact and abilities have the Students' Association team enhanced?
- What unintended outcomes were reported in the case study?

Notes

Now you have had a go at addressing these questions, see if your responses align with the factors below.

Defining success

In purist terms, success might be viewed as whether initial aims and objectives of any **evidence–based** or **evidence–informed** initiative have been met. However, as noted in Section 4, initial assumptions underpinning aims and objectives should be revisited throughout as the original thinking can be inappropriate or misguided. A good way of ensuring that you gain a successful process and outcomes is to make sure that you use evidence to inform and challenge all stages of planning and review. Revisiting the 'What Critical Questions Should You Ask of Evidence?' checklist will help you to develop a clear but realistic view of what's achievable.

Leadership skills

This is probably the most consistently crucial factor for success. It is now widely recognised that the transformational leader model advocated many years ago by Burns (1978) is still really effective for achieving positive change. Such leaders, or indeed, leadership teams, are characterised by:

- having a clear vision of what needs to change

- being able to enthuse and stimulate others

- encouraging meaningful participation

- developing excellent communication skills

- demonstrating loyalty and commitment to both tasks and to others

- having a sense of the Bigger Picture

- working with strong personal Integrity

- being able to inspire others.

In the case study, Morgan, Sam and Lou managed to display all of these characteristics as a team rather than as a set of individuals. It might also be useful to revisit the 'Thinking Critically Case Study' in which Drew needed to develop informal micro-leadership skills, as advocated by Lumby (2015) to recognise the impact of the everyday interaction in enhancing personal impact.

Partnership working and developing effective relationships

Within any complex organisation, there will be subtle cultural differences with how things are done, alongside the range of opinions that such diversity generates. In this case, the team used partnership working very effectively to: draw on expertise across the organisation to support the All Voices Included initiative; develop a sense of identity for the initiative and to cultivate ownership by bringing together a well–considered Stakeholder Group; use situated power of themselves and others to influence and drive change at the right levels; ensure that the maximum amount of resourcing and capacity-building were in place to enable every chance for success; enlist others who can implement change, help to maximise reach of findings and dissemination and push through recommendations. You may recall that one of the problems for Alex and Taylor, the Course Rep and their Programme Leader within the *Existing Data Case Study* concerned the lack of an effective relationship to discuss emerging evidence before it became problematic.

Personal skills, impact and abilities

In working collaboratively, Morgan, Sam and Lou have clearly developed some skills and abilities that link to those expected of graduates in 2019.

Skills they have developed include: design and planning skills for using evidence effectively; insight into how to incorporate effective **evaluation** into the process at the outset; a range of leadership, influencing and communications skills, applying positive and inclusive change-management principles.

To capture their own development in more detail, they could assess their impact against the following checklist: Ten types of evidence to show impact and supporting data produced below by the Leadership Foundation for Higher Education (2017)

1. Evidence of difference	Data to show your research has made a difference to beneficiaries or society such as: - Difference for beneficiaries, effects or outcomes - Economic difference, cost savings, profit or gain - Direct change in policy or policymaking - Difference brought about in practice or the awareness, understanding or behaviour of practitioners - Researcher or stakeholder knowledge and skills or research capacity - Evidence of other types of impact
2. Evidence of scale	Data to show your impact is on a significant or sizeable scale, for example: - A large number and/or range of beneficiaries - Targeted highly significant impact that may be small in scale or have a precise impact on an important issue - Data to show people benefit in a way that is important to them - Defendable projections of future scale, e. g. based on new or emerging markets - Data about regional, national or international reach - Scale of interest in the research from stakeholders, research users or beneficiaries - Large-scale altmetric data or impact tracking
3. Evidence of attribution	Data that helps to elaborate the often intricate or multipart links between the research and the impact, for example: - Explaining collaborations and team contributions - Documented accounts of interactions with research users - Data about how knowledge exchange has occurred - Evidence from research users about how they have applied or used the research
4. Evidence of quality	Data to show that you have achieved impact through high quality research, such as: - Independent reviews of research quality - Audit trail to show research questions are well considered, for example you used a robust decision-making process to reach your hypothesis - Data to show a robust research design e. g. tests or scores - Data about institutional support structures

5. Evidence of partnership	Data to show how partnerships contributed to impact, for example: ▪ Data about collaborative research partnerships e. g. number of partners, contact hours or episodes of interaction ▪ Illustrative data about the nature of the collaborative research partnership ▪ Data about partnership with industry, public sector organisations or charities e. g. initiation, duration and growth of partnerships ▪ Data about the international reach of the partnerships, international member organisations or contributors
6. Evidence of engagement	Data to show that engagement of stakeholders, research users or the public is integral to the research, for example: ▪ Accounts of engagement events with professionals or practice communities ▪ Data to show knowledge exchange or knowledge transfer partnerships ▪ Data log of stakeholder engagement ▪ Data about research user testing or comments on the research design ▪ Data about the contributions of members of the public involved in the research
7. Evidence of experience	Data to show that the individuals involved have a strong personal track record in their area of research, for example: ▪ Grants and other research income recognised expertise ▪ Data about researcher impact skills, knowledge and competencies e. g. communication or implementation skills ▪ Data to show a track record of projects and funding ▪ Data on publications and dissemination work
8. Corroborative evidence	Data from users of your research or beneficiaries to corroborate the impact you have had, for example: ▪ Data from independent evaluation or self-evaluations of impact ▪ Data about the impact of participation or involvement on research users ▪ Reflexive accounts, e. g. a research impact diary or log ▪ Research user's own accounts of the impact of the research on them
9. Evidence of accessibility	Data to show that you have made information about your research accessible, for example: ▪ Publication figures and citation of the research by other researchers ▪ Data about knowledge brokers, knowledge transfer partnerships or secondments ▪ Data to show that the research has been disseminated to research users and has been taken up by them locally, nationally or internationally ▪ Numbers of attendees at public events or distribution of lay summaries ▪ Numbers of visitors to open access databases or data deposits to open access repositories ▪ Access figures for videos, infographics or visual material ▪ Viewer figures for television, radio, the press, or social media
10. Evidence of recognition	Data to show that researchers and other audiences recognise and value your research, for example: ▪ Extracts from independent reviews ▪ Quotes from feedback ▪ Formal awards or recognition of the importance of the research

Evidence Essentials Eight

Understanding what works and capturing success is crucial. You will need to identify appropriate leadership skills required of a team or individuals, develop effective partnership working, learn how to influence via advocates supporting you within complex organisations and develop capacity-building so that evidence can be used sustainably for future students. Developing robust impact processes will assist your own effectiveness alongside making the most of evidence-informed policy and practice.

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Digital glossary for this section

Data   Evaluation   Evidence

Research

Collating evidence is not always a logical or linear process. Data sources may not neatly corroborate and may even contrast each other. To make sense of your data landscape, spend some time reflecting on the process and the outcome. Evidence can include notes of unintended outcomes of the research/evaluation and personal reflections of the researcher/s. Once a conclusion has been reached, it is also important to state any limitations in the evidence base.

Critical thinking will develop alongside your confidence at navigating the data landscape. You will be required to make some tough decisions about what you can realistically achieve. You will need to scrutinise processes and defend your judgements. You will need to assess best practice and modify for your own context. Be open and honest in sharing what's worked and what hasn't. This will help those students who begin this journey after you.

A good grasp of the how data has been generated (either by yourself or others) will allow you to think critically about how it can be used within an evidence base. Adopting a mixed methods approach will also allow for the strengths of one method to compensate for any limitations in another.

It is important not to assume that evidence gathered in one context using a specific methodology, will apply directly to another. Try to move from evidenced-based decisions to evidence-informed decisions to account for your own environment and limits of proportionality (Parsons, 2017). Proportionality realistically balances best practice against any limitations in time.

Evidence Essentials: A Summary

It is important to know why you need to plan and audit how evidence is used to inform decision-making (either by yourself or others). Doing so will allow you to justify your reasoning and any changes in direction. It also assists in the capture of unintended outcomes.

It is important to assess the appropriateness of each data source and challenge yourself to be innovative where possible. This is how evidence becomes inclusive of all voices and less likely to keep some voices hidden and silent. It is essential that you triangulate data sources where possible so that limitations of one can be addressed by strengths of another. Consider different types of triangulation which can strengthen your evidence base: data; methods; theory; researchers.

There is a vast amount of data available which could help explore an almost any area higher education. Sometimes this data landscape can be overwhelming. Start any project with a set of clear aims and objectives and a question that you want to answer. Ask yourself "What do I want to find out about this chosen area"? Then ask critical questions of your proposed data sources.

Understanding what works and capturing success is crucial. You will need to identify appropriate leadership skills required of a team or individuals, develop effective partnership working, learn how to influence via advocates supporting you within complex organisations and develop capacity-building so that evidence can be used sustainably for future students. Developing robust impact processes will assist your own effectiveness alongside making the most of evidence-informed policy and practice.

APPENDIX A: CASE STUDIES REVISITED

In this section, you will find more positive responses to the case studies presented in earlier sections. Read through these carefully and compare and contrast with your own responses. Remember there are no totally right answers; only ideas for enhancement that will be heavily contextualised when applied in practice.

Case Study Critique: Using Evidence in Higher Education

Mel, Student Welfare Officer at Algorithm University

See Section 1

Mel is a local Students' Association Officer leading a campaign about the creation of positive student mental health at Algorithm University.

Algorithm prides itself on having a sophisticated learner analytics programme which measures, collects, analyses and reports data about students and their contexts, for the purposes of understanding and optimising learning at Algorithm.

- Mel is aware of the University's investment in the learner analytics work but has already scoped some evidence, in preparation for the meeting, which raises awareness of the practical and ethical limitations (Sobe, 2018; JISC Code of Practice).

In a meeting with the University's Head of Student Wellbeing, Mel outlines some ideas concerning how a campaign could be developed and constructed in partnership with the University to: raise awareness of indicators of positive mental health, how to notice if personal mental wellbeing is being compromised, and how to find and access local support to enhance personal mental wellbeing.

- Evidence is cited from UUK and OfS to demonstrate why this approach can be effective and should be prioritised.

In further discussion, the Head of Student Wellbeing surprises Mel by indicating that the learner analytics programme will automatically offer a comprehensive process of early alerting of students' needs with appropriate stakeholders. They suggest that any campaign should be constructed around this provision, into which considerable investment has been made, and urges Mel and the Students' Association to enthusiastically embrace supporting the learner analytics programme.

- Mel feels in a position to constructively challenge this notion and acknowledges that, whilst the learner analytics process is pivotal for overall student wellbeing, it is one of several sources that should be brought together as per the recommendations about the importance of partnership working outlined in the University Mental Health Charter.

The Head of Student Welfare is delighted to build on evidence emerging from the learner analytics approach as a starting point and asks Mel to help set up a joint Mental Wellbeing Partnership group. They also state that it is really important that we ensure that any provision to support our students' mental wellbeing draws upon the best possible evidence and information. Working with the Students' Association will be a great way to ensure that we can triangulate evidence from an array of sources and apply and interpret locally and in effective partnership.

Mel leaves the meeting with a very positive feeling and real excitement about the way the partnership might develop and how the Students' Association can play a key part in enhancing the mental wellbeing of Algorithm's students.

Case Study Critique: Using Evidence in Higher Education

Vic, Departmental Student Rep at the University of Enlightenment

See Section 2

Vic is a new Departmental Student Rep at the University of Enlightenment and has a keen interest in ensuring that the opinions of students who don't often get heard are surfaced.

- In preparation for the new role, Vic finds out about what might be deemed good practice by accessing sparq's resource Recognition and Accreditation of Academic Reps which has an array of resources and practical suggestions and links to the interactive Student Engagement Framework for Scotland.

Vic attends the Student Rep training offered by the University which focuses on 'Student Voice' mechanisms. To Vic's dismay, this appears to be focused solely on the Reps' role in getting students to complete the annual Student Voice Survey (SVS) which is a lengthy quantitative survey offered to all non-final year undergraduate students in February, or the National Student Survey (NSS) for final years. The SVS has a very low response rate, normally averaging 15–17% but this is still seen as a good thing to encourage students to complete as it mirrors questions asked in the later NSS.

- Vic had already looked at use of surveys as part of coursework for a research methods module that drew upon QAA Scotland Enhancement Themes webinars about Optimising Existing Evidence and, in drawing on this experience, consequently felt that the focus of the Student Reps training was quite narrow.

Vic tentatively raises some of these concerns at the end of the session with the University's Head of Student Engagement, who listens sympathetically but tells Vic that Enlightenment is a very traditional university and tends to focus on robust quantifiable mechanisms that have credibility with our staff and with the majority of our students.

Vic seizes the opportunity to suggest a further meeting and mentions that the QAA Scotland webinars might be useful to explore, too. The Head of Student Engagement is initially defensive, indicating that they are extremely busy. However, they do acknowledge that watching the Enhancement Themes webinars is on my list of things to do.

The Head of Student Engagement explains that they would welcome developing further partnership work between the Students' Union (SU) and University for enhancing and evaluating the Student Reps training. They suggest it is very timely as the programme has now been running for three years and they recognise that the training and possible over-reliance on SVS need to be evaluated in light of emerging evidence from the sector and in partnership with the local SU.

To Vic's surprise, they agree to arrange a meeting with Vic and the SU Officers for Reps and Equality and Diversity. In doing so, the Head of Student Engagement clearly values Vic's evidence-informed insights and commitment to helping assess whether the training and approach to Student Voice at the University of Enlightenment might need revamping.

- Consequently, Vic is now using the Departmental Student Rep remit to contribute to developing an evidence-informed approach for triangulating Student Voice in a more influential manner (see Heron, 2019; Tan, Murray and Loughlin, 2019).

Drew, President of the Students' Association at Nudge University

See Section 4

Drew, as newly-elected President of the Students' Association, met with Chris, the Director of Learning and Teaching Enhancement at Nudge University. The meeting explored the use of learner analytics and getting the Students' Association 'on board'. Drew ended up feeling very uneasy about several matters: the proposed use of learner analytics in the way described; the purpose of the meeting, which felt more like a set of instructions than a real dialogue; the power dynamics between Drew (as incoming but inexperienced President) and Chris as University Director of Learning and Teaching Enhancement; how to influence what happens next.

Within the meeting a very reductive view was offered by Chris about the application of learner analytics. This concerned Drew who knew this didn't sound appropriate but didn't have any evidence by which to challenge Chris's assertions.

- To avoid this, Drew could have looked at the JISC Code of Practice for learning analytics before the meeting which expressly states that steps should be taken to ensure that trends, norms, categorisation or any labelling of students do not bias staff, student or institutional perceptions and behaviours towards them, reinforce discriminatory attitudes or increase social power differentials. This could then have provided an evidence-informed constructive way of challenging Chris's assumptions.

- Drew could also draw attention to some of the obvious benefits that effective learner analytics can bring which go beyond potential for unsophisticated stereotyping. Accessing Big Data – Disruptive, Distracting or Adding Value? (Katsomitros, 2017) could be a good starting point.

Drew also felt that being inexperienced in the new role didn't help to manage Chris's assumptions about the role the Students' Association should play. There are several actions that Drew could have taken to address these assumptions:

- Engaged in the sparqs training for senior student officers and accessed a range of resources in the Supporting Students webpages, including familiarisation with the Student Engagement Framework for Scotland which has lots of ideas about how to influence as a student within your own institution.

- The outgoing President could have worked closely with Drew, as part of the transition process, to hold introductory meet with Chris and other senior University figures so that expectations could be managed supportively and positively.

Drew might want to consider accessing further leadership development opportunities, in which aspects such as looking at cultivating personal presence and how to influence effectively at different levels might be helpful.

- Drew could begin by reading In the Wings and Backstage: Exploring the Micropolitics of Leadership in Higher Education (Lumby, 2015) which defines micropolitical leadership as that which encompasses a range of influencing behaviours, using social skills and interpersonal assets to achieve change through daily, often informal, activity (p6).

In order to influence further positive outcomes, Drew should invite Chris to meet with a range of local Students' Association reps to engage wider views of the proposed learner analytics approach in a more meaningful, supportive and collegial manner.

Alex and Taylor, student complainants at the University of Datadwelling

See Section 5

Alex and Taylor complained anecdotally to their Course Rep about a specific module they both sat recently on their programme, believing it was too difficult and too hard to understand. They noted that the module content and delivery was significantly different to what they have experienced elsewhere on the programme. They also felt that the module leader, who is also the Programme Leader, had marked too harshly.

▪ Alex and Taylor might have considered: their marks across levels on all modules; a three-year trend analysis of marks for the module to present day; whether their own personal development is always predictable and even; how to surface their misgivings whilst the module was being delivered.

The Course Rep approached some trusted tutors to raise these issues on Alex and Taylor's behalf when the module was considered at the Departmental Assessment Board, as they didn't feel empowered to discuss this directly with the Programme Leader.

▪ The tutors concerned didn't feel that this would be a helpful place to draw initial attention to their complaint. They suggested that the Course Rep as advocate (and Alex and Taylor if comfortable) should sit down with the Programme Leader to explore these issues as soon as possible in a constructive manner. As a consequence of the initial discussion between the trusted tutors and the Course Rep, the Rep examined further evidence and found Use and Abuse of the Student Voice: Leaders' Responsibilities for Making Positive Use of Student Evaluations of Teaching in Higher Education (Jones-Devitt and LeBihan, 2018). This investigated the experience of academic staff as the subjects of student evaluations and the challenges this presents for academic leaders. This gave the Course Rep, Alex and Taylor some new insights into the complexity of using data to measure student satisfaction.

The Course Rep brokered a meeting between Programme Leader, trusted tutors and the students to discuss the complaint, share pivotal moments and to examine projected actions within the module experience that could result in enhancement for all. As a consequence, several evidence-informed and co-designed actions were agreed.

▪ The Programme Leader would work in partnership with Course Reps to consider:

· Whether relying on the standard end of module evaluation questionnaire (MEQ) is the best vehicle to gain all student opinions?

· Identifying other forms of student engagement evidence that could be used to encourage dialogue and debate.

· Whether moving to programme-based assessment could be a fairer pedagogic process?

· How to develop a continuous enhancement culture in which they could all legitimise their opinions, before things became problematised.

▪ Within this context, the Course Rep, Alex and Taylor understood that their own development isn't necessarily based solely around numerical marking in assessment (O'donovan, Price and Rust, 2004). They also began to recognise the complexities of students' learning journeys in relation to over-simplistic measures of student satisfaction (Langan and Harris, 2019).

Blake, Student Research Officer at University of Enlightenment

See Section 6

Blake works as a Student Research Officer for the Students' Association at the University of Enlightenment. A survey was constructed to investigate attitudes and beliefs of BAME students' in relation to the degree awarding difference at Enlightenment, which is presently at 25%. Due to a variety of reasons, such as timing, overlap, lack of clarity about the population sample, lack of ethical clearance, very low response rates and an array of complaints, the survey was withdrawn. When planning the data collection process, Blake could have planned the investigation more thoroughly by considering:

- Any prior work done to explore BAME students' attitudes and beliefs within an institutional context. This could have been found by undertaking judicious searching of the wider evidence-base, including any available systematic reviews critique of secondary data and policy analysis (including synthesis of the literature (TSEP, 2018) complementary/comparable investigations) and local work done at Enlightenment.

- If there was any chance of the student population experiencing survey fatigue or duplication. In this case, if Blake had identified ongoing work via undertaking thorough planning, and perhaps approached this collaboratively by working with those with a shared interest (such as the BME Forum and University colleagues with roles and responsibilities for student engagement and experience) many of the problems that arose could have been avoided.

Due to Enlightenment's much higher awarding gap in the sector, Blake would have gained considerable support, and a ready-made set of allies, as many key stakeholders at the University were already examining good practice both internally and externally to help address this matter constructively. It is viewed as of strategic importance by the Senior Leadership Team at Enlightenment, so further resource and momentum has been assured with funding available to support.

Blake needs to consider the ethical and methodological challenges more fully when designing research processes. For example, Blake hadn't realised that internally-focussed work of this nature still requires ethical scrutiny. There are considerable resources and training that could be accessed to support this important area of work and to enhance the quality of the work undertaken by Student Research Officers:

- Social Research Update is an accessible, freely available resource for social researchers. Blake could have accessed Researching Ethnic Inequalities, and Examining the Paradox of Achievement Gaps as a good developmental starting point.

- Excellent training and development is offered in developing research design and implementation by attending further training (such as offered by Social Research Association and ScotCen). Blake's own University has an online training platform covering survey design, ethics, etc., in addition to free online resources such as blogs provided within the sector.

Blake might also think more creatively to go beyond the survey, as the data-collection tool of choice. There are many other ways of exploring data collection in a less transactional, more participatory and thus more effective manner. Methods could include:

- Digital storytelling; visual research methods; using vignettes; walking interviews; snowball research strategies and many more.

Taking these straightforward evidence-informed steps when considering data collection could have led to more constructive outcomes and real insights.

APPENDIX B: DIGITAL GLOSSARY TRANSCRIPTS

Analysis

Analysis is a process of sorting and organising data in a systematic way in order to make sense of it. The nature of the data, not the method, will prescribe the process of analysis.

Quantitative data analysis uses numbers as the unit of analysis. It usually involves the application of statistical reasoning to describe average responses, the spread of the data (dispersion), and patterns and relationships in the data.

For example, the relationship between gender and evaluations of teaching quality explored via evaluation questionnaires.

Qualitative data analysis involves preparing the data via transcription of audio or cataloguing of visual and applying an analytical process – usually coding component parts and collating similar codes into larger themes.

Secondary data analysis involves the analysis of data which already exists (called secondary sources) rather than generated by the researcher.

View this digital entry at: https://youtu.be/Zqm-vcf9k8M

Anonymity

Researchers should recognise the entitlement of both institutions and individual participants to privacy. Anonymity refers to the extent to which participants can be individually identified during and after data collection.

Remember to think about the anonymity of groups such as courses, or a whole institution. Guarantees of anonymity can increase likelihood to participate and share honest experiences and opinions.

Surveys can be completed anonymously by not asking for personal details and not tracking to personal records.

There are risks to anonymity when collecting descriptive data (such as job titles) and asking questions which provoke answers which are very specific to a person or group of people.

You cannot guarantee anonymity during an interview a focus group, but you can anonymise the data – maybe using a pseudonym or fictionalising the participants – and instead discuss confidentiality.

View this digital entry at: https://youtu.be/06DKA4gCX5Q

Causality

Causality can be determined by using quantitative analysis. It refers to a causal relationship between two variables where a change in one is caused by the extent of another (cause–effect).

For example, peer mentoring is the cause of the change in the extent of student attainment; the change in student attainment is said to be dependent on peer mentoring.

Experimental methods and some statistical tests are good ways to explore causality. Testing for causality should apply random sampling and controls for other variables which may be influencing the relationship. Without this, conclusions should limited to either inferences or statistical tests of association and difference – one variable is connected to another but cause and effect cannot be determined (see Correlation).

Remember to check the language used in any reporting of your findings. Qualitative analysis would provide a rich, detailed description of a change, but would not make statistical claims of causality.

View this digital entry at: https://youtu.be/5XLtSKFN1K8

Confidentiality

Confidentiality and anonymity are terms which are often used interchangeably. They are not the same, but they are often discussed together.

Ensuring confidentiality is an activity of the researcher to hold data in confidence and within the boundaries of the research process. If participants are guaranteed anonymity, this activity involves keeping their identity confidential.

There are some situations where confidentiality needs specific consideration – consider a focus group where participants are visible and topics are discussed as a group.

The boundaries of confidentiality regarding wellbeing and misconduct also need outlining, including the circumstances in which confidentiality may be breached and why.

View this digital entry at: https://youtu.be/JGYK0doZUSY

Confirmation bias

Confirmation bias is the tendency to interpret and search for information consistent with your prior beliefs, assumptions or targets.

This could involve searching for literature which confirms your own thinking, asking questions in an interview which lead the respondents to confirm your own thinking, and selecting illustrative quotes which do the same.

For example, if a university has heavily invested funding into online self–help tools for students, there may be a tendency to look for information which only highlights the benefits of this initiative.

A robust research design and process of analysis, acknowledging any potential bias, limitations or conflicts of interest is essential.

View this digital entry at: https://youtu.be/sY5DaLgNUeg

Correlation

This statistical measure of quantitative data is concerned with how closely two variables (questions) are related. You can only assess correlation when using data which is numerical, presented in internals, or in an order.

Findings can be shown visually on a graph and with a correlation coefficient and can lead to conclusions such as:

"There is a positive correlation between NSS Q10 Feedback on my work has been timely and NSS Q15 The course is well organised and is running smoothly – levels of agreement one goes up in one variable and up in the other," OR "there is a negative correlation between length of lecture and number of students attending – levels of agreement one goes up in one variable and down in the other."

Qualitative analysis would provide a rich, detailed description of the data, but would not make statistical claims of correlation.

View this digital entry at: https://youtu.be/6AqUuXfkkqY

Critical thinking

Critical thinking is a slippery and highly contested process.

For some it is about problem solving whereas others see it as an ongoing and challenging social process.

This latter view is reflected in the definition (adapted from Jones–Devitt and Smith, 2007) in which critical thinking is defined as:

making sense of the world through a collaborative process of questioning questions, challenging assumptions, recognising that knowledge can evolve chaotically; ultimately with the aim of continually improving thinking.

View this digital entry at: https://youtu.be/CwmCghj7eGw

Data

Data is information collected for a specific purpose, including research and evaluation.

A method is required to generate data.

These methods produce quantitative (numbers) or qualitative data (words / visuals).

Analysis is necessary to make sense of data or data only exists as numbers or words / visuals.

Data plus analysis create evidence.

Primary data collection refers to a process of designing a new project and collecting new data. It is different to the analysis of secondary data sources – this is data which already exists.

View this digital entry at: https://youtu.be/DV0LzAwuCVI

Evaluation

There are some basic characteristics of evaluation:

- it is structured and planned

- it is objective and goal focused

- it gathers and analyses evidence to help make decisions about things. These decisions may be about interventions, activities and initiatives, and provide actions in response to questions such as "are they working in the way we had hoped?" or "are they value for money?"

In a university, researchers and students may be involved in evaluation, for example projects in local communities which aim to raise awareness and facilitate access into higher education.

Remember that evaluative evidence will be only one type of evidence used to create an evidence base and inform decision making – also watch the entry for evidence-informed decision making.

View this digital entry at: https://youtu.be/A1gEaaN5iG8

Evidence

Data gathered through structured research and evaluation is only one component of evidence. Evidence can also include stakeholder values and perspectives, organisational context and practitioner reflections which are collected more informally.

This triangulation of sources can provide a robust rationale for change and can help to eliminate bias which may appear in a single source.

There is a known difference between evidence-based and evidence-informed decision making. The use of the term evidence-based decision making assumes a privilege of quantitative research and evaluation collected by experts.

Evidence-informed decision making takes a more critical and flexible appraisal of the context in which the evidence is being applied.

You may prefer to use evidence informed to acknowledge the importance of the sometimes messy and unsystematic data gathering that can occur within higher education.

View this digital entry at: https://youtu.be/54G8DwyAIH0

Gatekeeper

A gatekeeper is a person who stands between the researcher and a potential participant. Gatekeepers are able to control who has access, and when, to the participant.

There are numerous gatekeepers in a university. If you are looking to collect data from students on your course you may want to use the first five minutes of a lecture to advertise the opportunity to participate. The lecturer would need to agree to this – this is known as granting access – and they would be known as a gatekeeper.

Those who administer and analyse institutional surveys or collate notes from Student Rep meetings also act as gatekeepers of that data who you will need to influence them in order to gain access.

Gatekeepers can also help recruit participants, but this can bias the research and should be carefully considered.

View this digital entry at: https://youtu.be/FKL6WY8KpiA

GDPR

The General Data Protection Regulation (GDPR) is a European Regulation which formed a new framework for regulating personal data in the UK from 25th May 2018. This replaces the Data Protection Act 1998.

All data controllers and organisations collecting or in any way "processing" personal data must now comply with this Regulation.

All UK Universities work within this Regulation, and this applies to anyone collecting and storing personal data, including students. Check your institution website for more details, and in particular the Student Privacy Notice which outlines the legal basis for processing personal student data.

View this digital entry at: https://youtu.be/41sOiWRdYUw

Generalisation

Generalisation describes the extent to which research findings can be applied to settings other than that in which they were originally tested.

Large surveys which employ random sampling techniques are able to generalise findings from the sample to the wider population.

Qualitative data does not claim to produce findings which can be generalised as it does not collect sample data which is representative of the wider population. Rather, it places merit in the depth of understanding gleaned about the specific setting being researched.

View this digital entry at: https://youtu.be/OQyDFNtcSb4

Hypothesis

A hypothesis is a specific statement which relates to a research problem.

It is a statement framed as a suggested answer to a research question and would use an evidence base to support this assumption. Your research findings are then used to empirically test whether your hypothesis was correct.

An example could be: Students are more likely to complete a survey when the email request comes from a known and trusted contact.

A hypothesis is most commonly used in quantitative research and involves statistical testing. In evaluation you may hear reference to a theory of change, which is an approach used to rationalise an intervention and its intended outcomes.

View this digital entry at: https://youtu.be/jkxKq61oKLo

Informed consent

The British Association of Educational Research suggests that voluntary informed and ongoing consent is the condition by which participants understand and agree to their participation, and the terms and practicalities of it, without any duress, prior to the research getting underway.

It should be made clear to participants that they can withdraw at any point without needing to provide an explanation.

Consent forms can be handed out to interview and focus group participants at the start of a session with an information sheet which clearly outlines the task and requirement of the participants.

Informed consent to participate in a survey is assumed once the participant clicks 'submit'. This should be outlined at the start and end of the survey. If the online survey does not ask for any personal details and is anonymous, participants will not be able to withdraw their data – this should also be made clear.

View this digital entry at: https://youtu.be/SVgRNS3e9Hg

Methodology and Method

A methodology is the justification for the methods used to carry out the research. This will include a theoretical justification of your approach including the overall design, how you will recruit a sample, and how your data will be analysed.

The methods refer to the practical steps taken to collect your data.

A survey and a focus group are examples of a method.

View this digital entry at: https://youtu.be/PhNnS5egU3M

Pilot study

A pilot study is often carried out before the main data collection to test the feasibility of the method.

They help to develop and refine research instruments and procedures, including the skills of the researcher.

As students are becoming over-researched, it is important that any study works well and makes the best use of their time.

A pilot study can often highlight practical issues, such as timing and suitability of the research environment, which you cannot accurately estimate.

View this digital entry at: https://youtu.be/MITrhDRO7wk

Quantitative and Qualitative

Quantitative data is expressed numerically and has been generated using a structured and rigid data collection method. This means that the focus of the questions and the units for analysis have been prescribed by the researcher (e.g. closed questions in a survey) or an information management system (e.g. official student records data).

The aim of quantitative data is to quantify variability in a large sample and look for patterns, trends over time, correlations and sometimes causality and generalisability to a population through statistical analysis.

Qualitative data relies on the interpretation of the data by the researcher. The data collection is more flexible and allows participants to add value to the data by directing the content. Qualitative data can be words (e.g. from an interview, focus group or a written document) or visuals (e.g. a photograph or artwork).

The intention is to create a rich interpretation of emotions and perceptions, often including reflections over a period of time.

View this digital entry at: https://youtu.be/MTgB-I29NWY

Questions – open and closed

Closed questions ask the respondent to choose from a number of predetermined options. An open question allows the respondent to write in their own answer.

Don't underestimate how long it takes to design good questions! Questions should avoid ambiguous, inappropriate or prejudicial language, and should control bias by avoiding leading questions.

View this digital entry at: https://youtu.be/l5C5T0jjYtw

Research

Research is defined as activity which seeks to contribute new insights to a body of knowledge.

The research process would include the identification of a research problem and a research question, and the selection of the most appropriate methodology to help answer it.

The tools used within a methodology are often referred to as research instruments.

Those who are involved in the data generation are often referred to as research participants. Research also includes the dissemination of findings and consideration of impact.

For example, institutional research in a university may be conducted to better understand why some students withdraw from their studies.

View this digital entry at: https://youtu.be/xk_szyR7aHw

Response Rate

Response rates are most often applied to survey data collection and refer to the number of surveys completed as a proportion of those that were eligible to complete it.

It is only possible to calculate a response rate when you know the total number of eligible respondents.

For example, an institutional response rate for the National Student Survey may be set a 70% target. This means that it is hoped that 70% of eligible students will complete the survey.

View this digital entry at: https://youtu.be/J7_yQFDyD24

Sample

A sample is a selected target group for participation in your research. A sample is drawn from a wider population (all possible respondents).

You should have a rationale for your sample and think carefully about how you will access them. Your choice of sample relates to your research problem and how you intend to explore it.

You may choose to sample students on a specific course, by a demographic characteristics such as gender or ethnicity, or randomly by selecting every other student sat in a lecture hall.

View this digital entry at: https://youtu.be/0CVm2MQ_seY

Survey fatigue

Survey fatigue, sometimes called respondent fatigue, refers to the deterioration of the quality of survey data as the participant tires of the process.

Surveys fatigue can occur in–survey and can have an effect on the answers are given – selecting answers without consideration (all B's) or repeating a 'Don't Know' answer will have an impact on your overall findings.

Survey fatigue can also occur across a survey population, when multiple requests are sent to the same potential participants.

Without an oversight or survey strategy, important student surveys may incur low response rate or answers which are influenced by agitation.

View this digital entry at: https://youtu.be/S1tTiYOTFUM

Synthesis

Synthesis is a process which follows analysis and moves towards a more comprehensive critical evaluation.

This stage of thinking recognises the limits of existing knowledge upon which to build new explanations.

This could include the need to examine gaps in the evidence and a discussion about what new evidence is needed in the future.

View this digital entry at: https://youtu.be/ZblS5TV9O58

Triangulation

There are four types of triangulation – methodological triangulation, data triangulation, theoretical triangulation, and researcher triangulation.

The aim of triangulation is to view evidence from more than one perspective.

Methodological triangulation involves using more than one method (for example, a student survey AND a student focus group) or the same method more than once, to compare and contrast findings collected from the same group of participants.

Data triangulation involves the use of different sources of data, for example, from different groups of participants or data collected within a different time or space.

Theoretical triangulation involves using more than one perspective. For example, applying feminist theory to a proposal would guide the data collection and analysis.

Finally, researcher triangulation would use more than one researcher to compare interpretation and provide a check for any bias that might be apparent.

View this digital entry at: https://youtu.be/SWG4yx1yVrI

Validity/ Reliability/ Trustworthiness/ Authenticity

During the analysis of data and consideration of the emerging evidence base it is necessary to verify the quality and credibility of the sources and the process which was used to generate them.

Validity refers to the accuracy of the data and whether it is the most appropriate for answering the research question.

Reliability refers to the design of the research instrument and the extent to which the same results would be generated by the instrument if the data collection was to happen again. These terms are much easier to apply to quantitative data.

Qualitative data uses an assessment of authenticity – what biases may have affected the data collection? Consider who the researcher is and their relationship to the participant.

And trustworthiness – to what extent can you trust the data you have collected? Keeping a researcher diary or reading transcripts with participants are two strategies which can be applied to mitigate.

Some of these verifications are much more difficult to secure with data from secondary sources.

View this digital entry at: https://youtu.be/0Ql4LNBQCoA

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