

ECGE7001P

Session 5 - Research Tools
(Part 3)

Lesson Study

Lesson Study is a model for collaborative classroom professional learning where:

- two or more teachers work together, developing practice in the classroom, focusing on the needs and learning of real pupils and trying to solve a teaching- or learning-based problem which is affecting pupils' progress;

Lesson Study

- teachers are engaged in developing a teaching technique which is designed to improve a specific aspect of learning for identified pupils;
- teachers keep a record of what they learn and pass on the practice knowledge which they gain to others.

It is built on the premise that the best way to improve education is to "get teachers together to study the processes of teaching and learning in classrooms, and then devise ways to improve them" (Fernandes & Yoshida, 2004).

The process was developed in Japan.





Lesson Study

1. Plan

- **Plan** a lesson together.
- Address each activity to your enquiry question and **predict** how pupils will react and how you will assess this.
- Pick 3 **case pupils**.

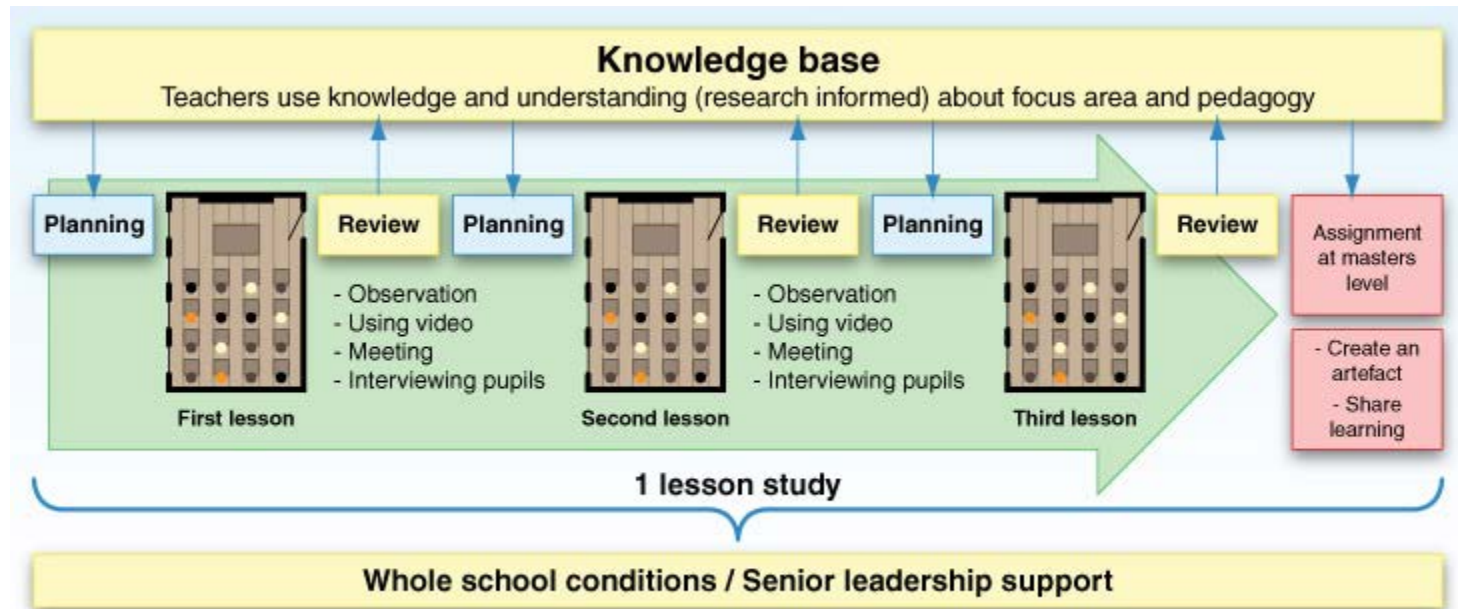
2. Observe

- **Teach** the lesson with your colleagues observing.
- Pay particular attention to the **case pupils**.
- Conduct any **assessments** and/or **interviews** during & after.

3. Reflect & Plan

- As soon after the lesson as possible, **reflect** how each activity elicited the sought-after change. Were your **predictions** correct? Why?

Lesson Study



Lesson Study

- <http://lessonstudy.co.uk/what-is-lesson-study/>

Background to lesson study: Peter Dudley

- <http://lessonstudy.co.uk/2014/09/lesson-study-professional-learning-for-our-time-read-pete-dudleys-resume-of-the-case-for-lesson-study-made-in-his-new-book-out-on-10-september-which-can-be-ordered-at-httpwww-routledge-comb/>

Question formation

How can we improve.....through.....in a FP/KS2 classroom?



e.g. pupil response time e.g. use of
lollypop sticks

Consider:

- What are you going to measure?
- How might you measure it?

Some examples:

- How can we improve involvement through the use of differentiated questioning in KS2 English lessons?
- How can we improve pupils' learning through peer assessment?
- How can we support learners to achieve the lesson's learning objective by using differentiated criteria checklists?
- How can mini plenaries influence pupils' understanding of the learning objective?

Reflection

Reflective thinking involves essentially three processes:

- experiencing something
- thinking (reflecting) on the experience
- learning from the experience.

Models of reflective practice

- The following models of reflective practice can allow you to construct a greater depth of reflection than the experience (1), think (2), learn (3) model.

Models of reflective practice: Kolb, 1975 & 1984

- The Learning Cycle emphasises reflective observation as a way to analyse and draw conclusions from an experience. The aim is to take this learning into new experiences, completing the cycle.



Concrete experience
(experiencing
something)



Reflective Observation
(thinking about the
experience)



Abstract
Conceptualisation
(learning from the
experience)



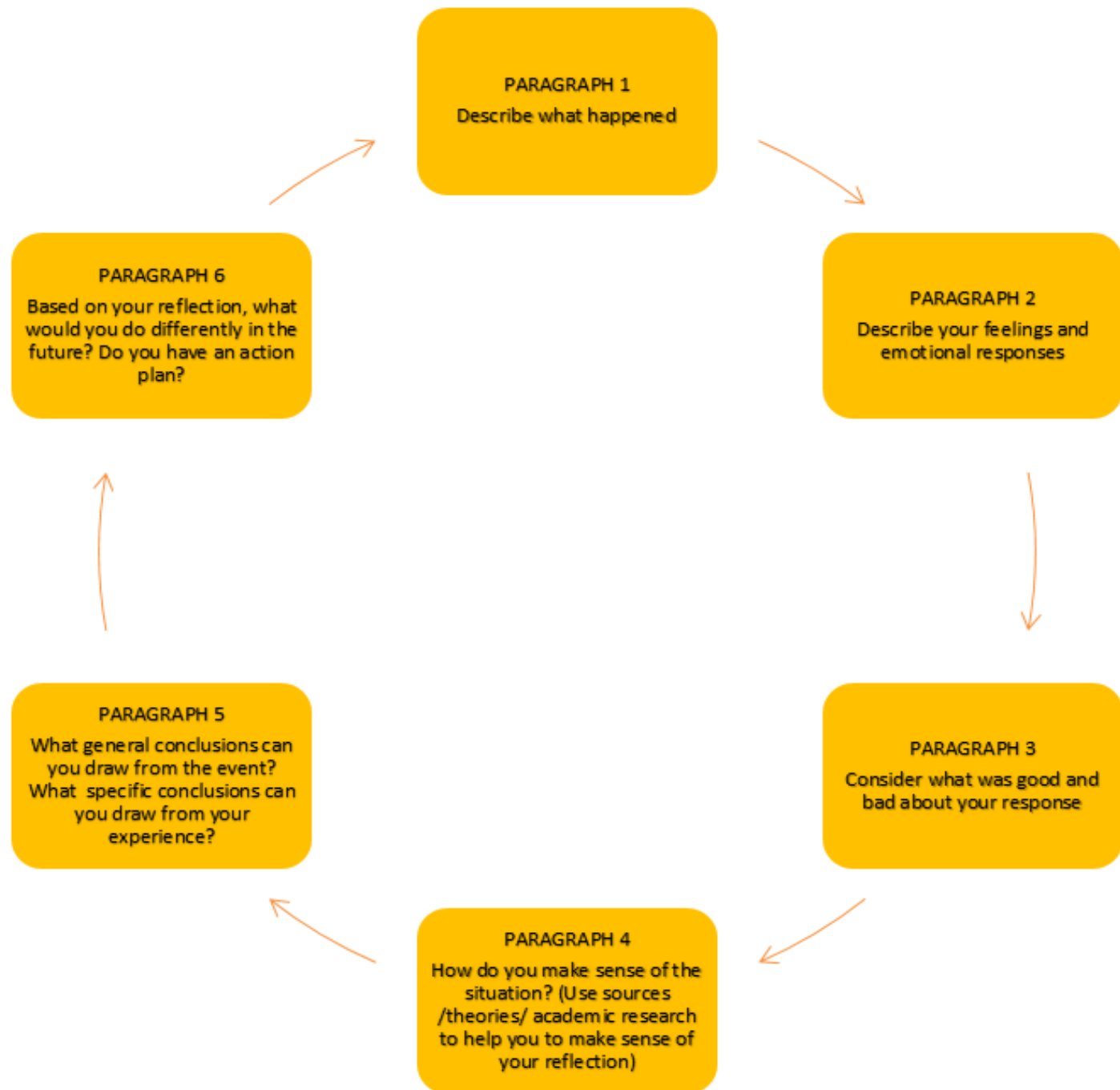
Active Experimentation
(putting into practice
what you have learned)



Models of reflective practice: Gibbs, 1988

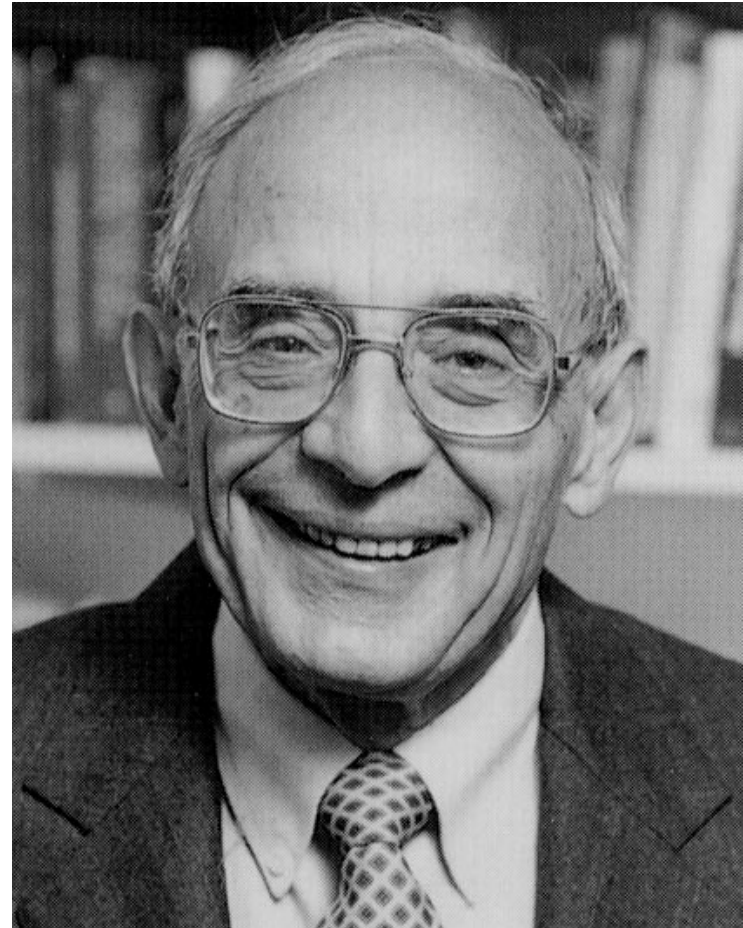
- The Reflective Cycle has six distinctive stages, leading from a description of the event/experience through to conclusions and consideration for future events.





Models of reflective practice: Schön, 1978

- This model has the strength of considering reflection in action (during an event/experience) with those that happen in hindsight (after the event).



Reflection in action (at the time the event is happening)

- The experience itself
- Thinking about it during the event
- Deciding how to act at the time
- Acting immediately

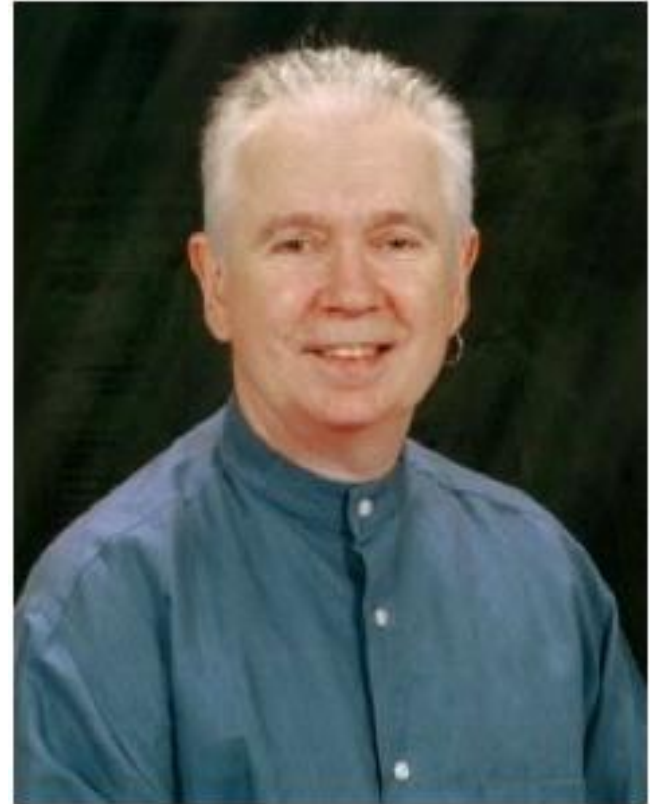
Reflection on action (after the event)

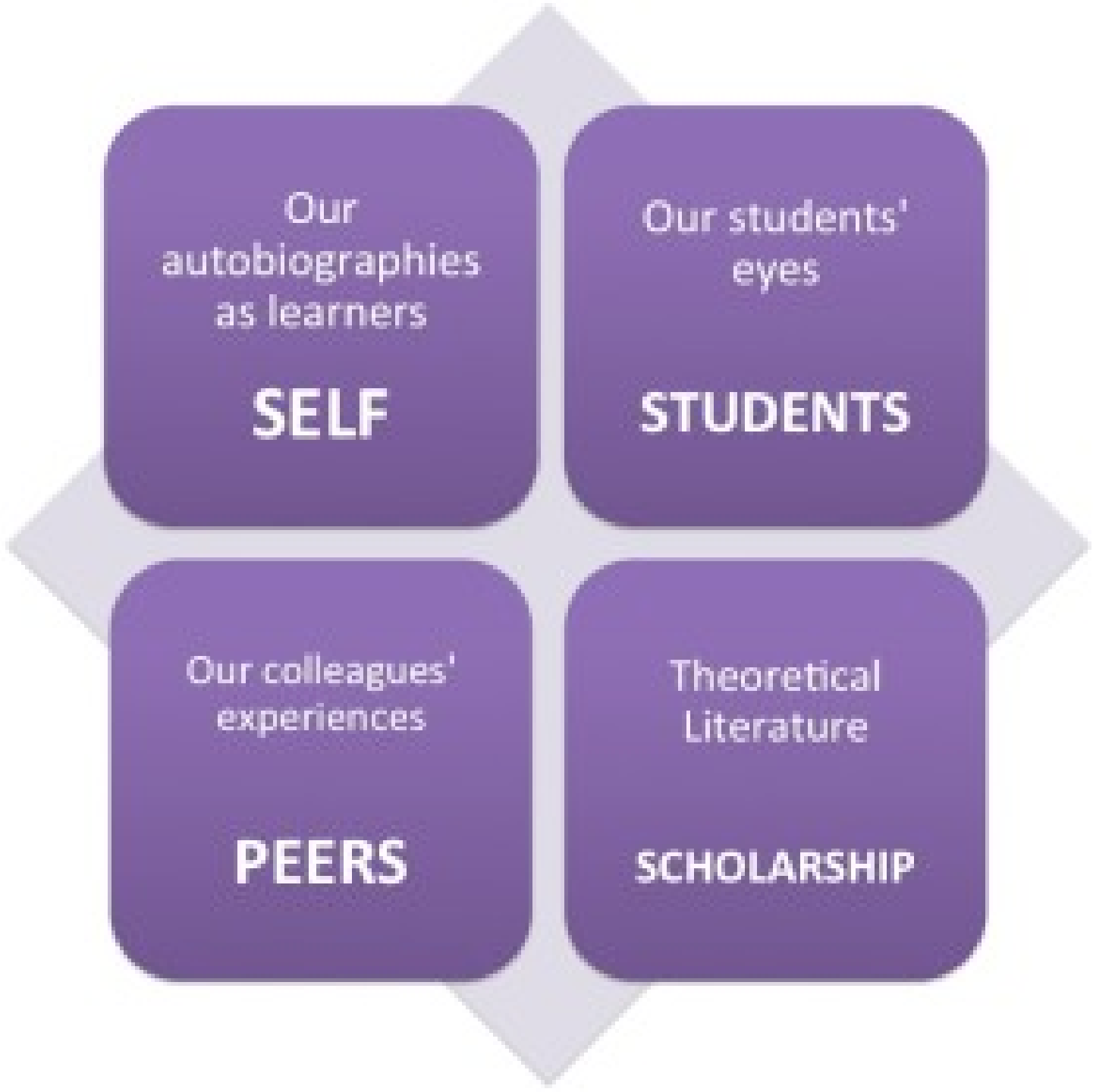
- Reflecting on something that has happened
- Thinking about what you might do differently if it happened again
- New information gained and/or theoretical perspectives from study that inform the reflector's experience are used to process feelings and actions

Models of reflective practice: Brookfield, 1998 & 2005

- This model proposes four lenses that can be engaged by teachers in a process of critical reflection: (1) the autobiographical, (2) the students' eyes, (3) our colleagues' experiences, and (4) theoretical literature.

(Brookfield's Lenses)





Our
autobiographies
as learners

SELF

Our students'
eyes

STUDENTS

Our colleagues'
experiences

PEERS

Theoretical
Literature

SCHOLARSHIP

Document interrogation

- Make sure you find the right/appropriate documents
- Create a criteria for assessing the relevance of documents and their arguments/policies
- Learn digital key shortcuts to make interrogating documents easier and faster (EBSCO)
- Can use social media to gather 'word-based' information and collaborate with other researchers and participants

Quantitative Data - Sources

The most common sources of quantitative data include:

- **Surveys**, whether conducted online, by phone or in person. These rely on the same questions being asked in the same way to a large number of people;
- **Observations**, which may either involve counting the number of times that a particular phenomenon occurs, such as how often a particular word is used in interviews, or coding observational data to translate it into numbers; and
- **Secondary data**, such as company accounts.

Analysing Quantitative Data

There are a wide range of statistical techniques available to analyse quantitative data:

- simple graphs to show the data e.g. correlations between two or more items;
- cluster analysis (useful for identifying relationships between groups of subjects)
- hypothesis testing (to identify whether there are genuine differences between groups)

Quantitative data

Estyn and school leaders use:

- All Wales Core Data Sets
- Schools Categorisation
- Stats Wales

<https://statswales.gov.wales/Catalogue/Education-and-Skills>

- My Local School

<http://mylocalschool.wales.gov.uk>

Questionnaires

- Questionnaires can be classified as both, **quantitative** and **qualitative** method depending on the nature of questions.
- Answers obtained through closed-ended questions with multiple choice answer options are analyzed using quantitative methods and they may involve pie-charts, bar-charts and percentages.
- Answers obtained to open-ended questionnaire questions are analyzed using qualitative methods and they involve discussions and critical analyses without use of numbers and calculations.

Questionnaires

- Positive points?
- Negative points?

Questionnaires

Strengths

- Practical
- Large amounts of information can be collected quickly
- Can be carried out by many people with limited affect to its validity and reliability
- Results can be quickly and easily quantified
- Can be analysed easily and objectively

Limitations

- Difficult to understand some forms of information
- Lacks validity
- No way of telling how truthful a respondent is being
- No way of telling how much thought a respondent has put in
- People answer based on their interpretation of the question, e.g. good? poor? difficult?

- 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.

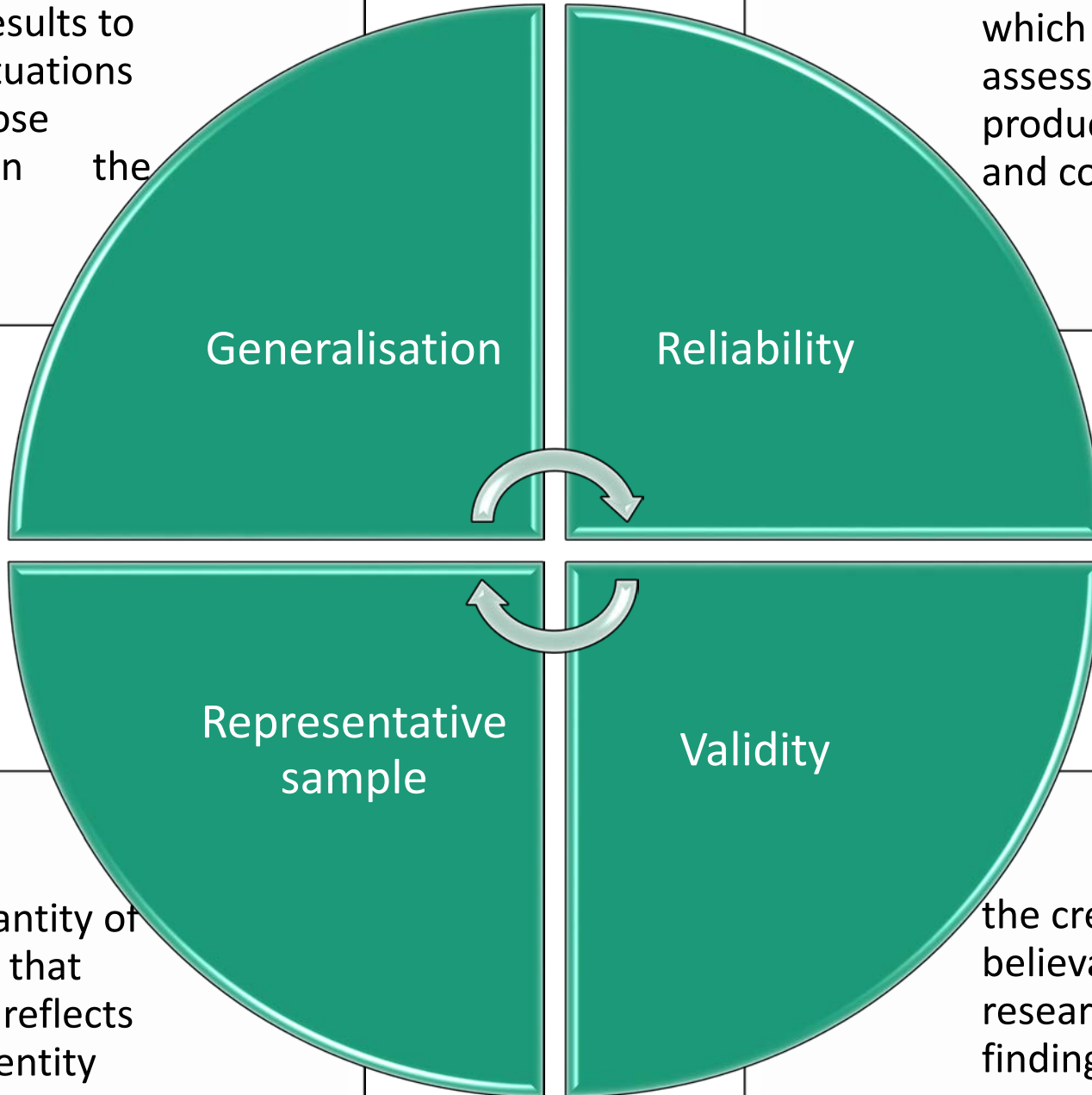
Reliability

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

Representative sample

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

Validity



Open questions

- Open questions differ from other types of questions used in questionnaires in a way that open questions may produce unexpected results, which can make the research more original and valuable.
- However, it is difficult to analyze the results of the findings when the data is obtained through the questionnaire with 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
- A Likert scale is a commonly used set of responses for closed-ended questions

Dichotomous Questions

- This type of questions gives two options to respondents – yes or no, to choose from. It is the easiest form of questionnaire for the respondent in terms of responding it.

Multiple choice questions

- Respondents are offered a set of answers they have to choose from. The downside of questionnaire with multiple choice questions is that, if there are too many answers to choose from, it makes the questionnaire, confusing and boring, and discourages the respondent to answer the questionnaire.

Scaling Questions

- Also referred to as 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).

Question types

Closed

Easy to code.

Participants are forced into an answer,
may not be able to explain what they
mean:

Yes / No

Open

Lots of information can be
collected.

More difficult to quantify -
coding

Fixed choice

Question is accompanied by a range of
answers from which the respondent
chooses, e.g. A, B, C

Likert scale (1932)

strongly agree, agree...

Usually 5- or 7-point scale

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

Points to consider

- Social desirability – individuals may lie to put themselves in a positive light
- Anonymity – can reduce social desirability bias

Writing Questions

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

- Don't write leading questions

Bad Question: How short was Napoleon?

Good Question: How would you describe Napoleon'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 beer?

Many people dislike beer 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 young professionals in the field?

Good Questions: How useful will this textbook be for students?

How useful will this textbook be for young professionals in the field?

Writing Questions

- Do not use absolutes in questions

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

Good Question: How many days a week do you usually eat breakfast? (Every day/ 5-6 days/ 3-4 days/ 1-2 days/ I usually don't eat breakfast)

Writing Questions

- Be clear by speaking your respondent's language.
- Use clear, concise, and uncomplicated language while trying to avoid acronyms, technical terms or jargon that may confuse your respondents.

Question testing – example 1

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

Yes

☐

No

☐

Question testing – example 1 revised

Do you or your family have a computer at home?
(Tick one box)

Yes

☐

No

☐

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



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



Computer questionnaire

- Respondents are asked to answer the questionnaire which is sent by e-mail. The advantages of the computer questionnaires include their inexpensive price, time-efficiency, and respondents do not feel pressured, therefore can answer when they have time, giving more accurate answers. However, the main shortcoming of the e-mail questionnaires is that sometimes respondents do not bother answering them and they can just ignore the questionnaire.

Telephone questionnaire

- Researcher may choose to call potential respondents with the aim of getting them to answer the questionnaire. The advantage of the telephone questionnaire is that, it can be completed during the short amount of time. The main disadvantage of the phone questionnaire is that it is expensive most of the time. Moreover, most people do not feel comfortable to answer many questions asked through the phone and it is difficult to get sample group to answer questionnaire over the phone.

In-house survey

- This type of questionnaire involves the researcher visiting respondents in their houses or workplaces. The advantage of in-house survey is that more focus towards the questions can be gained from respondents. However, in-house surveys also have a range of disadvantages which include being time consuming, more expensive and respondents may not wish to have the researcher in their houses or workplaces for various reasons.

Mail Questionnaire

- This sort of questionnaires involve the researcher to send the questionnaire list to respondents through post, often attaching pre-paid envelope. Mail questionnaires have an advantage of providing more accurate answer, because respondents can answer the questionnaire in their spare time. The disadvantages associated with mail questionnaires include them being expensive, time consuming and sometimes they end up in the bin put by respondents.

Information Sheet – you may well need one!

- what the research is trying to find out;
- the purpose of the research;
- who is carrying it out;
- exactly what will be asked of participants;
- how the information they provide will be recorded;
- what will then happen to the data;
- what degree of confidentiality and anonymity is afforded;
- how the information will be analysed;
- how the findings will be reported;
- who will see the results of the study.

Other aspects of research design

- Validity & Reliability
- Trustworthiness*
 - **Dependability**: showing that the findings are consistent and could be repeated
 - **Confirmability**: a degree of neutrality or the extent to which the findings of a study are shaped by the respondents and not researcher bias, motivation, or interest
 - **Credibility**: confidence in the 'truth' of the findings
 - **Transferability**: showing that the findings have applicability in other contexts

* See Lincoln, YS. & Guba, EG. (1985) *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications.

Informed consent / assent

- **Assent:** a term used to express willingness to participate in research by persons who are too young to give informed consent but who are old enough to understand the proposed research in general, and the activities expected of them as subjects.

Informed consent / assent

- **Informed Consent:** a voluntary agreement to participate in research.
- It is not merely a form that is signed, but is a process in which the subject has an understanding of the research and its risks.