

Practitioner Enquiry - a practical workshop

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University of Strathclyde

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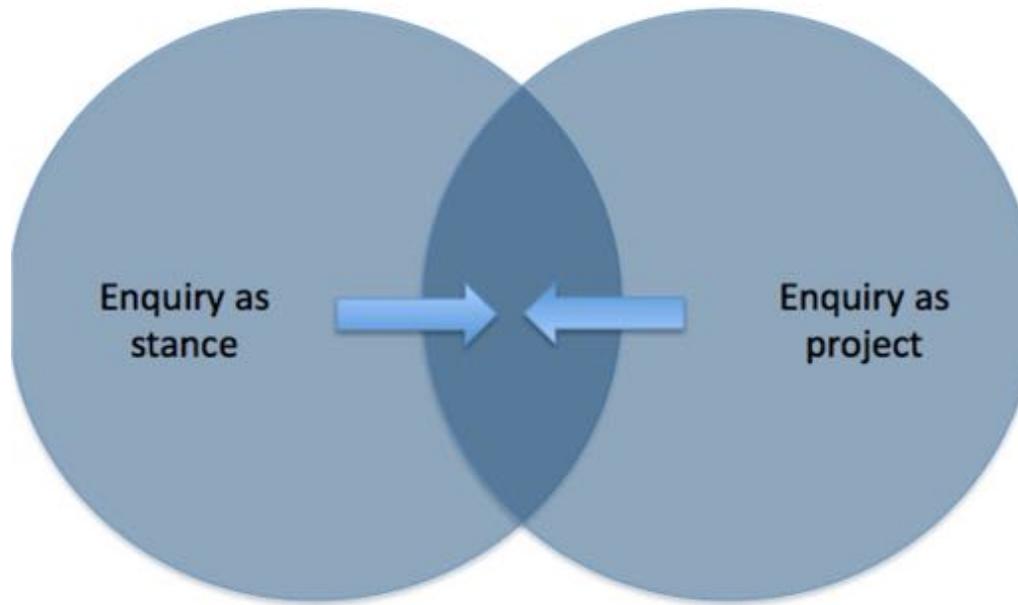
- ▶ Radio Edu Talk will be recording and conducting a live broadcast of our initial presentation at the beginning of the workshop. They will not record your participation in the workshop or any of your questions.
- ▶ This is to enable those attending to listen back and to share our sessions with colleagues
- ▶ The live broadcast is for colleagues who work across Scotland (and beyond) who were not able to travel to this evening
- ▶ To listen to the recording, please visit:
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ACTION RESEARCH CYCLE

Active engagement in learning

- ▶ Importance of bottom-up approaches to CPD that link to the needs of students (Timperley, 2008)
- ▶ Practitioners' theories of practice (Argyris and Schön, 1974)
- ▶ Active standpoint (Stephenson and Ennion, 2012)
- ▶ Dewey (1904): importance of teachers engaging in pedagogic enquiry to fully engage with processes and outcomes in their classrooms



Becoming a Practitioner Enquirer

Realities of practitioner enquiry

- ▶ It's a balancing act
- ▶ Research as support to teaching and learning
- ▶ Research as embedded in reflective practitioner/ enquiring professional
- ▶ Teacher embedded in practice under investigation
- ▶ Teacher as expert on the context
- ▶ Values base with core concepts around
 - ▶ Voice
 - ▶ Emancipation
 - ▶ Professionalism
- ▶ Dialogue
- ▶ Strive to improve educational outcomes

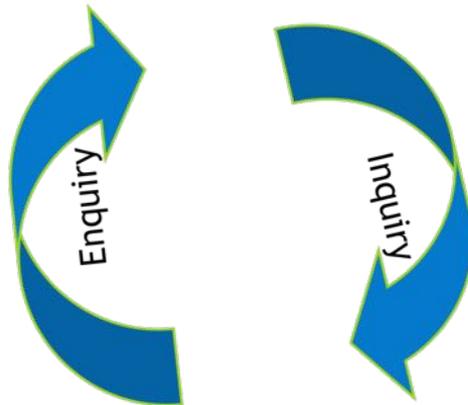
The research element of practitioner enquiry



- ▶ Not something that switches on and off
- ▶ Not necessary all the time
- ▶ Need to be realistic about what is possible
- ▶ A set of skills that can be 'turned up' depending on the enquiry question

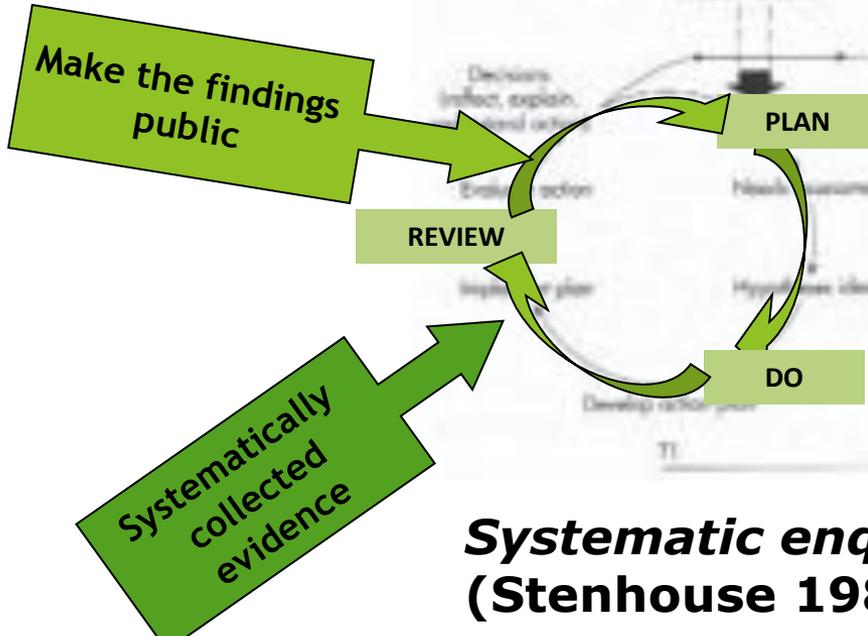
The fruitful distinction between ‘enquiry’ and ‘inquiry’

- ▶ **Enquiry** means a request for information or look into something, implying a more general level of exploration.
- ▶ **Inquiry** in the UK implies a more detailed investigation such as a legal or public inquiry.
- ▶ Engaging *with* research
- ▶ Engaging *in* research

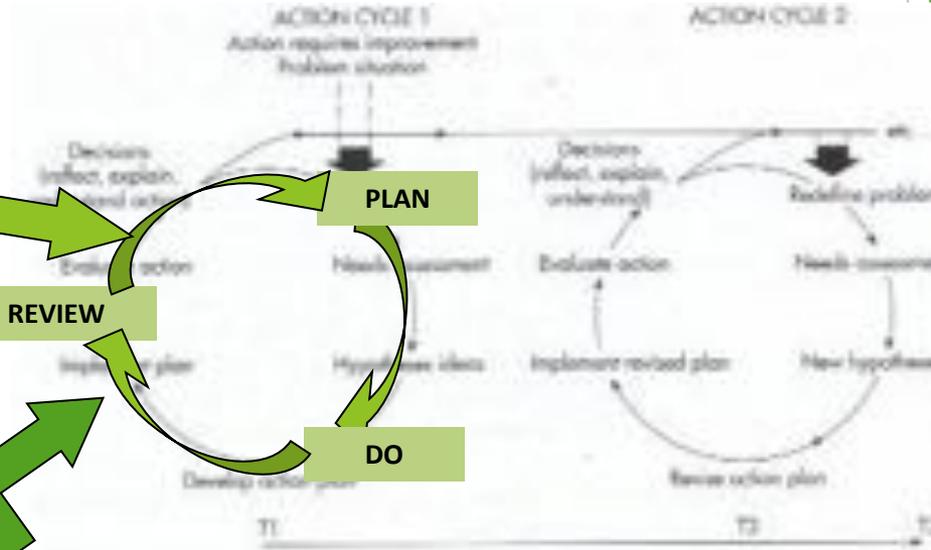


Hall, 2009

Practitioner Enquiry



Systematic enquiry made public (Stenhouse 1981)



DEVELOPING WEEKLY LEARNING LOGS TO SUPPORT STUDENTS' REFLECTION ON LEARNING
Alison Whelan
Tytherington High School, Cheshire

Can the use of a weekly Learning Log help students reflect on their learning and improve motivation and awareness of learning?

SUMMARY OF FINDINGS:
The research was designed to explore the impact of using weekly learning logs on students' reflection on learning and motivation. The study was conducted in a secondary school in Cheshire. The research was carried out over a period of 12 weeks. The findings of the study are as follows: The use of weekly learning logs had a positive impact on students' reflection on learning and motivation. The use of weekly learning logs helped students to identify their strengths and weaknesses and to set targets for improvement. The use of weekly learning logs also helped students to become more aware of their learning and to take more responsibility for their own learning.

Increasing Boys Access To Writing Through The Outdoor Environment
Tanya McDonald and Malcolm Sault
Walsby Infant School, Oxford

Project aims:
The project aimed to explore the following question: 'In what ways can we encourage boys to write more often and in more contexts, and to write more confidently, across a range of writing contexts?'

Summary of findings:
The findings of the study indicate that the use of outdoor writing environments had a positive impact on boys' writing. The use of outdoor writing environments helped boys to become more confident and more motivated to write. The use of outdoor writing environments also helped boys to become more aware of their writing and to take more responsibility for their own writing.

PROJECT FOCUS
Learning, Research and Professional Practice in the Classroom
Middleton School, Manchester

1-8 FOCUS

PROJECT FOCUS
Learning, Research and Professional Practice in the Classroom
Middleton School, Manchester

Do Targets Work?
Jason Gormley
Academy for Foundation Skills, Larnham College

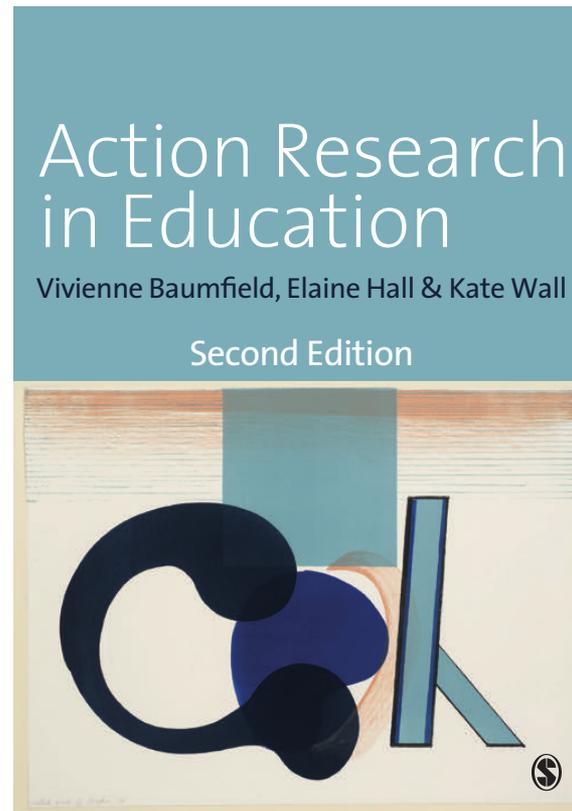
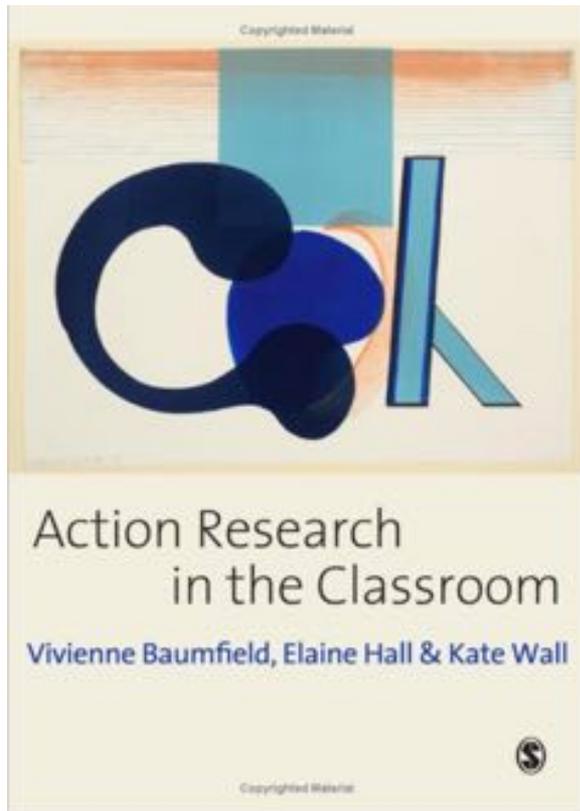
Project aims:
The project aimed to explore the following question: 'In what ways can we encourage students to set and achieve targets, and to become more aware of their learning and to take more responsibility for their own learning?'

Summary of findings:
The findings of the study indicate that the use of targets had a positive impact on students' learning. The use of targets helped students to become more motivated and more aware of their learning. The use of targets also helped students to become more responsible for their own learning.

PROJECT FOCUS
Learning, Research and Professional Practice in the Classroom
Middleton School, Manchester

1-8 FOCUS

We will follow the approach outlined in this book



Process for today

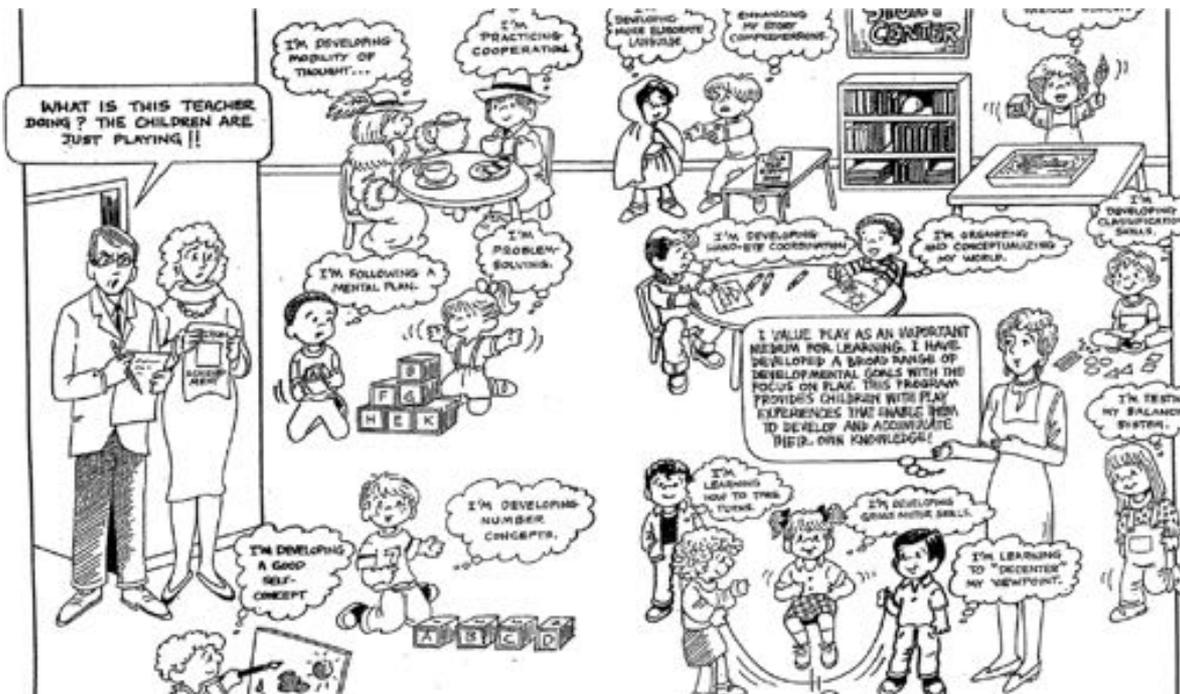
Identify your hunch

Develop your question

Decide on evidence

Combining and analysing data

Share your findings



Engaging in research: Finding answers to YOUR questions

The fundamental question

HOW CAN WE MAKE LEARNING BETTER?

My learning?

Students' learning?

Colleagues' learning?

Community learning?



Some starting points

- ▶ I would like to improve...
- ▶ I want to change ... because
- ▶ I am perplexed by...
- ▶ Some people are unhappy about...
- ▶ I'm really curious about...
- ▶ I want to learn more about...
- ▶ An idea I would like to try out in my class is...
- ▶ I think ... would really make a difference to ...
- ▶ Something I would like to do is to change...
- ▶ I'm particularly interested in ...

What is
your
hunch/
starting
point?

2 minutes



Tell the person next
to you the thing that
is bugging you at the
moment/ today

Broadly two types of enquiry question

What's going on when...

- ▶ I do that thing?
- ▶ There is that event?
- ▶ If they do that activity?
- ▶ We learn in that subject?
- ▶ Something weird happens?

What happens if...

- ▶ I do something different?
- ▶ I change something?
- ▶ We change our goals?
- ▶ We think about this differently?
- ▶ I undertake an intervention?

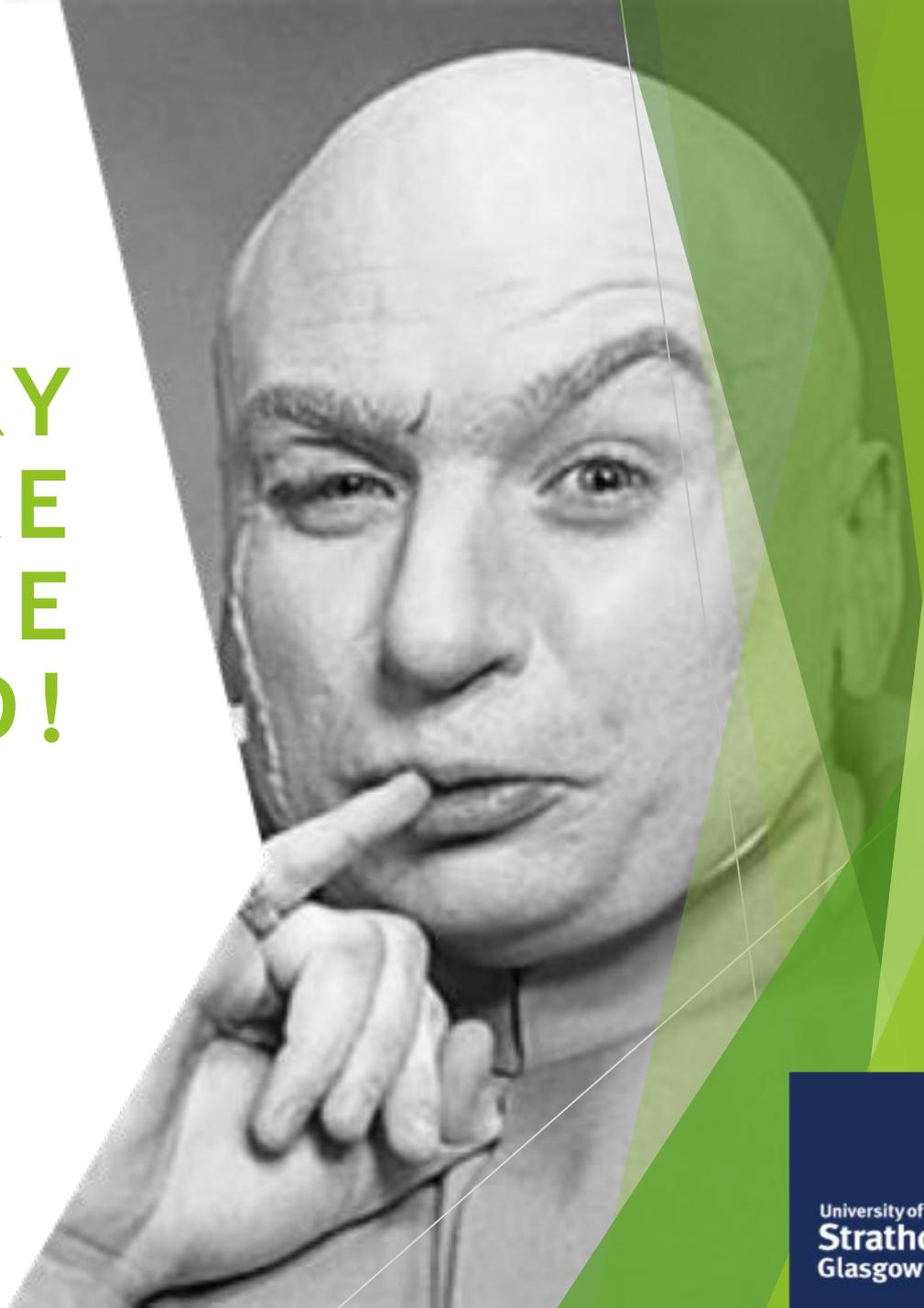
Identifying research questions

- ▶ Identify measures of success
 - ▶ How will you know if you have answered your question?
 - ▶ What will it look like?
 - ▶ What evidence do you need to see?
- ▶ Turn them into questions
 - ▶ Does attainment in maths increase (internal/external test results)?
 - ▶ Do teacher attitudes improve (towards teaching and learning/ towards the environment/ towards innovation and change)?
 - ▶ Do pupils display improved levels of concentration (on-task behaviour, work rate, levels of engagement)?
- ▶ Reality check

Examples: hunches to questions

Hunch	Change	Measure	Question
I'm interested in whether boys writing will improve after peer assessment	Boys' attainment in writing	Through teacher assessment of writing samples taken through the school year	Will boys' attainment in writing (as assessed using teacher assessments) improve after using peer assessment?
I am thinking about using increased visual cues with pupils on the Autistic Spectrum	Improved behaviour from target pupils in whole class sessions	Use existing behaviour monitoring sheets as stipulated in Individual Education Plans	Does the use of visual cues support the improvement of behaviour for pupils with ASD disorders in whole class sessions?
I want to change the questions that I use in class as I feel that I am not meeting the needs of all pupils	Increased alertness and motivation in class discussions	Observations of on-task/off-task behaviours	Will using more open questions in class discussions improve the on-task behaviour of all pupils?

**DO NOT TRY
AND TAKE
OVER THE
WORLD!**





A process of refinement

A big idea

Read around the literature

Talk to your colleagues

Talk to us

Think through the practicalities

Make sure all your terminology is
defined

WHAT IS GOOD LEARNING?

WHAT IS GOOD LEARNING IN MATHS?

WHAT DO STUDENTS UNDERSTAND
AS GOOD LEARNING IN MATHS?

WHAT DO S1 STUDENTS
UNDERSTAND AS GOOD LEARNING IN
MATHS?

WHAT DO S1 STUDENTS
UNDERSTAND AS GOOD LEARNING
WHEN PROBLEM SOLVING
IN MATHS?

What is your (first draft) research question?



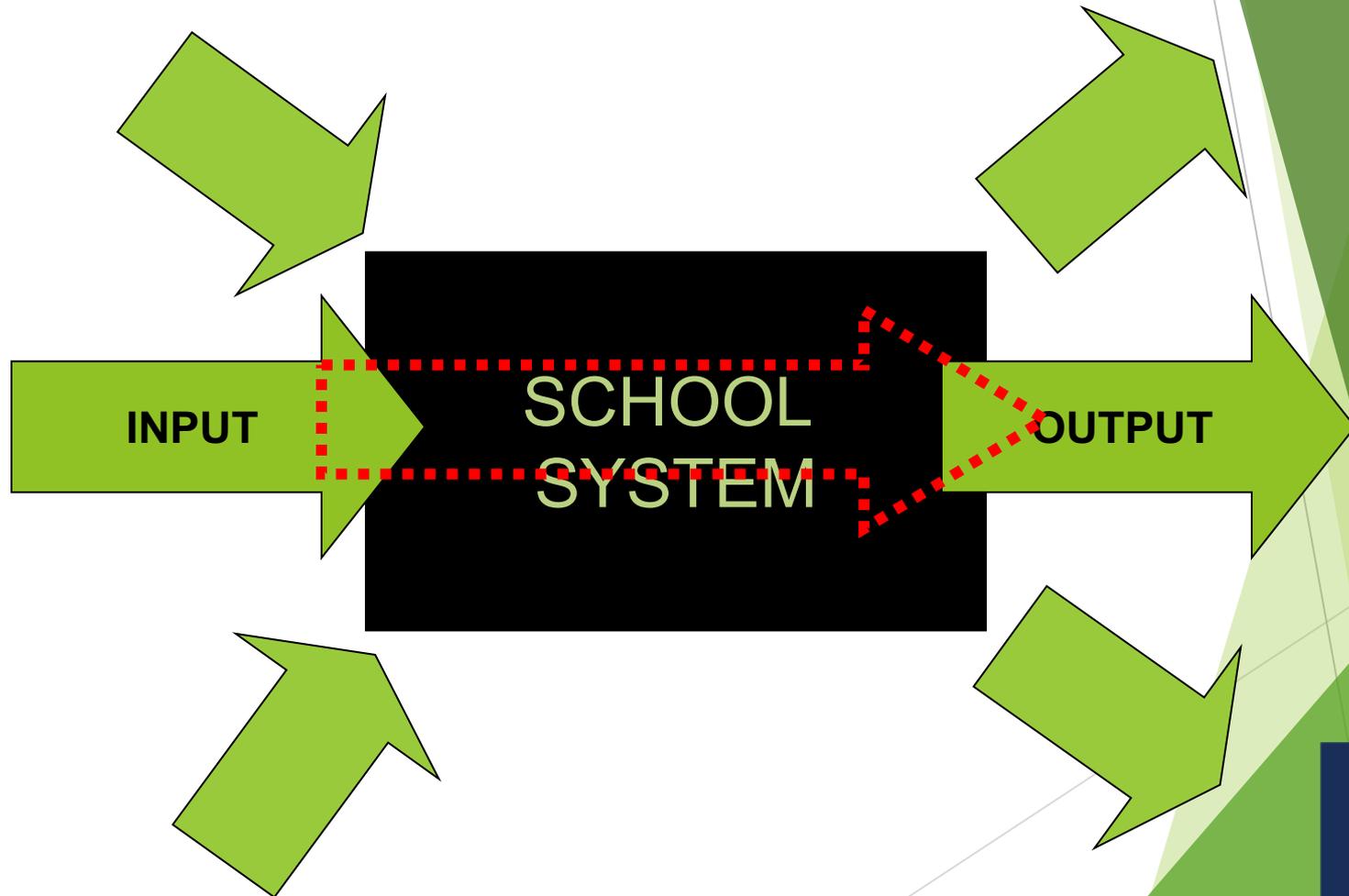
- ▶ Write it out on a page of A4.
- ▶ Get a partner to underline core concepts.
- ▶ Are there any words that are unclear/ poorly defined?

Developing your research design

- ▶ Convince yourself
- ▶ Convince a sceptical colleague/ parent/ governor
- ▶ Contribute to dialogue at a wider network level
 - ▶ Systematic evidence
 - ▶ Not attempting to control all the variables - manageable
 - ▶ Collecting and analysing data critically
 - ▶ Making links between your own and others' work



Recognise the complexity



Collecting data

Think about data already collected routinely in your organisation

Common data

School/class attainment data

Think about how research methods can be used to enhance teaching and learning

Pupil questionnaire

Teacher log/record

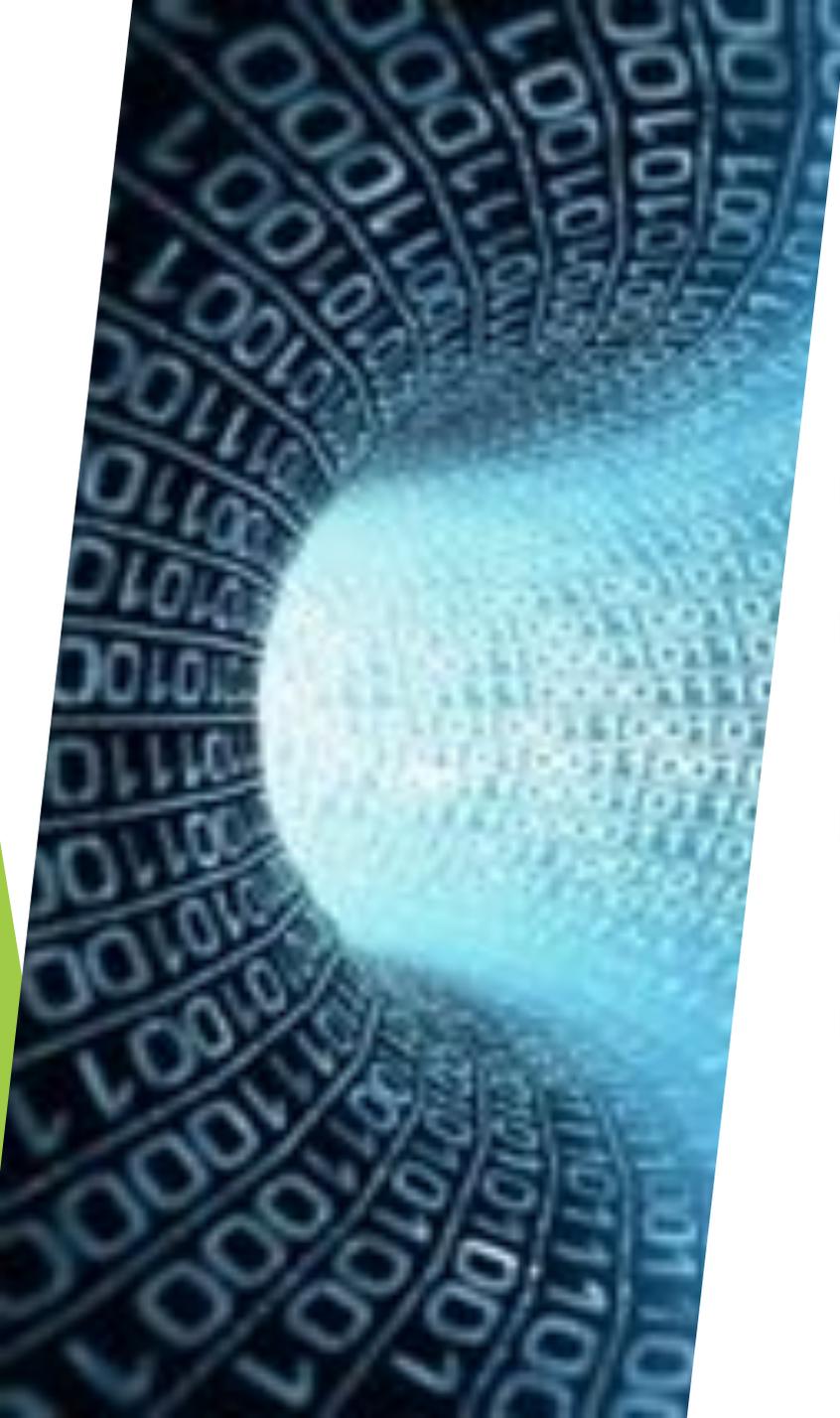
Will you need to collect extra data?

Thinking about different approaches

- ▶ What have other researchers in the field done?
- ▶ Empirical: Do you prefer qualitative, quantitative or mixed method approaches? Why?
- ▶ Literature based: How are you going to search? Which databases are you going to use? What sources will you include? Why?
- ▶ Look through recommended social science research books
- ▶ Look through other examples of practitioner research
- ▶ Who are you trying to convince with your research? What would they want to know?

Different types of data on the same phenomenon

	Quantitative	Qualitative
Learners' attainment	Test scores Teachers' marks Examples of work	Interviews Logs/diaries Examples of work
Learners' attitudes	Questionnaire Survey Observation/ video	Interviews Logs/diaries Observation/ video



What constitutes data?

- ▶ Data collected normally in schools
- ▶ Data arising from teaching and learning activities
- ▶ Data collection that can be incorporated into school
- ▶ Traditional research methods

What constitutes data?

- ▶ **Data collected normally in schools** - Schools are data rich environments: data is being collected at individual pupil/ teacher level, at class level and at school level all the time. For example Individual Education Plan (IEP) records, attendance, behaviour logs and test scores. This type of data does not add much to your workload to collect and has the advantage of often large and consistent data sets across the school.
- ▶ **Data arising from teaching and learning activities** - Teachers are always asking different individuals, especially pupils, to do different activities. This category therefore asks whether these outputs can be used as part of your research, for example, work samples and learning logs can be used to tell the story of a child or a group of children's learning over the period of a term or school year. Yes, these are being collected specifically for the research, but they are adding a new element to your practice relating to learning and teaching.
- ▶ **Data collection that can be incorporated into school routine** - In that accountability and self evaluation are current themes within education, then there are various techniques which can be built into this framework and can be part of your research while also fulfilling other elements of a teachers' job. For example, peer observations can be focused around research-based observation schedules and the pupils' school council can be used to survey opinion of the student body.
- ▶ **Traditional research methods** - This category includes interviews, questionnaires and observations; all of which are extremely useful in both a quantitative or qualitative research strategy. However you might like to think about how they can be adapted and used so that they fit with the agendas behind some of the categories below.

Question	Traditional research method	Data collected normally in schools	Data arising from teaching and learning	Data that can incorporated into school routine
Will boys' attainment in writing (as assessed using teacher assessments) improve after using peer assessment?	Questionnaire to pupils to explore their perceptions of their learning and improvement in writing before and after peer assessment	SATs and complementary teacher assessments collected over the year and then compared to a mean achieved by previous year groups	Work samples from group of target boys collected on a termly basis to look at the improvement over the year. Both teacher and pupil give comment as to how this improvement manifests.	SMT observations of peer-assessment lessons focusing on target pupils and their approaches to writing-based tasks.
Does the use of visual cues support the improvement of behaviour for pupils with ASD disorders in whole class sessions?	Interviews with the pupils' teacher and support staff exploring any perceived changes in behaviour and improvements in attention related to the use of cues.	Individual pupil observations, an element of each individual pupils' IEP, which look at different behaviours and how often they occur - do lesson where visual cues are used reveal different/ improved behaviour?	Using a sorting activity based on a favourite book: can the pupils complete the task better when visual cues are added? Look at the pupil outcomes as well as the teacher perceptions.	Incorporating the capture and analysis of video footage of pupils in whole class situations into support assistants' routine for monitoring individual pupils' behaviours and for logging in/appropriate behaviours
Will using more open questions in class discussions improve the on-task behaviour of all pupils?	Structured observations of the pupils' contributions and behaviour in lessons where open questions are used and one not (could be based on video footage). Looking at on-task/off-task behaviour and length of utterance from pupils.	Logs of negative and positive behaviour, e.g. how many merits achieved or how many sanctions administered, within each lesson. Does it improve when open questioning approaches are in use?	Using a thinking skills activity, e.g. a mystery, investigate whether the pupil-pupil discussion and the outcome is different in a class where open questions are used when compared to when where not. Look for pupil use of open questions.	School-wide system of pupil observations exploring what makes a good lesson and what makes pupils engage with the curriculum content and with discussions. Findings fed back to whole school, teaching staff and pupils.

Draw from your pedagogic repertoire

- ▶ The same tool can be used in different ways - research and teaching
- ▶ Teachers should have a repertoire rather than a recipe - Robin Alexander
- ▶ A good teaching tool is remarkably similar to a good research tool
 - Good match between intention and outcomes
 - Sufficient challenge
 - Quality/value:
 - ▶ Provides feedback (tight feedback loops)
 - ▶ Valid (assesses what you want it to assess)
 - ▶ Reliable (replicable)
 - ▶ Trustworthy
 - ▶ Rigorous/ transparent
 - ▶ Ethical (ethical process as well as research ethics)





Year 1
 Stimulus: Record of Super Learning Day
 Independents: super word bank
 Time: 20-30 minutes
 Context: Write CVC and key words
 Using full stops
 Targets: 1. Use capital letters at start of words
 2. Use full stops correctly.

9.7.0

Super ay

Yesterday it was Super Learning Day. We made a monster, and we worked together in teams. We all had a different job today. I made the legs, chertle made the ~~body~~ head, Maria made the body and

age 4
 $1+1=2$

age 5
 Well Done

age 7
 $100+100=2000$

age 10
 $100+100+100=3000$

I want to do more!

INDIVIDUAL

hours for 6 focus pupils

Pupil 4	Pupil 5	TOTAL

Name: Joby Learning Detective

ask questions
 Asking how do you play the game on the computer?
 RYS TOM

answer questions
 Asking RYS how to make a fire engine?
 wa ve rey HANNAH

give reasons
 because
 ELLOO

remember
 LOOYV MARIA

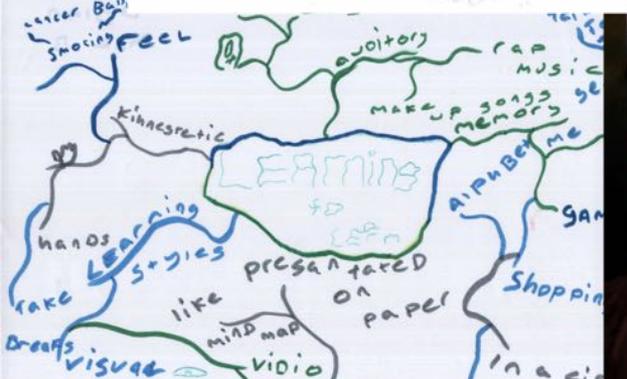


Areas of interest (Areas of concern) (Areas of opportunity) (Areas of challenge)

Areas of interest (Areas of concern) (Areas of opportunity) (Areas of challenge)

Areas of interest (Areas of concern) (Areas of opportunity) (Areas of challenge)

Areas of interest (Areas of concern) (Areas of opportunity) (Areas of challenge)



No cameras/phones in the room (with a sign)

UNIMAGINABLE (with a sign)

It helps on halls and scenes because it shows you things that relate...

For those people who don't concentrate it could help them because it makes it more fun. If your teacher can't explain something they can go on the games and teach from there.

Go back to your research question

- ▶ What data might you collect to answer it?
- ▶ How many different types of data can you think of?
- ▶ Write as many as you can around your question,
- ▶ Think about the 4 categories of data:
 - ▶ Traditional research methods
 - ▶ Data collected normally in
 - ▶ Data arising from teaching and learning activities
 - ▶ Data collection that can be incorporated into school

Combining different types of evidence to answer your question

Pragmatics: Size doesn't matter

If it answers your research question then you can choose a sample size that suits you...



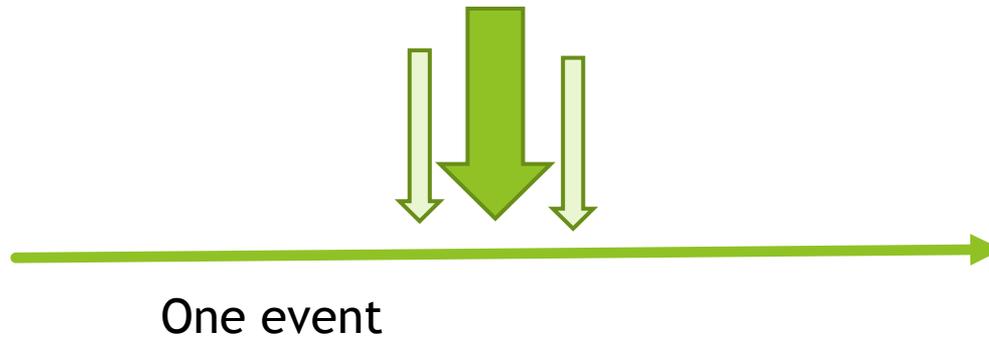
You can focus on just one child as a case study
But need to collect multiple sources of data and rich and deep data maybe longitudinally



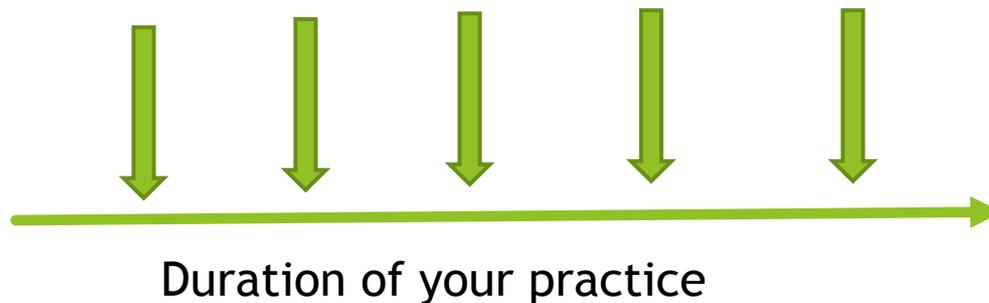
You can focus on the whole class using a survey pre and post an intervention (quasi-experimental).
But one type of relatively simple data

Pragmatics: quantity versus quality

If it answers your research question then you can choose a scale and length of time that suits you...

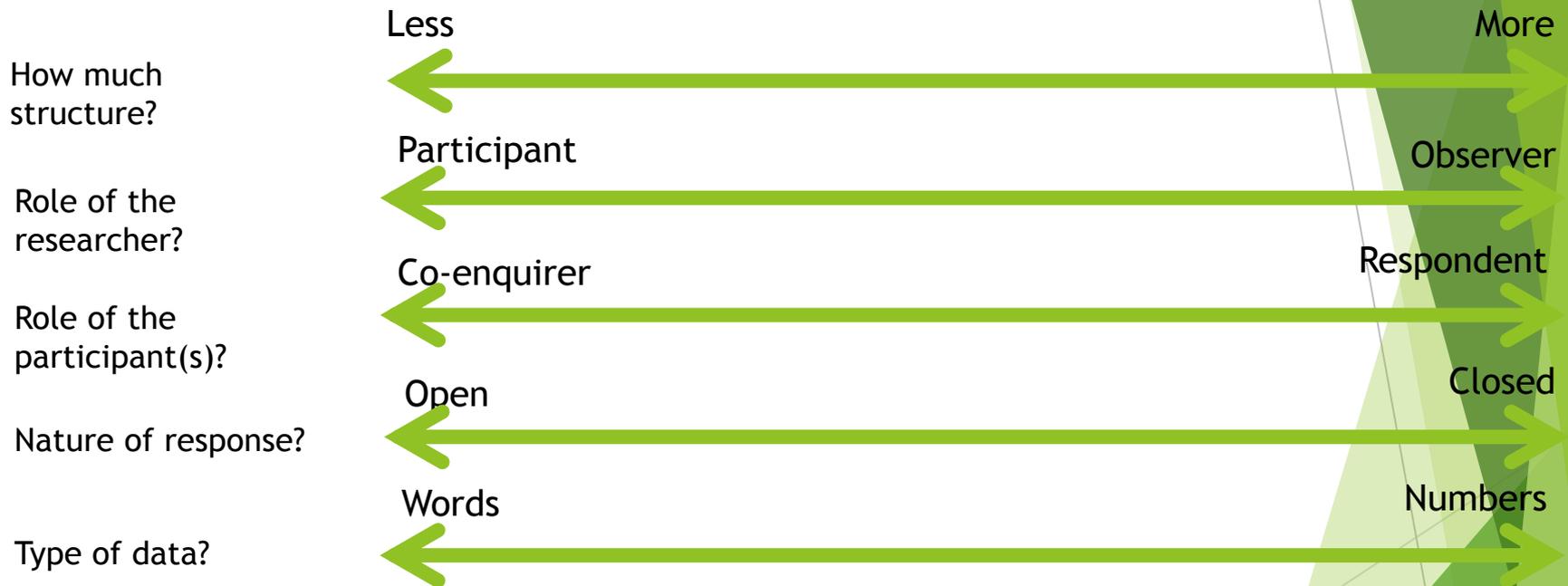


A single event (a case study) or an intervention with control group (experimental). One would have a smaller sample (with multiple rich data sources) the other would be larger (with a survey of behaviours before and after)



You can focus over the whole length of a term/ year and revisit multiple times over the practice longitudinally. But due to quantity just one type of data and relatively simple data might be more appropriate

Research design continuums





The need for different view points

The need for different lenses



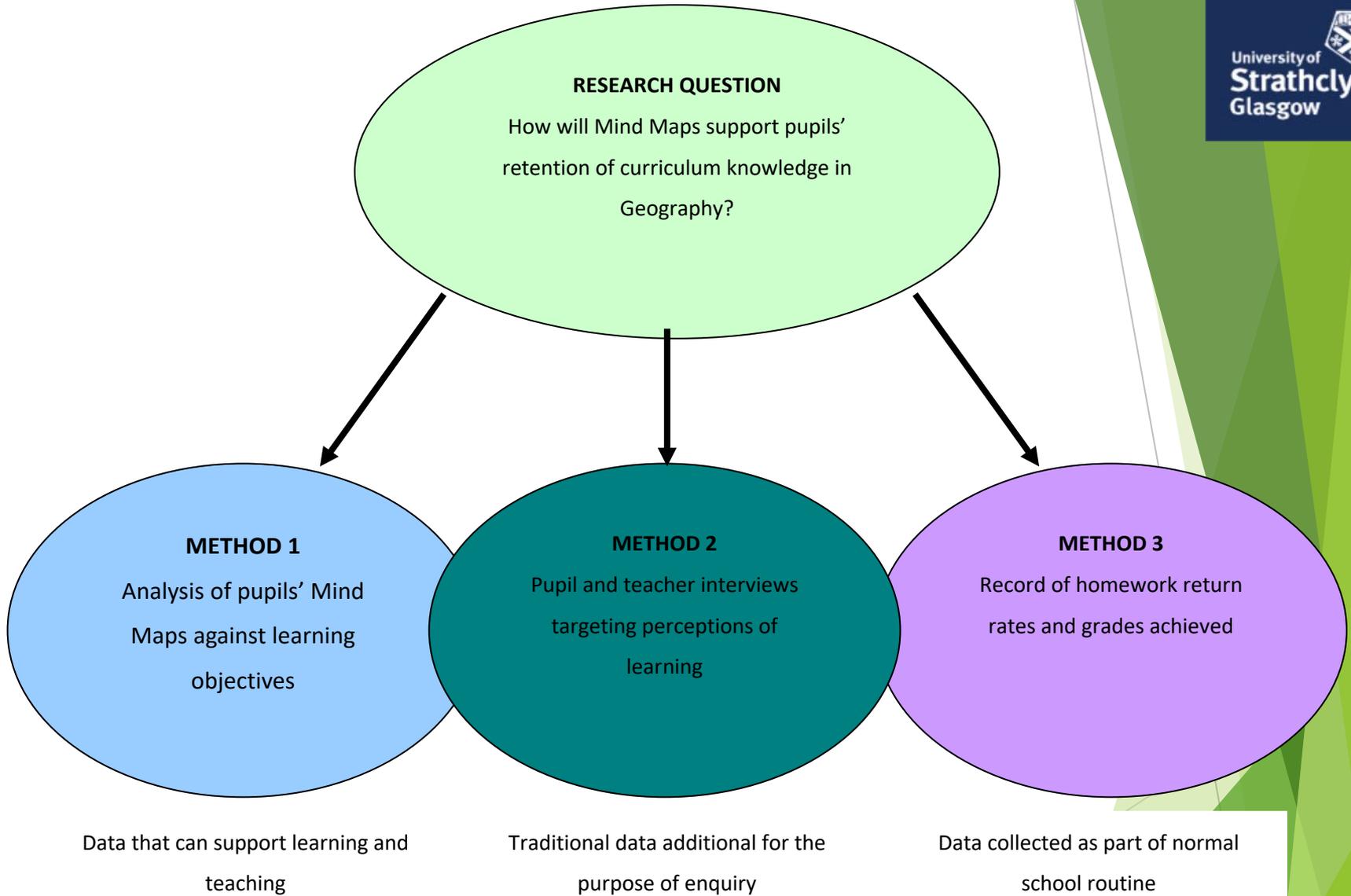
Bondi Beach

Photo: <http://twistedifter.com/2015/02/satellite-photos-of-earth-that-will-give-you-a-fresh-perspective/>



Triangulation

- ▶ Collecting data on the same issue from a different perspective
 - ▶ Hard to identify data that will 'prove' something works
 - ▶ More than one source helps to strengthen the 'case'
- ▶ Think about how qualitative and quantitative data complement



Always a
balancing act:
what CAN you do
&
what is
manageable



gettyimages®
images by Tang Ming

Go back to your research question and data

- ▶ Which types of data will combine well?
- ▶ How will you encompass different perspectives/ lens on the topics?
- ▶ Are you including both quantitative (numbers) and qualitative data?
- ▶ Are you keeping it manageable (using predominantly stuff that doesn't add to your workload)?

What does the data tell
you?

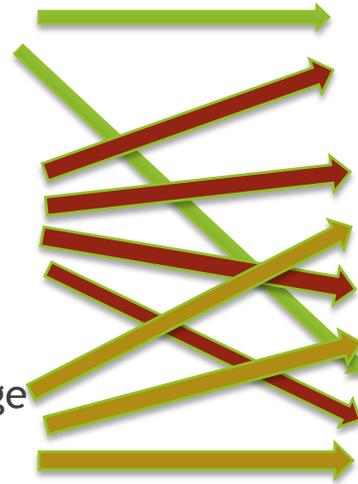
Data to answer research questions

Learning detectives - Amble first school,
northumberland

Can reception children assess each others learning by being learning detectives?

How does the role of learning detectives support class understanding of learning process?

How does learning detectives change individuals' metacognitive awareness?



Learning detectives' daily logs over one term

Pre- and post- pupil templates

Interviews with children

Teacher observations of target children

Organise

- ▶ What will you analysis first?
- ▶ If you have multiple sources of evidence, what is the one you will prioritise? Why?
- ▶ How will the different data sets complement?

DESCRIBING THE DATA

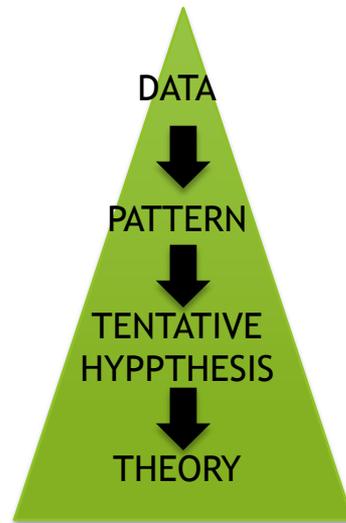
6 CHILDREN WERE TARGETED, IN GIRL/BOY PAIRS THEY REPRESENTED ABOVE AVERAGE, AVERAGE AND BELOW AVERAGE ATTAINMENT IN LITERACY. ALL NAMES USED ARE PSEUDONYMS. ONE CHILD, IRIS, MISSED THE FULL DATA COLLECTION WEEK IN SEPTEMBER DUE TO A FAMILY HOLIDAY. SHE WAS KEPT IN THE DATA COLLECTION FIELD AS TO ELIMINATE HER FELT DETRIMENTAL TO THE DATA SET....

		Interview	Teacher assessment	On-task/off-task observation
Above average	Cara	2/9 24/11	3/9 22/11	5/9 24/11
	Leo	5/9 21/11	3/9 -----	5/9 24/11
Average	Imogen	8/9 -----	3/9 22/11	5/9 24/11
	Sid	1/9 1/12	3/9 22/11	5/9 24/11
Below average	Iris	---- 24/11	----- 22/11	----- 24/11
	Milo	14/9 22/11	3/9 22/11	5/9 24/11

Inductive Vs Deductive Analysis

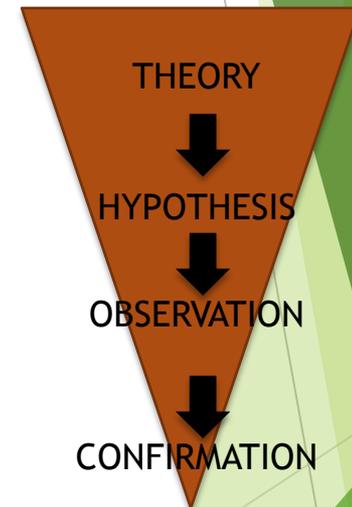
Inductive

- ▶ Theory generating
- ▶ Driven by the data
- ▶ Grounded theory based ideas
- ▶ Detailed exploration of the emerging themes and concepts
- ▶ Smaller samples?



Deductive

- ▶ Theory testing
- ▶ Driven by predetermined concepts (from the literature?)
- ▶ Coding and categorisation
- ▶ Counts/ statistics
- ▶ Larger samples?



Descriptive statistics

- ▶ Frequency counts: how many times does that thing occur
 - ▶ Where do the 'things' come from?
 - ▶ Issues of classification
- ▶ Univariate Analysis
 - ▶ The frequency distribution: range
 - ▶ The central tendency: mean, median, mode
 - ▶ The dispersion: range, spread
- ▶ Typically presented as a table or bar chart



“Data don’t make any sense,
we will have to resort to statistics.”

Elaine: Could you start with what you feel the most important changes have been as a result of this project?

Bob: I think that the most important change is probably been getting the **whole school learning** rather than teaching. Is that sufficient or would you like me to go further?

Elaine: Yes please that sounds really interesting.

Bob: Well its there are lots of other things that I am trying to do at the moment, not least the **KS 3** strategy and that kind of thing, which has come on the back of the research project work. The [funding body] started as a major influence in all of that. Me taking on research projects in the school has **made my colleagues really reflect on why they are doing what they are doing and why were doing what we are doing as a school** I did a thing about the research, a whole staff in set evening about 3 months ago. I got some **tremendous feedback** from that, that made me understand what an impact it had. In my jaundiced moments I think 'why am I doing this, why am I doing this?' but actually the **feedback** was fantastic and **a lot of people saw the research project if nothing else acting as a 'conscience for the school'**. It is a phrase that I coined but other people bought into it, this idea that we otherwise bundle along doing stuff and not **reflecting** on why we are doing it.

Sections relevant to our research question "How do teachers engage research influence their colleagues?"

Key words from the project to search for this interview (and others)
Reflect (ing/ion)
Feedback

'Conscience for the school', fantastic quote (Beware...)

Example of interview coding (grounded)

Highlighting key aspects of the text that fit with different codes/themes

Combined analysis

- ▶ Qualitative analysis techniques
- ▶ Quantitative (counts)

WORDS

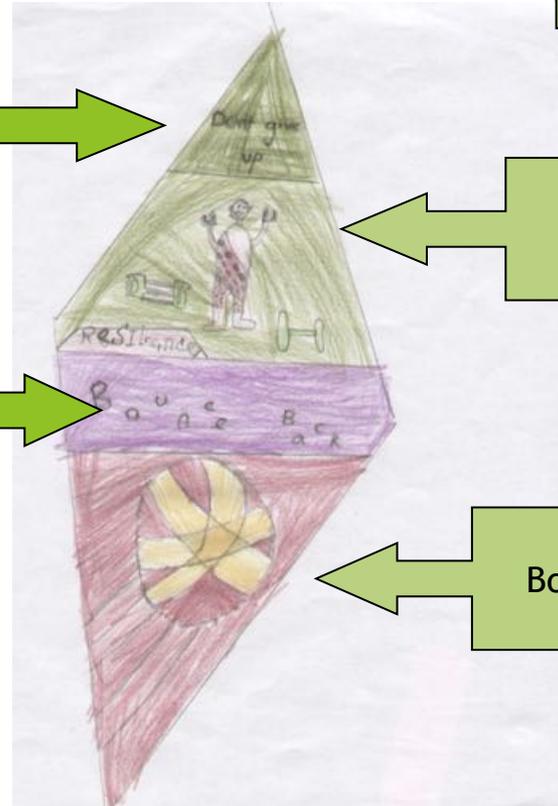
Don't give up

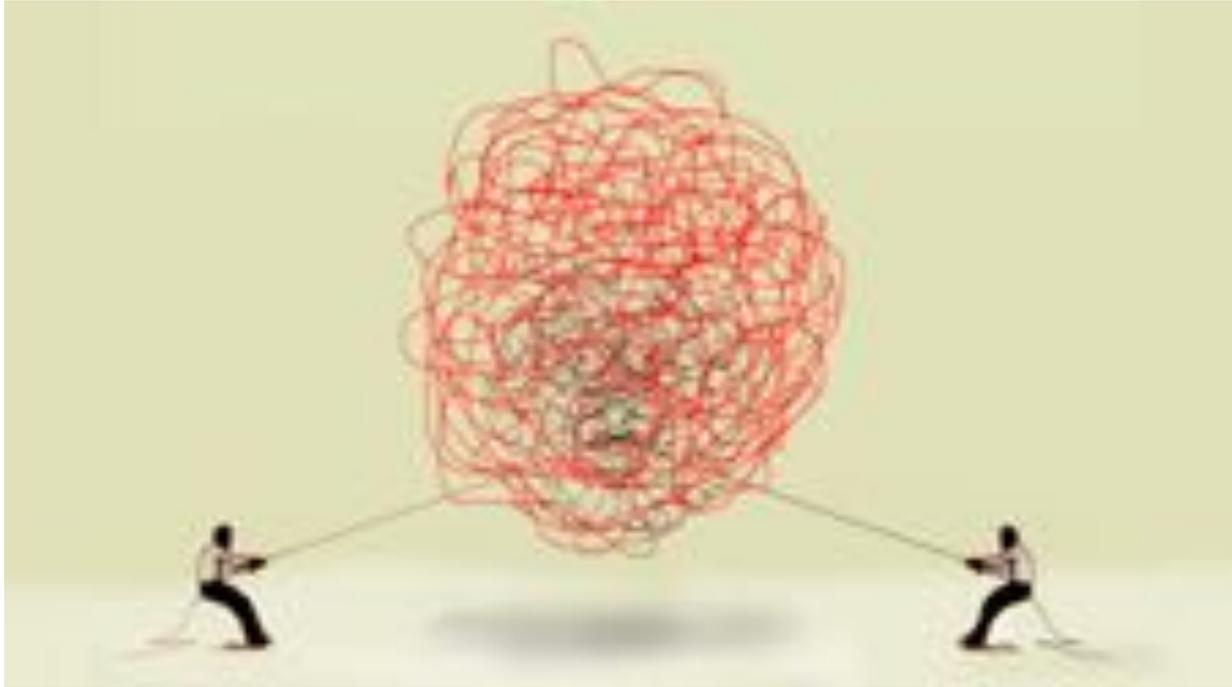
Bounce back

IMAGES

Sporting achievement

Bounce back





What do you do if you have
conflicting answers?

Go back to your data

- ▶ Think through how you would approach analyzing your data
- ▶ What will you prioritise?
- ▶ What might be analysed deductively (top down)? What is inductive (bottom up)?

- ▶ How prepared are you for more questions than answers?
- ▶ Formative process of moving to the next cycle of enquiry



Patrice Brisbois
Le Dialogue

Practitioner
enquiry
should be a
dialogue...

How will you share your enquiry outcomes?



Time to think about where next...





University of
Strathclyde
Glasgow