

The background features a series of concentric, slightly offset rectangular frames in shades of blue and green, creating a tunnel-like effect. A white rounded rectangle is centered on the page, containing the text 'ECDE7002'. Below the text, a thin white horizontal line is drawn.

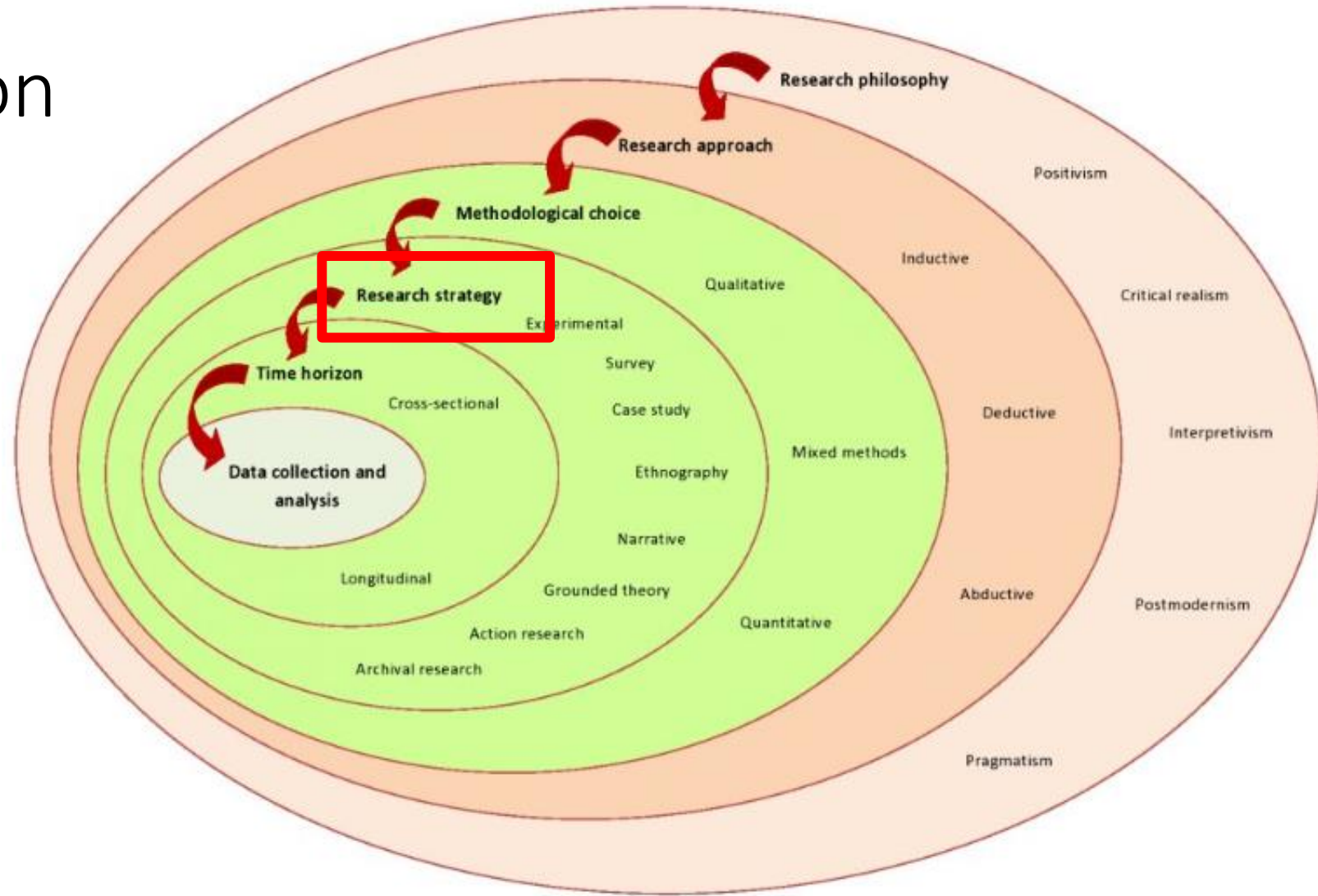
ECDE7002

The Research Onion

Start from the outside and peel each layer away until you reach the core.

These layers are broken up into six main areas:

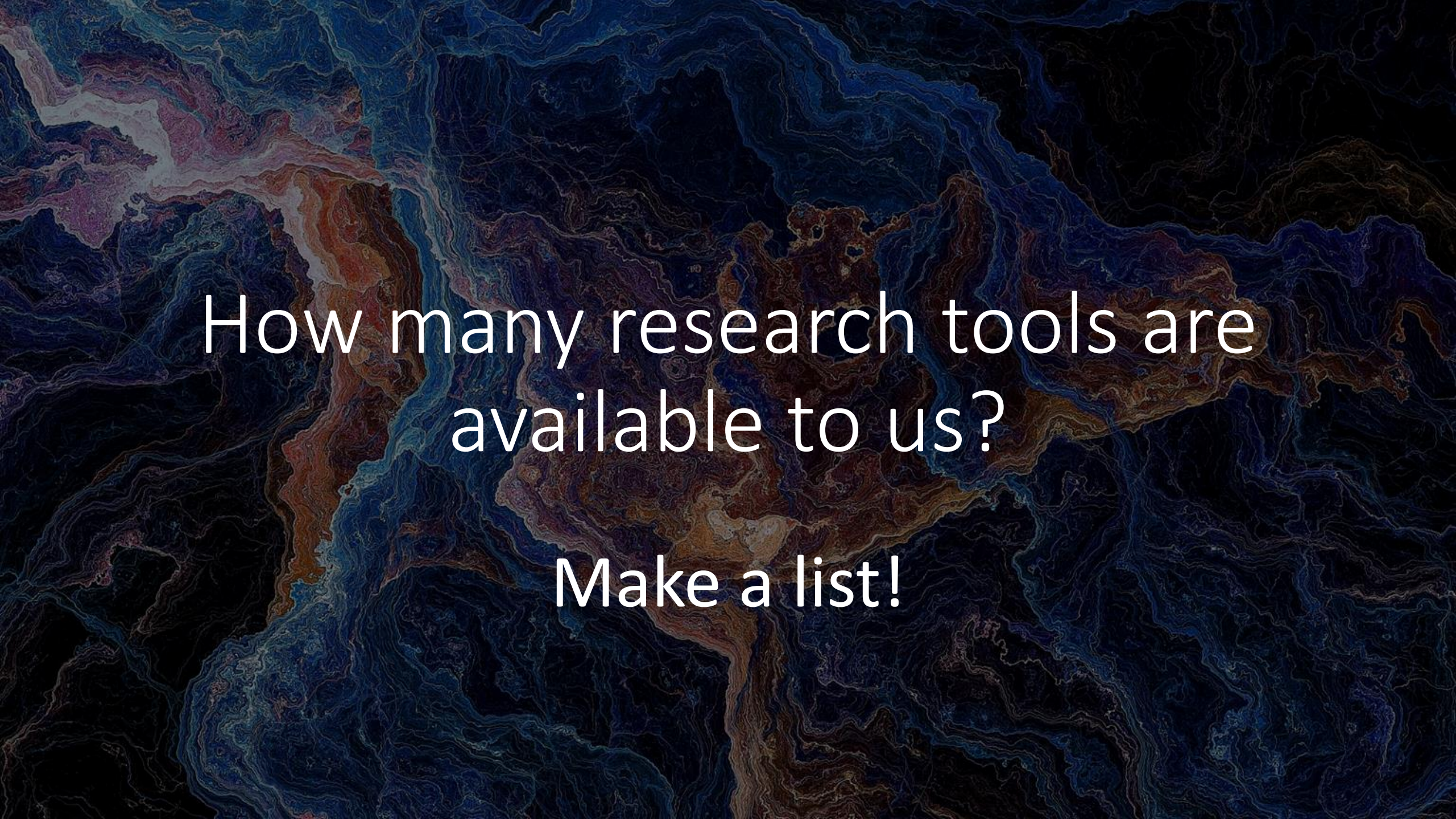
- research philosophy;
- research approach;
- research methodology choices;
- research strategy;
- time horizons;
- data collection techniques and analysis.



(Saunders et al., 2007)

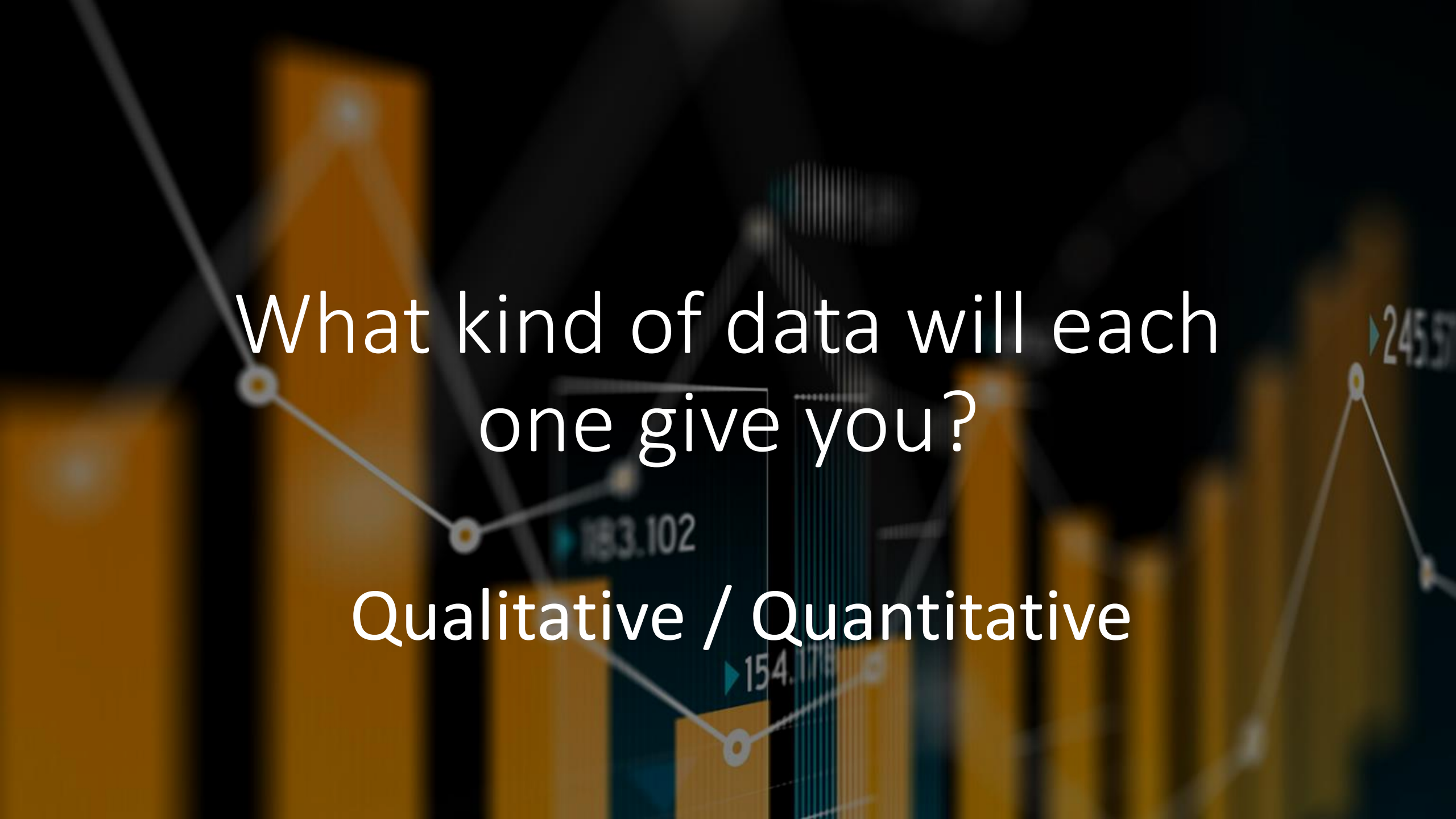
Research Strategy

= how the researcher intends to carry out the work;
i.e. what method(s) of data collection will be used.

The background of the slide is a traditional marbled paper pattern. It features intricate, swirling veins of deep blue, navy, and black, interspersed with streaks of earthy brown, tan, and hints of purple. The overall effect is a complex, organic texture that resembles natural stone or aged parchment.

How many research tools are
available to us?

Make a list!



What kind of data will each
one give you?

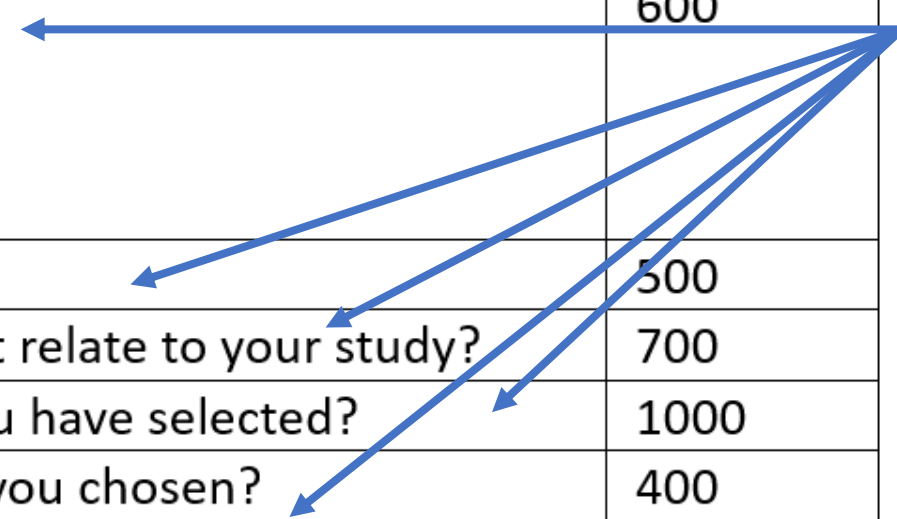
Qualitative / Quantitative

Assessment Component 2: 3500 words

Outline your preferred approach (qualitative/quantitative/mixed methods) to this enquiry by focusing on ONE of your research questions. Plan an appropriate data collection process and associated analysis of the data, reflecting on its strengths and limitations. Critically reflect upon the ethical issues surrounding the research process.

Section	Suggested content	Suggested word count
Introduction	Briefly introduce your topic and the research question that you have chosen to focus on in this part of the assignment. What is the aim of your study?	200
Chosen method	What is/are your chosen method(s)? Quantitative Qualitative Mixed-methods approach	600
Sampling	What is/are your sampling method(s)?	500
Ethics	What are the ethical considerations that relate to your study?	700
Research tool(s)	What is/are the research tool(s) that you have selected?	1000
Data analysis method(s)	Which method(s) of data analysis have you chosen?	400
Conclusion	<u>Summarise</u> your intentions.	100

for THIS
research
question



QUESTIONNAIRES



Name _____

Signature _____

Date _____

Questionnaires

Depending on the nature of the questions, questionnaires can be classified as:

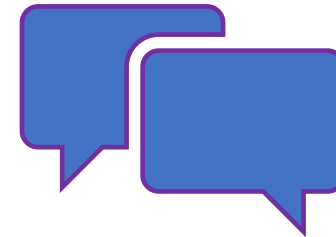
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graph TD; A[Depending on the nature of the questions, questionnaires can be classified as:] --> B[quantitative]; A --> C[qualitative]; B --> D[Answers obtained through closed-ended questions with multiple choice answer options are analysed using quantitative methods and they may involve pie-charts, bar-charts and percentages.]; C --> E[Answers obtained to open-ended questionnaire questions are analysed using qualitative methods and they involve discussions and critical analyses without use of numbers and calculations.]
```

quantitative

Answers obtained through closed-ended questions with multiple choice answer options are analysed using quantitative methods and they may involve pie-charts, bar-charts and percentages.

qualitative

Answers obtained to open-ended questionnaire questions are analysed using qualitative methods and they involve discussions and critical analyses without use of numbers and calculations.



Questionnaires

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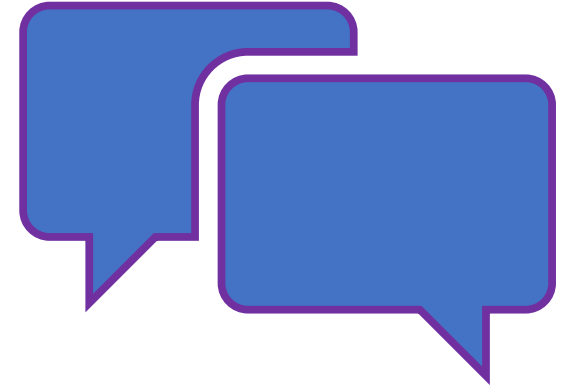


Strengths?



Limitations?

Discussion Points



- Reliability
- Validity
- Representative sample
- Generalisation

- the application of research results to cases or situations beyond those examined in the study

Generalisation

- the degree to which an assessment tool produces stable and consistent results.

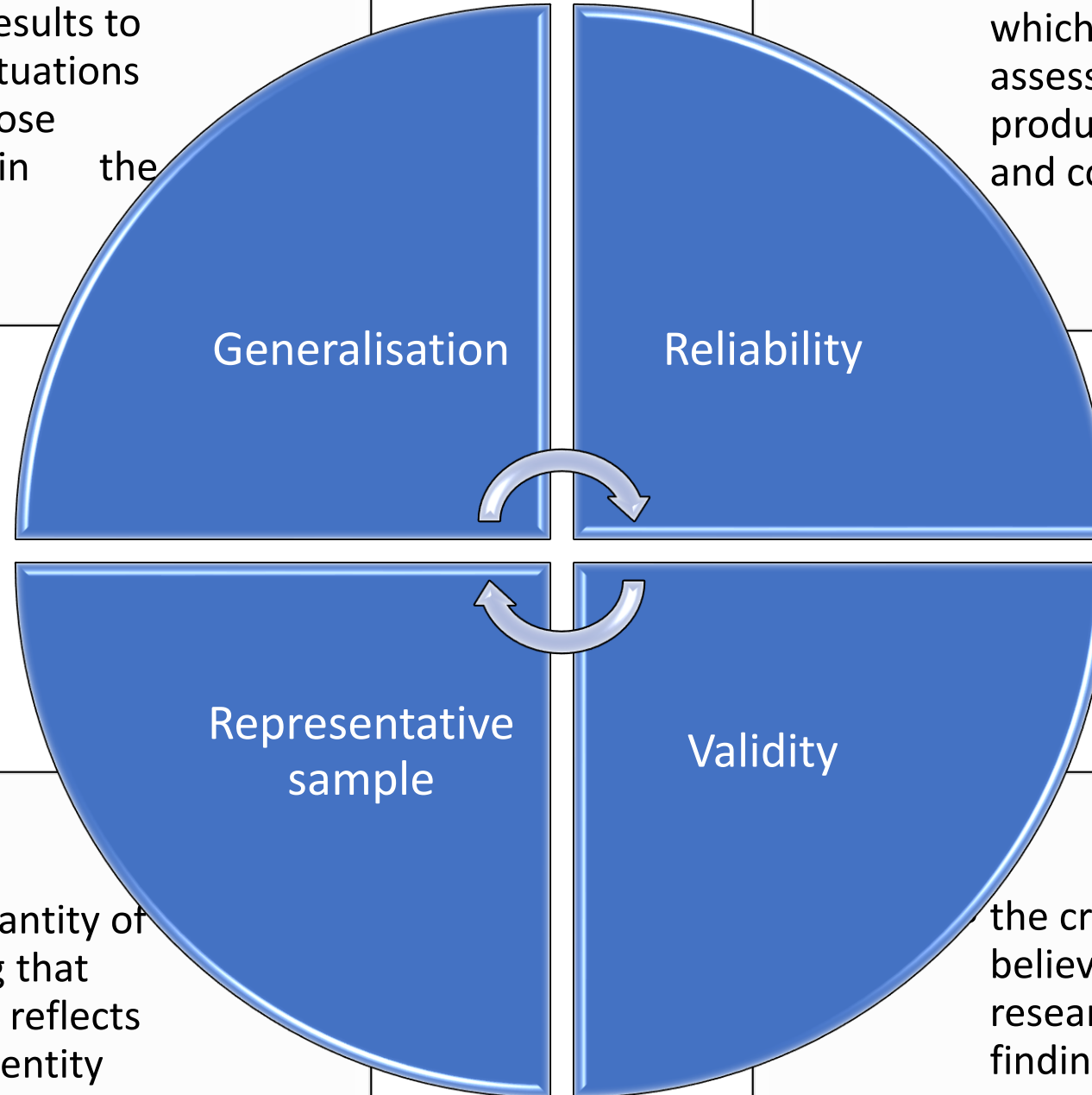
Reliability

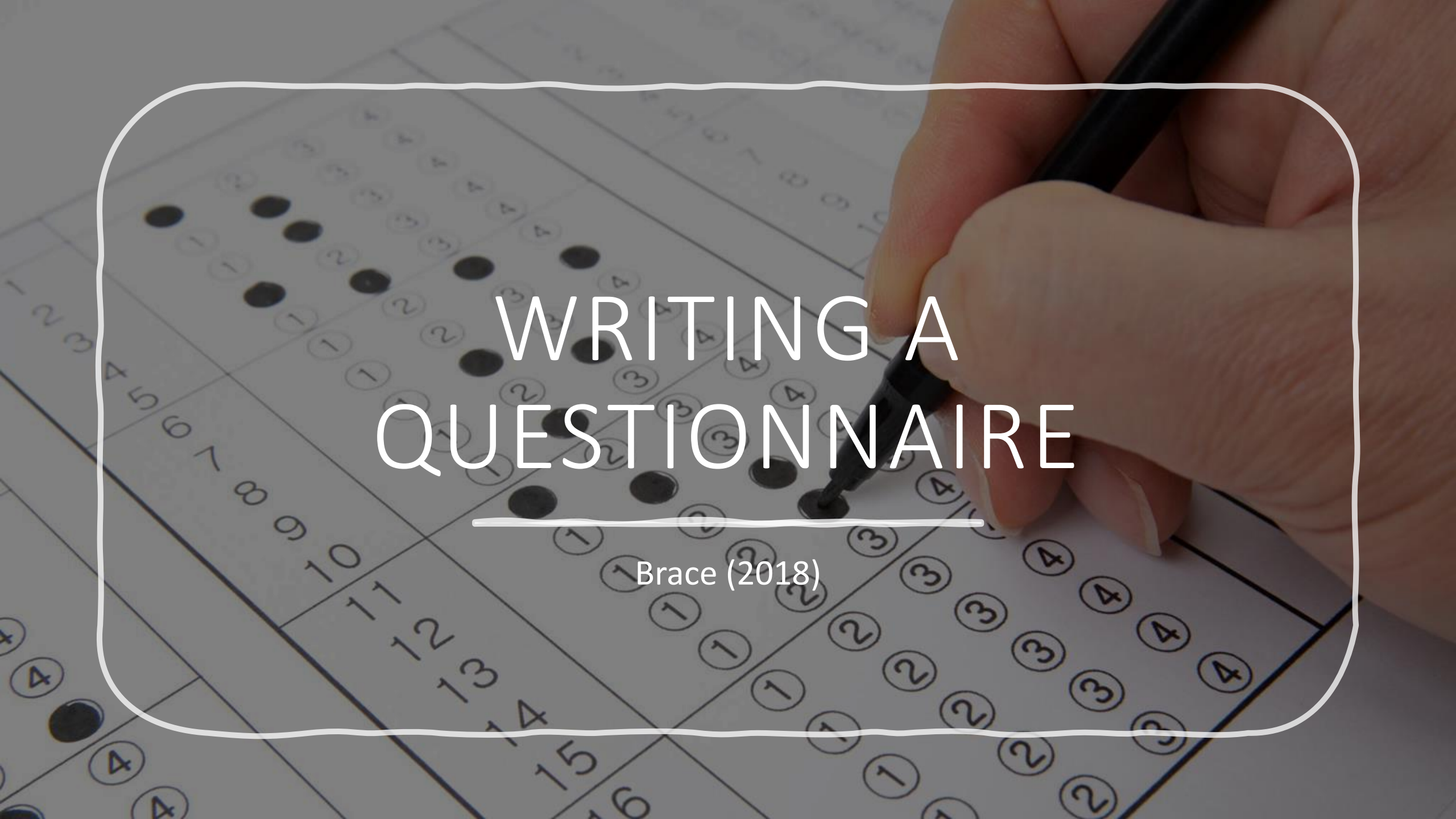
Representative sample

- a small quantity of something that accurately reflects the larger entity

Validity

the credibility or believability of the research. Are the findings genuine?



A close-up photograph of a hand holding a black pen, filling out a questionnaire. The questionnaire has a grid of numbered circles (1, 2, 3, 4) and some circles are already filled with black ink. The background is slightly blurred, showing more of the questionnaire and the hand. A white, hand-drawn style border frames the central text.

WRITING A QUESTIONNAIRE

Brace (2018)

Open questions

- ⊕ Open questions may produce unexpected results.
This can make the research more original and valuable.
- ⊖ **However**, it is difficult to analyse the results of the findings when the data is obtained through open questions.



Closed questions

The respondents are given a list of predetermined responses from which to choose their answer.

The list of responses should include every possible response and the meaning of the responses should not overlap. For example...



1. Please select your age group.

☐ Under 18

☐ 18 - 24

☐ 24 - 34

☐ 34 - 45

☐ Over 45

Closed questions

- The respondents are given a list of predetermined responses from which to choose their answer.
- The list of responses should include every possible response and the meaning of the responses should not overlap. For example...
- A **Likert** scale is a commonly used set of responses for closed questions.



Likert Scale

Example 1: How satisfied were you with your stay at our hotel?

1. Very dissatisfied.
2. Somewhat dissatisfied.
3. Neither satisfied nor dissatisfied.
4. Somewhat satisfied.
5. Very satisfied.

Example 2: Which image best describes your experience with our product?



Agreement

Strongly agree

Agree

Undecided

Disagree

Strongly disagree

Frequency

Very frequently

Frequently

Occasionally

Rarely

Never

Examples of
Likert Scales

Importance

Very important

Important

Moderately important

Of little importance

Unimportant

Likelihood

Almost always true

Usually true

Occasionally true

Usually not true

Almost never true

Dichotomous Questions

This type of questions gives two options to respondents to choose from:

yes / no

agree / disagree.

It is the easiest form of questionnaire for the respondent in terms of responding to it.



What do you think of Starbucks?



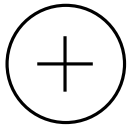
Love It



Hate it

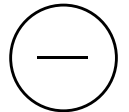
Multiple choice questions

Respondents are offered a set of answers they have to choose from.



= easy to complete.

However, if there are too many answers to choose from, it can make the questionnaire boring.



Best Multiple Choice Ever?

Which answer is correct?

1. All of the below.
2. None of the below.
3. All of the above.
4. One of the above.
5. None of the above.
6. None of the above.

Scaling / Ranking Questions

They present an option for respondents to rank the available answers to the questions on the scale of given range of values (for example from 1 to 10).



Points to consider

Social desirability –
individuals may lie
to put themselves
in a positive light

Anonymity – can
reduce social
desirability bias



Writing questionnaire questions

Examples taken from:

<https://www.surveymonkey.com/mp/5-common-survey-mistakes-ruin-your-data/>

Writing Questions

Avoid leading questions:

Bad Question: How short was Churchill?

Better Question: How would you describe Churchill's height?

If the question is rewritten to be neutral-sounding, it can eliminate the leading bias.



Writing Questions

Avoid loaded questions

Bad Question: Where do you enjoy drinking coffee?

Some people dislike coffee and, therefore, can't answer the question.



Writing Questions

Stay away from double-barreled questions

Bad Question: How useful will this textbook be for students and newly qualified teachers?

Better Questions:

How useful will this textbook be for students?

How useful will this textbook be for newly qualified teachers?



Writing Questions

Avoid absolutes in questions

Bad Question: Do you always eat breakfast? (Yes/No)

Better Question: How many days a week do you usually eat breakfast?

Are there still issues with this?



Question testing - example 1

Do you have a personal computer (PC) at home?

(Tick one box)

Yes

☐

No

☐

Good / bad?

If bad, can you improve it?

Question testing - example 1 revised

Do you or your family have a computer at home?

(Tick one box)

Yes

☐

No

☐

Is this a better question?
Can you improve it?

Question testing - example 2

How often, if ever, are you punished at school; e.g., detention, sent to see the head teacher, sent out of the classroom?

- Never
- Rarely
- Sometimes
- Often



Good / bad?
If bad, can you improve it?

Question testing - example 2 revised

In the last four weeks, how many times have you been punished at school?

- Never
- Once or twice
- Three or more times



Good / bad?
If bad, can you improve it?

A vintage telescope with brass and silver components is mounted on a dark metal stand. It is positioned on a rooftop, looking out over a vast, densely packed cityscape under a twilight sky. The city lights are visible in the distance, and the overall atmosphere is contemplative and observational.

OBSERVATION

Observation

It is part of a teacher/lecturer's role

You can see things in their natural context

You can see things that may escape conscious awareness

You can learn about things that people may be unwilling to talk about

It can be inconspicuous and part of normal classroom routine

It can be the least intrusive of all methods

Research Evidence: Can observers spot good teaching?

Strong et al. (2011) used value-added scores to identify 'effective' and 'ineffective' teachers, showed videos of them teaching to observers and asked them to say which teachers were in which group.

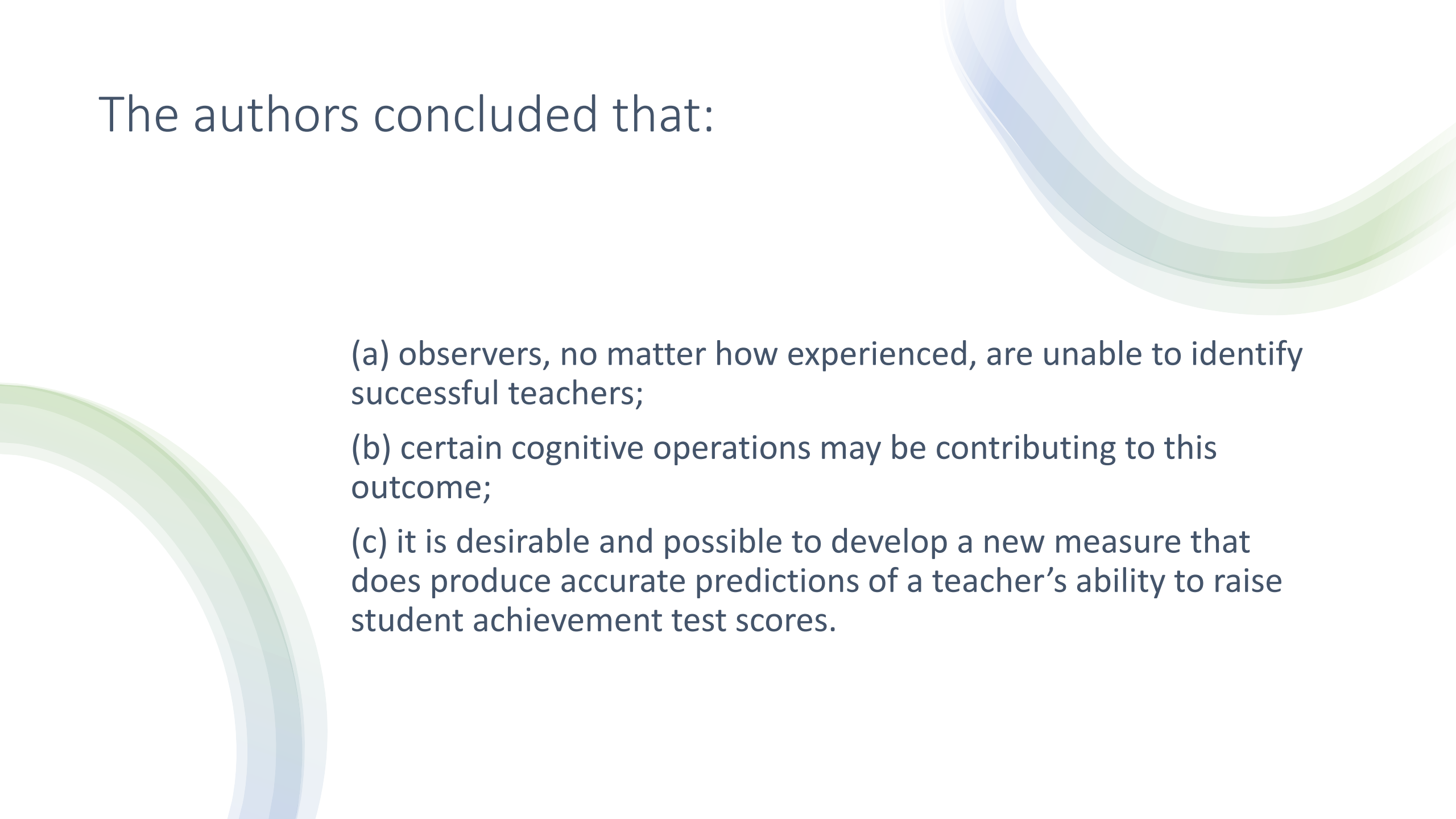
What do you think the figures showed?

Strong, M., Gargani, J. & Hacifazlioglu, O. (2011) Do We Know a Successful Teacher When We See One? Experiments in the Identification of Effective Teachers. In Journal of Teacher Education, Volume: 62 issue: 4, page(s): 367-382

The study found that:

- In the experiments where the observers were not trained in observation, the proportion correctly identified by experienced teachers and head teachers was below the 50% that would be expected by pure chance.
- At this level of accuracy, fewer than 1% of those judged to be 'Inadequate' are genuinely inadequate; of those rated 'Outstanding', only 4% are actually outstanding.

Overall, 63% of judgements will be wrong.

The slide features decorative curved lines in shades of blue and green. One set of lines curves from the top right towards the center, while another set curves from the bottom left towards the center.

The authors concluded that:

- (a) observers, no matter how experienced, are unable to identify successful teachers;
- (b) certain cognitive operations may be contributing to this outcome;
- (c) it is desirable and possible to develop a new measure that does produce accurate predictions of a teacher's ability to raise student achievement test scores.

In other studies:

If a lesson is judged 'Outstanding' by one observer, the probability that a second observer would give a different judgement is between 51% and 78%.



How can the research evidence be so out of line with our intuition?

- Observation produces a strong emotional response (is it difficult not to think about what we 'would have done'?);
- Learning is invisible (can we 'see' when / what pupils are learning?);
- We assume that if you can do it, you can spot it (can you describe everything you do explicitly?);
- We don't believe that our observation can miss things (in-attentional blindness).

https://www.youtube.com/watch?v=IGQmdoK_ZfY

Taken from Professor Rob Coe:
<https://www.cem.org/blog/414>



WHAT CAN BE OBSERVED ...



What can be observed?

- Human behaviour
- Physical actions and interactions
- Verbal behaviour
- Expressive behaviour
- Spatial locations
- Temporal patterns
- Physical objects



HOW CAN WE OBSERVE?

How can we observe?



QUALITATIVE
OBSERVATION



QUANTITATIVE
OBSERVATION

How can we observe?

Qualitative observations...

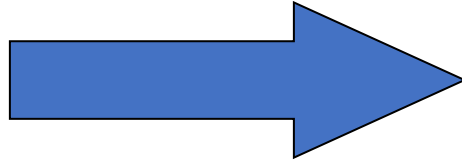
are made when you use your senses to observe the results.
(sight, smell, touch, taste and hearing)

Quantitative observations...

are made with instruments such as rulers, balances, graduated cylinders, beakers and thermometers.
These results are measurable.

Types of Observation

Structured



Unstructured

Sometimes we have something specific we want to observe – leadership skills; level of participation etc.

We use a structured, preset guide (schedule) of what to observe or a checklist.

Looking for

Sometimes we want to see what is naturally occurring or exists without predetermined ideas. We use have an open-ended approach to observation and record all that we observe.

Looking at

Observing what does not happen may be as important as observing what does happen.



Your role in observation

A choice between:

- *Non-participant observation - Researcher is not part of the activity taking place, but simply observes.

- *Participant observation - Researcher takes part in community, organisation or activity. Researcher attempts to learn what it is like to be part of the community, organisation, or participate in the activity.



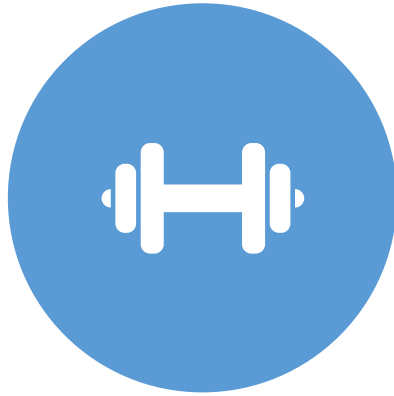
Your role in observation

A choice between:

- *Overt observation = those being observed are aware of the fact that they are being observed.
- *Covert observation = the researcher is "undercover"; i.e. the participants are unaware that they are being observed.

If you are an overt, non-participant observer (i.e. 'fly-on-the wall'), how will you deal with interested participants?

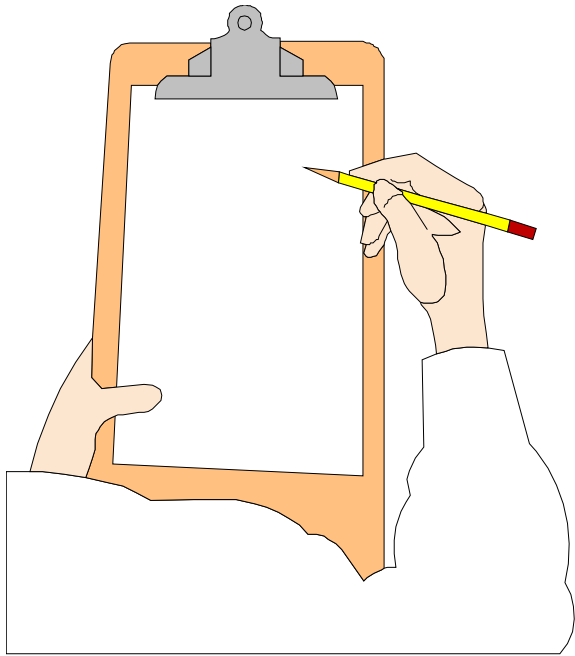
OBSERVATION



STRENGTHS



LIMITATIONS



LIMITATIONS – THE OBSERVER...

Observer Effect

- The presence of an observer can have a considerable effect on the behaviour of those being observed.
- Explaining to a participant what you are doing may affect their behaviour
- Behaviour or 'act'?

Roethlisberger and Dickson (1939)

Hawthorne effect – the presence of an observer increased productivity at the Hawthorne electrical works, Chicago





Observer Bias

- Certain attitudes may bias what you “see”
- Observer expectations
- Observer emotions

How well do you observe?

You have 15 seconds to look at the image.

You can:

- *draw a picture
- *make a list / notes





HOW WELL DO YOU
OBSERVE?



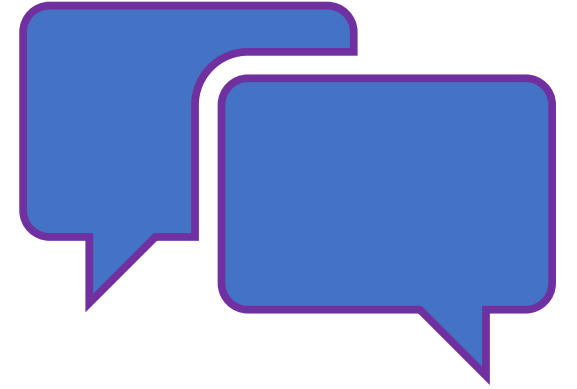
WHAT NEXT?

A hand holding a compass over a desert landscape with a winding road.

Steps in planning for observation

- **WHO:** Decide who will be observed.
- **WHY:** Establish why they are selected
- **WHAT:** Determine aspects that will be observed (characteristics, attributes, behaviours, etc.)
- **WHEN:** Determine when observations will be made.
- **WHERE:** Determine where observations will be made
- **HOW:** Develop the observation schedule
- **HOW:** Pilot / test the observation schedule
- **DO:** Conduct the observations
- **SO?:** Analyse and interpret the collected information.
- **SHARE:** Write up your findings.

Discussion Points



- Reliability
- Validity
- Representative sample
- Generalisation

- the application of research results to cases or situations beyond those examined in the study

Generalisation

- the degree to which an assessment tool produces stable and consistent results.

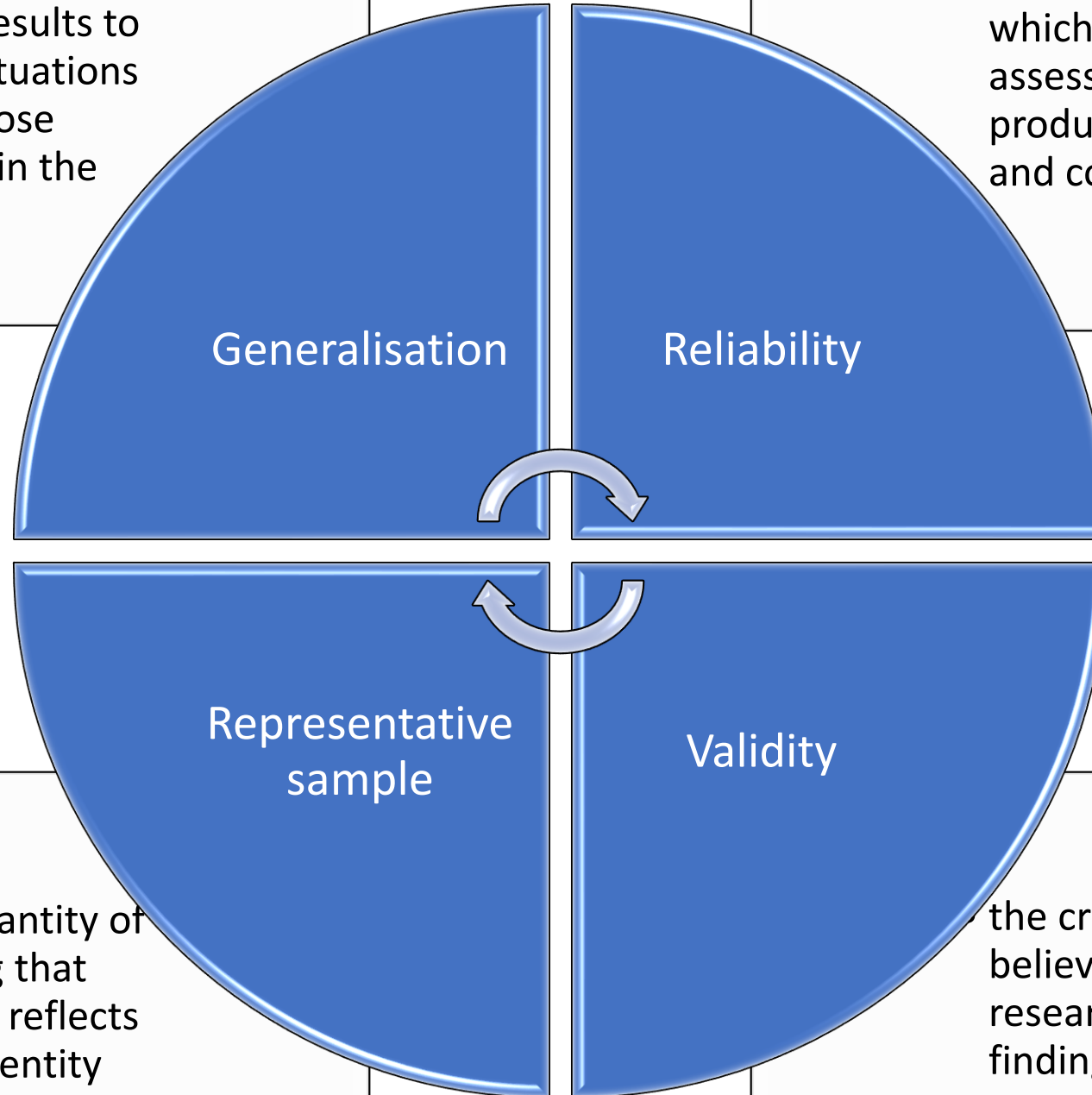
Reliability

Representative sample

- a small quantity of something that accurately reflects the larger entity

Validity

the credibility or believability of the research. Are the findings genuine?



Observation schedules

Strengths and challenges???



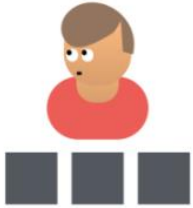
Leuven Scale

The Leuven Scale for Involvement (in learning)

It's time for an honest observation of your students

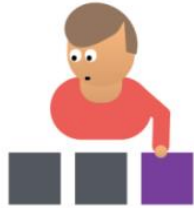
Based on: <http://www.plymouth.gov.uk/documents-ldtoolkit/leuven.pdf>

Let's hope teachers are designing and evaluating classroom activities with an aim that every learner might reach a state of **flow**.



Extremely low

Activity is simple, **repetitive** and passive. The child seems **absent** and displays no energy. They may stare into space or look around to see what others are doing.



Low

Frequently interrupted activity. The child will be engaged in the activity for some of the time they are observed, but there will be **moments of non-activity** when they will stare into space, or be distracted by what is going on around.



Moderate

Mainly continuous activity. The child is **busy** with the activity but at a fairly **routine** level and there are few signs of real involvement. They make some progress with what they are doing but don't show much energy and concentration and **can be easily distracted**.



High

Continuous activity with **intense moments**. The child's activity has intense moments and at all times they seem involved. They are **not easily distracted**.



Extremely High

The child shows **continuous and intense activity** revealing the greatest involvement. They are concentrated, creative, energetic and persistent throughout nearly all the observed period.

Look out for: focused concentration on the present moment; loss of self-consciousness; activity that's intrinsically rewarding; Distorted awareness of time; personal agency.

By Richard Wells
Twitter: @EduWells
EduWells.com



Ferre Laevers

Follow-up tasks

1. Choose two journal articles that relate to your developing area of research interest;
2. Use Higgins' '6As of the usefulness of research' questions to make a judgement about the quality and trustworthiness of the articles.
<https://my.chartered.college/research-hub/introduction-to-research-judging-the-quality-and-trustworthiness-of-research-evidence/>
3. Compare and contrast the content of the two articles:
 - What do they have in common? What is similar?
 - What differences are there between them?
4. Write 200 words about how the research discussed in the articles applies to your own research interest. Email your work to Catherine (c.morgan@uwtsd.ac.uk) before next week's session.

These tasks will help you to prepare for the first part of Assessment Component 1: 'With reference to relevant literature, identify an area of research you may want to explore'.

Suggested reading

Questionnaires:

www.imperial.ac.uk/staff/educational-development/teaching-toolkit/educational-research-methods/methods/questionnaires/

Observations:

www.imperial.ac.uk/staff/educational-development/teaching-toolkit/educational-research-methods/methods/observations/

Cohen, L., Manion, L. & Morrison, K. (2011) Research Methods in Education, 7th ed.; Routledge.

Pages 377-408: Chapter 20 - Questionnaires

Pages 456-474: Chapter 23 - Observation



Time for lunch.
See you next week.