SECTION 4: THINKING CRITICALLY ABOUT EVIDENCE IN HIGHER EDUCATION

By the end of this section you will be able to:

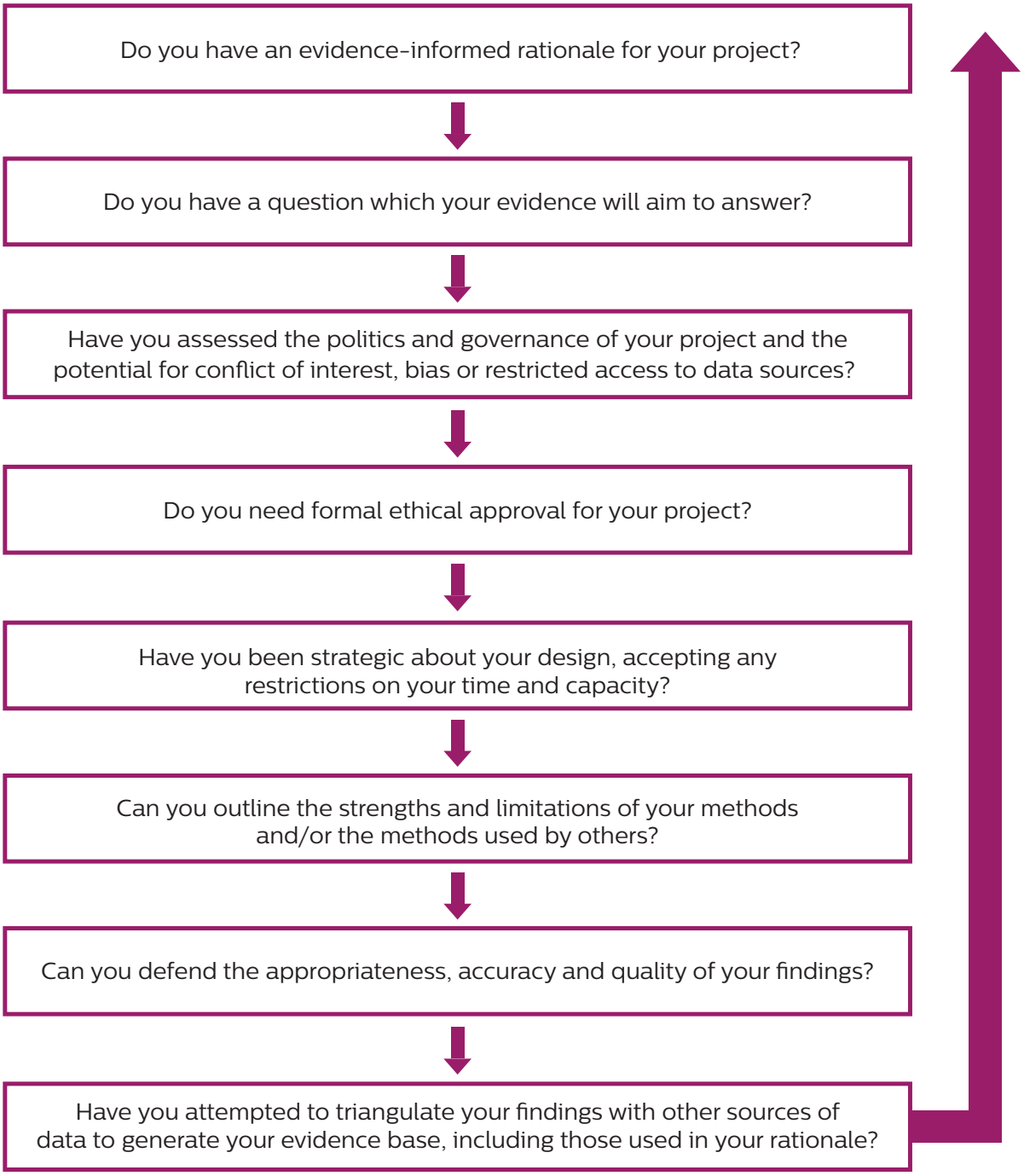
- Ask critical questions of your evidence base.
- Extend your learning, complete an information sheet which clearly and concisely outlines the scope of your project.
- Apply your learning, review the case study to help you consider a 'real life' example associated to the content of this section.

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. Lecturers eat fruit. Vegetarians also eat fruit. All lecturers 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 taught 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 help students to get a job. As if I am going to take any notice of their opinion!			
10. Always telling the truth with your work colleagues is the right thing to do as people have a right to total honesty.			

What critical questions should you ask of evidence?



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 rephrasing 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 to 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]

Draft Consent Form	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]

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 researchers each conducts 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 with the 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.

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?

4.1 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 colleagues who begin this journey after you.

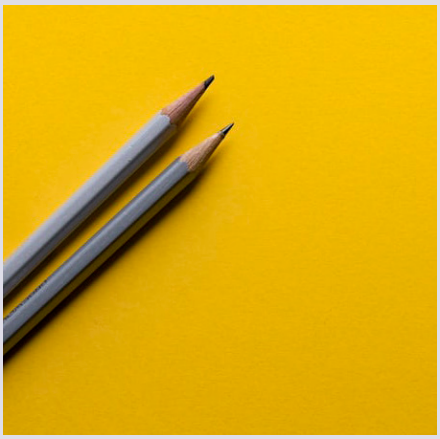
How critical are you? Some possible answers. What do you think?

Statement	True	False	Don't know
1. Lecturers eat fruit. Vegetarians also eat fruit. All lecturers are therefore vegetarian. This is a spurious association. The wrong connection is made between two independent phenomena. Lecturers' 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 taught 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 help students 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 work colleagues 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 (eg human rights) and the right moral action to take, which in this case is really about meeting desirable behaviours and expectations.		x	

4.2 Case Study: Thinking Critically about Evidence in Higher Education

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.

Ali - PVC Partnerships at Nudge University



Ali is the newly-appointed PVC at Nudge and is taking a proposal for a significant strategic partnership to Academic Board, after which it should progress to Court for final approval.

The proposal has already navigated the Partnerships Committee successfully and Ali doesn't foresee any obvious problems with the proposal going to Board.

The paperwork is duly submitted in good time and Ali is surprised when invited to an urgent meeting to discuss the paper with the VC as Chair of the Board.

In the meeting, the VC explains that there are two potential problems with the proposal. The first concerns the reputation of the proposed partner as, although due diligence has been completed, the VC has heard anecdotally from a variety of sources that the partner organisation's Senior Team 'is a nightmare to work with'.

The second issue relates to the Chair of Court holding business interests which are in direct competition with the proposed partner organisation. The VC indicates that, whilst this should not be a problem which can't be resolved through normal governance processes, she would prefer it if Nudge avoided any potential damage to an already excellent relationship with Chair of Court.

She asks that Ali withdraws the paper and that these wider issues are resolved satisfactorily with agreement of all of Nudge's Executive Leadership Team, prior to the proposal going further at this stage.

Ali is completely bamboozled by the outcomes of this meeting and is really cross that the proposed partnership has been paused.

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 Ali. 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 Ali feel bamboozled?
- Can you identify any further steps Ali could have taken to prepare for this meeting more effectively?
- What further evidence does Ali need to consider before deciding if this proposal can still be pursued?
- How can Ali learn from the experience in order to become more effective as an evidence-informed PVC for Partnerships at Nudge?

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): pp 29-46

Digital glossary for this section

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