RESEARCH GUIDANCE

Research Methods for Education

About this document

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Part 1: Introduction — Research & evidence-based policymaking

Good education research can help us design and implement evidence-based education policy.

This is important because without evidence, we do not know whether our policies are working—that is, whether our policies are reaching their intended beneficiaries and having the intended impact on them. Without research, we do not know if we are implementing the right policies, at the right time, in the right place, and at the correct pace. Without a basis in solid evidence, our policies can be counter-productive, wasting precious resources or even causing harm to the people whose lives we are trying to improve.

Activity 1: What we do/did well [15-20 minutes]

With a partner, i.e., another participant in the workshop, discuss what policies your ministry has implemented in the past that were particularly effective. What role did evidence play in their design? How did you know that they were effective?

[5 minutes]

Share your examples with the whole group.

[10-15 minutes]

Note for the facilitator: if different examples come up and there is disagreement in the room about past successes, try to tease apart the role of evidence and research in the tension/disagreement.

Is it that some people believe that research evidence was used in policy design, while others do not? Or is the disagreement about the nature/quality/rigour of the research? Is it about research (not) being used at the design phase or at the evaluation stage? Try to leverage any differences of opinion to highlight the various places research evidence enters the picture in the policymaking cycle, and why it is important to talk about the nature of that research.

As a facilitator, if you do not have any examples for policymaking, the box below has some examples from the Zimbabwean context.

Policymaking in Zimbabwe
- School feeding policy   - School health policy   - Policy on school fees   - School financing policy

Research and research evidence generally enters the policymaking process in three places:

- In the beginning: designing policy (scoping and inception research)

- In the middle: monitoring (how well is the policy/intervention doing?)

- At the end: evaluation (how successful was the intervention? What can we learn from it?)

Apart from evidence-based policy, research also allows us to *iterate* how we do things. It allows us to learn from the past for the benefit of the future.

Researchers at Harvard have developed an approach called Problem-Driven Iterative Adaptation (PDIA) to harness the power of research in designing the most effective policies and interventions. In this approach, we first identify the problem that we would like to solve through our intervention, design an initial approach to solving the problem, and then keep collecting and analysing data in order to keep changing our approach to maximise our impact.

[Note for the facilitator: the point here is not to "sell" the participants on any particular approach to policymaking but rather to get them excited about what research, at its best, can do.]
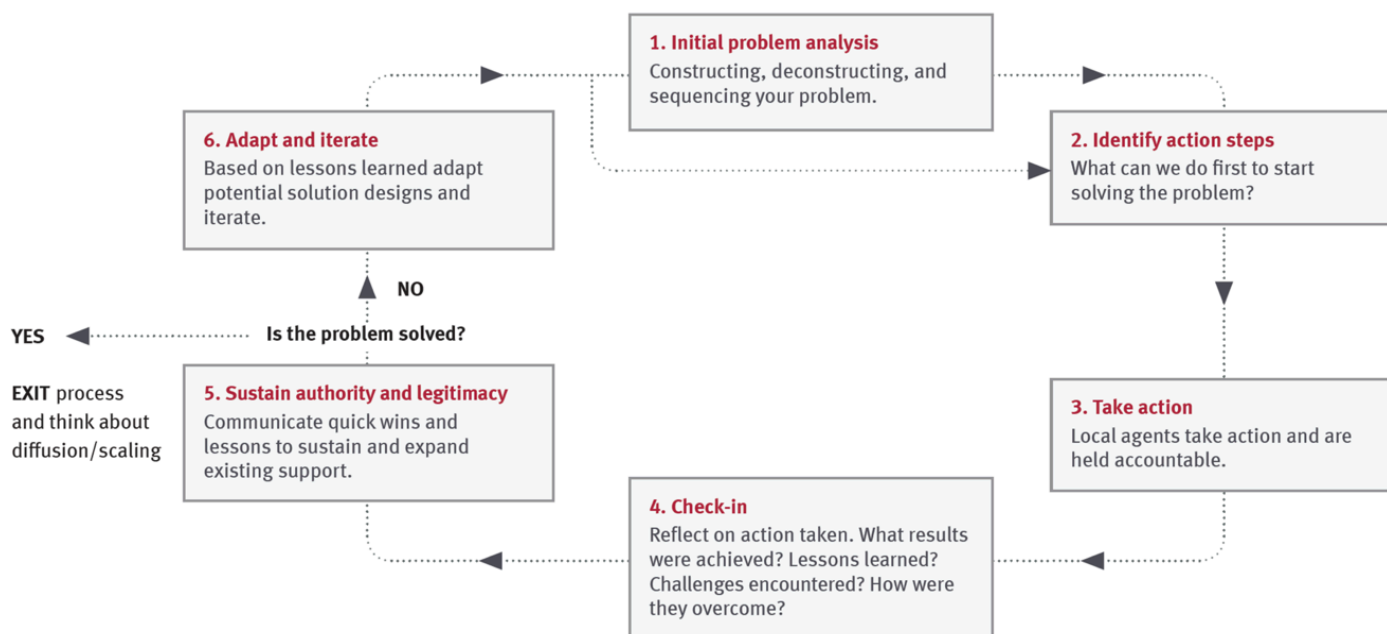
Source: Escaping Capability Traps through Problem Driven Iterative Adaptation (PDIA)

While PDIA is only one of many ways in which we can approach the process of generating effective policy, it shows us how powerful good research can be in

helping us make the right policy choices. This becomes particularly evident when we compare such a process to the "conventional" way of policymaking. The following table compares PDIA with more 'conventional' ways of policy development:

Contrasting current approaches and Problem-Driven Iterative Adaptation (PDIA)

Elements of Approach	Mainstream Development Projects/Policies/Programs	Problem Driven Iterative Adaptation
What drives action?	Externally nominated problems or 'solutions' in which deviation from 'best practices' is itself defined as the problem	Locally Problem Driven—looking to solve particular problems
Planning for action?	Lots of advance planning, articulating a plan of action, with implementation regarded as following the planned script	'Muddling through' with the authorization of positive deviance and a purposive crawl of the available design space
Feedback loops	Monitoring (short loops, focused on disbursement and process compliance) and evaluation (long feedback loop on outputs, maybe outcomes)	Tight feedback loops based on the problem and experimentation with information loops integrated with decisions
Plans for scaling up and diffusion of learning	Top-down — the head learns and leads, the rest listen and follow	Diffusion of feasible practices across organizations and communities of practitioners

Source: Escaping Capability Traps through Problem Driven Iterative Adaptation (PDIA)

Activity 2: What We Can Do Better [15 minutes]

With a partner, discuss what areas of education policy/intervention are particularly critical to tackle moving forward. What kinds of research would help in those areas and lead to more effective policies?

[5 minutes]

Share your examples with the whole group.

[10 minutes]

Note for the facilitator: the point of the activity is to get participants excited for what comes next in the workshop, to end this introductory section on a high note that will leave the audience hungry for solutions and ways of doing research; in other words, highlight the "so what" behind the content that comes up so that the methodological discussion is firmly linked to particular problems that the participants would like to solve through education research.

Further readings for Section 1

- Andrews, Matt, Lant Pritchett, and Michael Woolcock. 2012. "Escaping Capability Traps through Problem Driven Iterative Adaptation (PDIA)".

- Impact of Social Sciences. 'Evidence-Based Policy and Other Myths. What Researchers Need to Know to Influence Government.', 22 September 2020. https://blogs.lse.ac.uk/impactofsocialsciences/2020/09/22/evidence-based-policy-and-other-myths-what-researchers-need-to-know-to-influence-government/.

- ODI: Think change. 'Evidence-Based Policymaking: What Is It? How Does It Work? What Relevance for Developing Countries?' https://odi.org/en/publications/evidence-based-policymaking-what-is-it-how-does-it-work-what-relevance-for-developing-countries/.

Part 2: Designing research

Designing high-quality, impactful research is not something that we do automatically; rigorous and meaningful research often requires thinking through how different problems call for different research approaches. We do not often have the resources or the time to carry out the best-scenario research study. Education is also a field that is notoriously hard to research because of the many ways in which social, cultural, political, historical, and economic factors influence educational outcomes. Educational research is, in other words, 'the art of the possible', an effort to do our best in a complicated landscape with insufficient resources. But despite all these limitations, we often find ourselves with many different options for designing research studies. There are many different methodological approaches to research and to maximise the quality and impact of our research choices we need to be aware of what is "on the menu" so we can make right, inclusive, and relevant choices.

The process starts with the research question. A research question is not the same as a policy problem. It is a question that we can directly answer with data and which will help us get closer to the policy problem's solution. But it is unlikely that a single research question or a single study can ever fully solve the policy problem in front of us; to do that, we usually need a larger body of research. To get from a policy question to a research question, it helps to think in terms of hypotheses—ideas we already have about what could be behind the issue we are trying to solve. Consider this example:

> **Policy problem:** *Getting more girls into schools.*

> **Hypothesis:** *Many girls are prevented from going to school by being required to do household chores.*

> **Research question:** *What percentage of girls of primary school age in region X are engaged in household chores that prevent them from attending school?*

A good research question needs to be *relevant*. That is, it needs to bring us closer to solving the policy problem we set out to address. The research question in our example is relevant because knowing how prevalent household chores are as a reason for not attending school in a particular region can tell us whether this is a factor that we should be addressing through policy or if there are other reasons girls might not be coming to school (such as inadequate lavatory facilities in schools).

Notice also the *specificity* of this research question. It is much narrower than the policy problem we started with. The question tells us what variable we are trying to measure (proportion of girls), specifies the target demographic (girls of primary

school age in a specific region), and limits the scope of our research (only girls engaged in chores that *prevent them from attending school*).

A good research question is also *feasible*. There is no point in asking research questions that we do not have the means to answer. To determine feasibility, we need to consider what resources we have at our disposal and what limitations might exist in the field. For example, will girls/families be willing to answer questions about household chores, or might there be barriers to answering the question?

To summarise, a good research question is

1. relevant
2. specific
3. feasible.

For example, are the following (pairs of) research questions relevant (to your context) or not?

- What are the financial management skills of the headteacher? Do these differ between schools considered as lowly and highly innovative schools?

- How do you make lemon meringue pie?

- What problems are encountered by teachers in attempting to implement a competency-based curriculum? How can those problems be overcome?

- What is the philosophical stance on research held by Ministry of Education researchers?

For example, are the following research questions specific or not?

- Are boys' IQs higher than girls' IQs?

- Barriers: What problems are encountered by teachers in attempting to implement a competency-based curriculum?

- Enablers: How are teacher managing to implement competency-based curriculum?

  What national policies or initiatives are barriers to the competency-based curriculum? What initiatives are enablers?

  What other approaches can be used to overcome those problems?

Activity 3: From policy problem to research question [15 minutes]

Take 2-3 minutes to think about the policy problem you identified in the previous activity, or any other question related to your work that you would like to focus on for the rest of today's workshop. Can you think of a *specific* research question that will help you solve the problem?

[2-3 minutes]

Now, share your research question with your partner. What do they think—does your research question work? Or would they recommend changing it or posing a different question?

[2-3 minutes]

Share what you found with the whole group—did your partner's feedback help you improve your question in some way?

[5 minutes]

Note for the facilitator: try to keep this exercise dynamic by sticking to the time limits; this is meant to be just a quick exploratory activity.

Let's go back to our question about girls' attendance and household chores. Because this question is asking for a number (percentage of girls), it calls for a quantitative methodology—a way of doing research that will allow us to find out a numerical answer. For example, we can administer questionnaires to girls and families and count the number of girls whose answers to the questionnaire make us believe that they are prevented from going to school by household chores.

But other research questions might call for other approaches. Remember, we were only able to ask the question about household chores because we had a hypothesis that this might have something to do with school attendance. But what if we had no idea at all why girls might not be coming to school and needed to come up with a hypothesis? This is called *exploratory research* and it often comes with much broader research questions. In our case, the question might be: what are the reasons school-aged girls in region X are not coming to school?

This question is not asking for a number but for a list of reasons. In other words, the answer will not be a quantitative but a qualitative one. To find out what some of the reasons might be, we might interview girls or their families and ask open questions about the reasons they might be out of school. This would be a qualitative methodology.

In practice, many research problems are often best tackled through a combination of quantitative and qualitative research. This is called *mixed methods research*.

Let's now take a minute to think about how mixed methods designs might look in practice.

Basic mixed methods designs
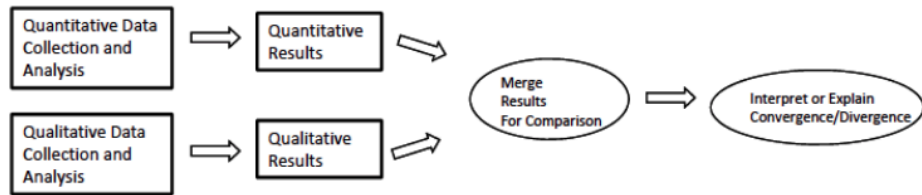
Source: Sara Hennessy, Mixed Methods workshop, University of Johannesburg

Activity 4: Finding an effective approach [5 minutes]

Think about the research question you identified in the previous activity. What type of methodology would be best suited to answer your question—qualitative, quantitative, or mixed methods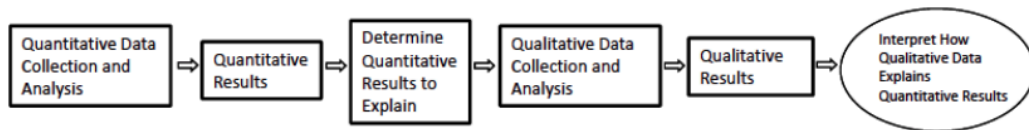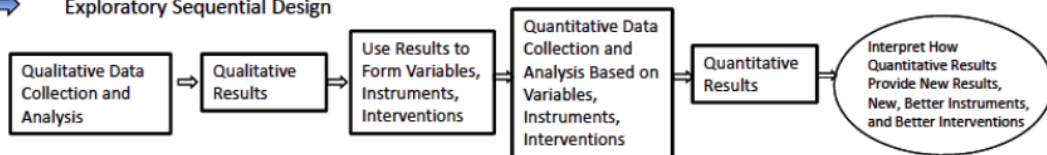? Can you also think of specific research activities (methods) that you might use to answer your question? Write your answer down in note/bullet point form; we will revisit it later.

[5 minutes]

Note for the facilitator: try to keep the room quiet during this activity to allow for deep reflection and thinking among the participants.

Note for the facilitator: try to gauge the temperature in the room and how captive your audience is as you go through the next section and the associated diagrams. Try to focus on the aspects most directly relevant to your audience and try not to spend more than 5 minutes on each diagram. If you are already losing some in the audience at this point, consider skipping the next section (marked by the dotted line on the left).

We will come back to our research questions soon, but let us now "zoom out" and take a bird's-eye perspective on research design.

The choice of a methodology does not just depend on the research question; it also depends on the philosophical orientation of the research. There are several orientations, and we can think of them and their relationship to other elements of research design in the form of an "onion" (see next page), or in other visual formats (page after).
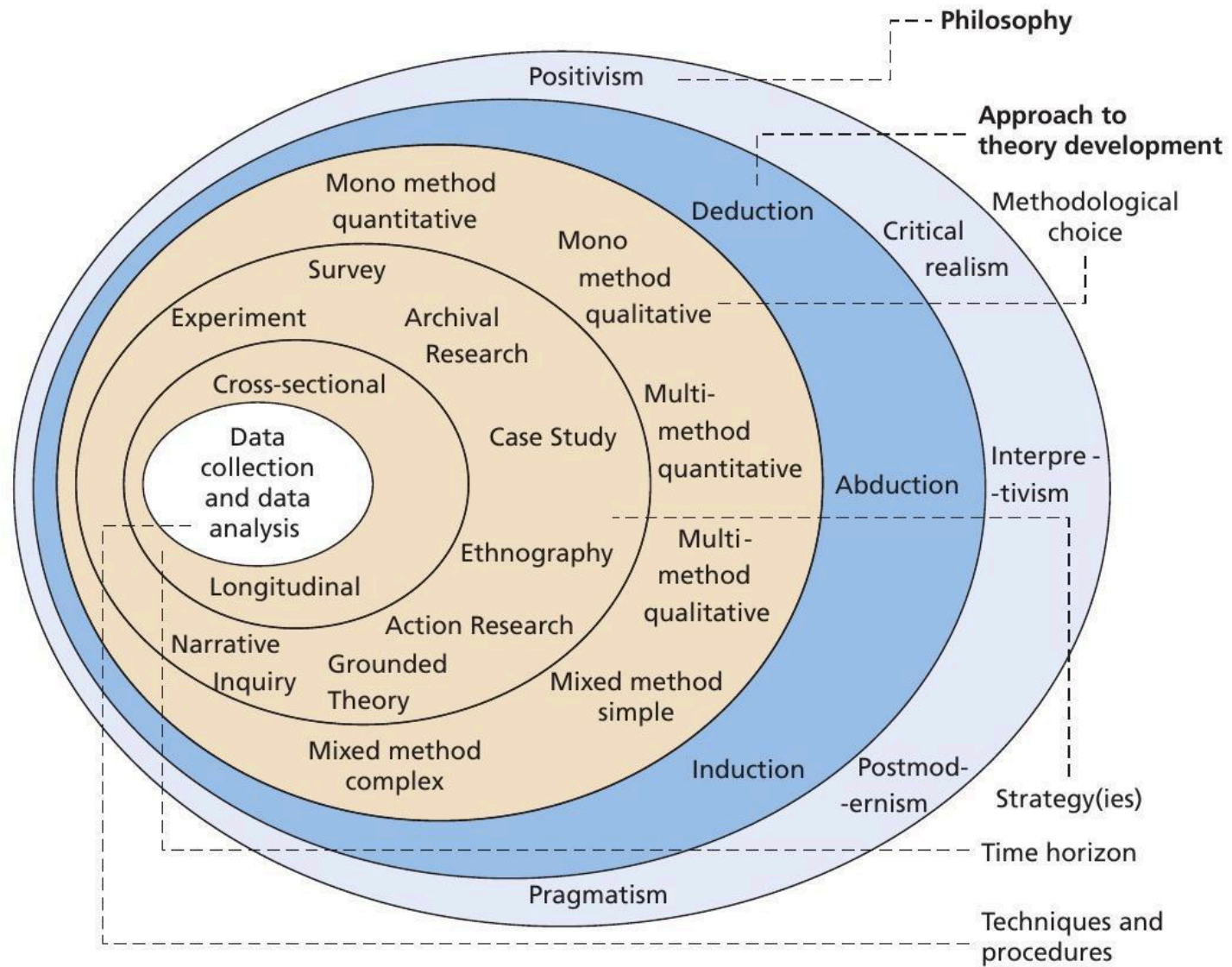
Source: Saunders, M. N. K., Lewis, P., & Thornhill, A. (2019)
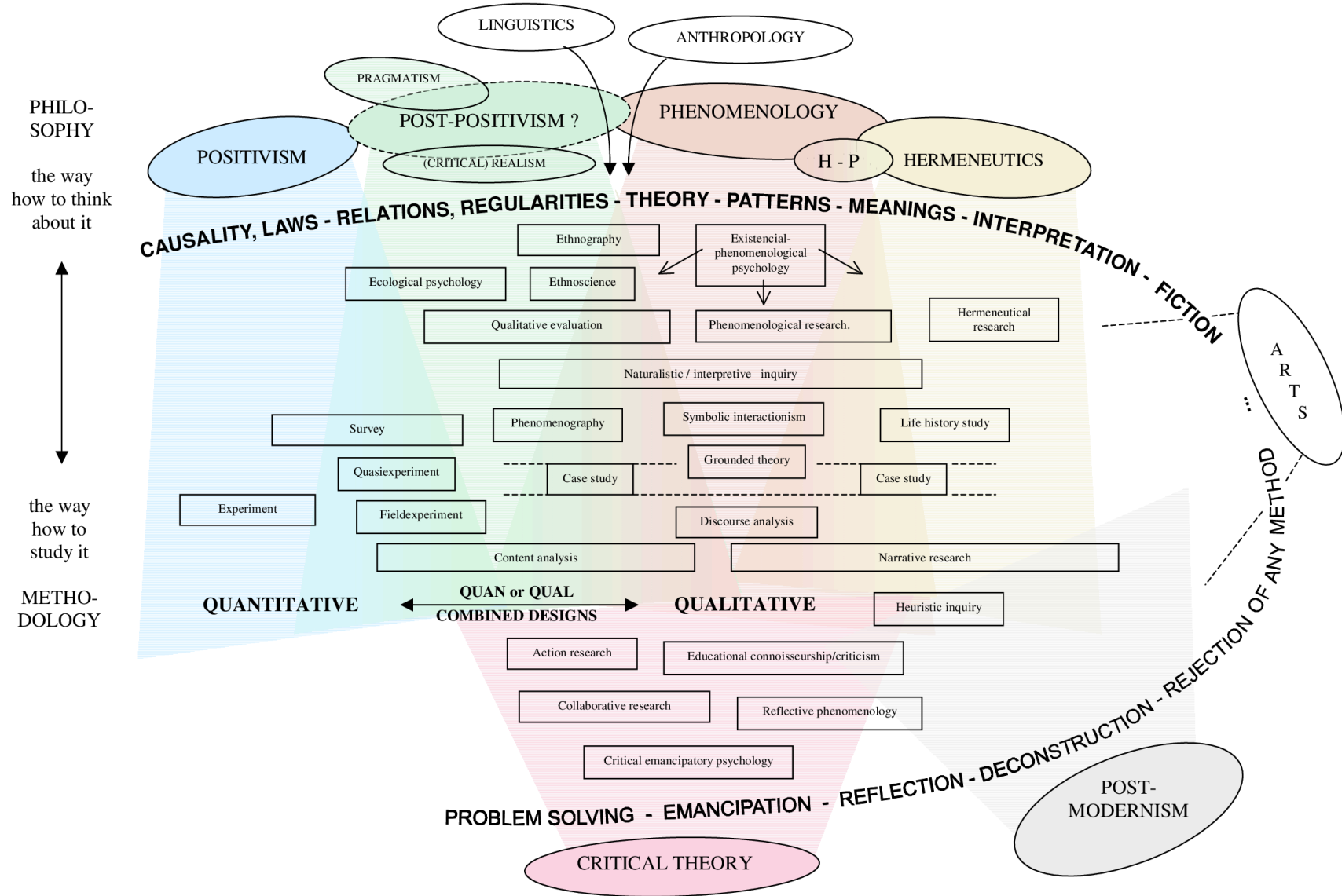
Source: Niglas, Katrin. 'The Combined Use of Qualitative and Quantitative Methods in Educational Research'. 2004.

Ultimately, a research design is going to boil down to a research method or a set of methods (methodology is the overall approach, a method is a specific type of research activity). Let's take a look at the "menu" of some of the most commonly used research methods in education research (N.B. this is by no means an exhaustive list!).

Note for the facilitator: as you go through the various methods, explain them briefly and ask the participants to interrupt you if they would like you to say more about a specific method. The level of pre-existing knowledge will vary from audience to audience and while this section is not designed to be comprehensive, its goal is to get everyone in the room on the same page about some of the most basic methods.

Qualitative methods include:

- Interviews (structured, semi-structured and unstructured)
- Focus groups
- Observation (structured or unstructured)
- Questionnaires and surveys
- Ethnography and participant-observation
- Document/archival and discourse/policy analysis
- Action research
- Participatory and visual methods (such as mind-mapping).

Quantitative methods include:

- Survey research
- Correlational research
- Experimental research.

Activity 5: Finding an effective approach – Revisited [15 minutes]

Now look back at what you wrote in the previous activity and think about whether the philosophical approaches and specific methods we just talked about change the way you think about the methodological approach to your research question. What philosophical orientation and what specific methods might you choose to answer the research question you chose? Might you want to alter your research question in light of the material we just covered?

[5 minutes]

Facilitator: ask participants to share not what they wrote but any questions that got raised for them as they worked through this exercise, and try to address them as a group. The goal is to get the group to work actively with the information which you shared with them in the section preceding this exercise rather than to arrive at any definitive answers about their research designs at this stage of the workshop.

[10 minutes]

Note for the facilitator: try to keep the room quiet during this activity to allow the participants to reflect and think deeply.

Before we move any further, we need to talk about research ethics. For many people, research ethics is just a bureaucratic box-ticking exercise, something we do because we have to. But ethics goes much deeper and should always be at the forefront of our thinking about both research design and implementation. We do research ethically not just because it is the right thing to do but also because bad ethics often results in bad data and wrong conclusions.

There are some basic rules. We always want our participants to give **informed consent**, ideally in writing. We want to make sure to always explain to our participants the purpose of the research and what we are going to do with the data we obtain from/with them. We never want to mislead our research participants in any way. We always want to be sensitive to their needs, concerns, and any vulnerabilities they might have. In data analysis, we want to stay true to what the data is telling us and never to manipulate data, falsify statements, or put words into people's mouths. Where translation is involved, we always want to go with the most accurate language possible, respecting the original intended meaning of statements given the original context. We do not want our study to become **extractive research**, meaning we do not want to just take from our participants and give nothing back; the experience should be enjoyable and perhaps in some form educational for them too.

But beyond the basics, we need to think about power in the context of research. The researcher is usually in a position of power over the researched, and with power comes responsibility. Researchers can abuse their power, often without even being aware. As in every other aspect of our lives, dynamics of gender, race, ethnicity, age, (dis)ability, sexual orientation, and many other differences between people, influence research processes and outcomes. Making research more fair, equitable, open—for example by being transparent about the intentions and processes behind research or by trying to amplify the voices of study participants that might have been historically suppressed—is part of the agenda of **decolonising research**.

Activity 6: Decolonising research [15 minutes]

Discuss in break-out groups/with a partner: in what ways is education research 'colonial'? What can we do to decolonise it?

[5 minutes]

Share your insights with the whole group.

[10 minutes]

Further readings for Section 2

- Cohen, Louis, Lawrence Manion, and Keith Morrison. *Research Methods in Education*. Routledge, 2017.

- Saunders, M. N. K., Lewis, P., & Thornhill, A. (2019). *Research Methods for Business Students* (Eighth Edition). Pearson.

Part 3: Collecting data

After we have designed our study, it is time to collect data. In this section of the workshop, we will cover sampling, bias, and rigour, as well as practical tips for several common qualitative methods, including interviews, focus groups, and observation.

Let's start with how to choose our research study participants. This is called **sampling**. In quantitative research, we often aim for a **representative sample,** which means that we want the group of people from whom we are collecting data to be representative of the larger population to which they belong. For example, we want to make sure that our sample of school-aged girls in a particular region is representative of all school-aged girls in that region. There are various ways of ensuring this and controlling for systematic differences between the sample and the larger population through statistical methods.

But in qualitative research, sampling is often not representative but **purposive**. That is, it is driven by the purpose of the research and not the need for representativeness. For example, if our goal is to understand the school funding priorities of schools in a particular area, we might construct a purposive sample of head teachers and school administrators in that area. Purposive sampling also often goes hand in hand with **snowball sampling** where we let our sample grow as we go by following leads that come up in the process of doing research. For example, one of the school administrators tells us that we should also talk to their colleague who might have further insights to contribute, and we then include this colleague in our sample. Another strategy is **deviant sampling**, where we look for people who are different from the norm in some way; for example, if we want to understand how well a particular school reform was received by school administrators, we might skew our sample towards the most vocal critics and the most ardent supporters of the reform rather than focusing on the people in the middle who do not have strong opinions one way or the other.

Let's apply these ideas to constructing a focus group. Focus group is a common method in which we bring a group of study participants together with a facilitator to discuss the questions our research is interested in. Some focus groups are highly structured and follow a rigid format, others are structured around more open conversations among participants, and yet others utilise visual and participatory methods, such as drawing a collective mind-map on a piece of flipchart paper. Note that the specific questions we ask our participants in a focus group (or in interviews) are not the same as our research question. Just as our research question is one step removed from our policy problem, the focus group/interview questions are a step removed from the research question; they are questions that

our informants can comment on and that help us get closer to the answer to our research question. This is why we create **research instruments** such as interview schedules that give structure to our interactions with informants.

But let's get back to sampling. Putting together a focus group is essentially an exercise in purposive sampling, because the goal is to put together a mini-sample of study participants with the purpose of generating a good discussion. This means we want a diversity of participants who can bring various points of view to the table but who all have valuable insights to share that can help us answer our research question.

Activity 7: A dream focus group [15 minutes]

Think back to the research question you identified for your policy problem in the previous exercises. Imagine organising a focus group with a small group of 5-6 informants designed to collect data that will help you answer the research question. If you can have your pick and have anyone in the room, who would the informants be? Write down your answer.

[5 minutes]

Now ask yourself how feasible your dream focus group is. Is it realistic to have access to the people you would ideally like to participate in your focus group? Is it logistically feasible? Is it ethical? Circle the people whose participation you think is realistic and cross the ones you think are less likely to be able to participate.

[3 minutes]

Facilitator: ask the participants to share how the exercise went for them. Did they find it easy or difficult to decide who should be in their dream focus group? Did many of those people make it into the category of participants who would be realistic to include?

[5-7 minutes]

Note for the facilitator: the goal of the exercise is two-fold—to bring home the meaning of purposive and deviant sampling in qualitative research, and to remind the participants that research is the 'art of the possible'. Remind them that even as we engage with many abstract ideas of ideal scenarios in research, we always need to keep our feet on the ground and think about what is possible, realistic, and ethical.

Before we move on and talk about interviews, let's speak about biases. Biases can be conscious or unconscious and we all have them. By virtue of being human, we are biased. The key is to be as aware of our biases as possible and to try our best to not let them get in the way of our research. Biases have to do with our identity—our gender, ethnicity, race, sexual orientation, socioeconomic status, etc. but they also have to do with our personal history and past experiences—our education, professional experiences, etc.

Activity 8: Checking our biases [10-15 minutes]

Reflection exercise: think about your policy problem and your research question. Imagine the likely study participants that you might encounter in the field while collecting data. Now ask yourself: in what ways might my identity, as well as my past experiences, get in the way of finding out the truth about my research question? What blind spots do I have as a result of my identity and experience? Does the choice of my policy problem, research question, and methodology in itself reflect any of my biases and blind spots?

[5-7 minutes]

Facilitator: ask if any of the participants are willing to share their reflections with the group, but do not push for anyone to do so, as this is a very personal exercise.

[5-10 minutes]

Note for the facilitator: try to keep the room quiet during the first part of this activity to allow the participants to reflect and think deeply.

Now that we have talked about policy problems, research questions, sampling, instruments, and biases, it is time to get to grips with the actual process of collecting data. In qualitative research, interviews are, along with focus groups, the most frequently used method of data collection. Asking the right questions is key to interview success.

Interviews often suffer from **leading questions.** These are questions that contain an answer and encourage the interviewee to accept this answer. For example:

> *Don't all your girl students have to do household chores?*

In this question, the interviewer is providing an answer and simply asking the interviewee to confirm what the interviewer is already thinking. To make the question more open, we could reframe it to:

> *How many of your girl students have to do household chores?*

Or if we are doing exploratory research and have not yet formulated a hypothesis for the low attendance of girl students, we could ask an even more open question:

> *Why aren't there more girl students in your school?*

Sometimes, a leading question can be used when the interviewer is trying to play the devil's advocate and provoke a reaction from the interviewee. But this should be done carefully, and only when the interviewer really knows what they are doing.

Activity 9: From research question to interview questions [5 minutes]

Let's now think about how we can operationalise your research question by turning it into interview questions. Can you come up with 3 interview questions that you could ask someone in your sample that are designed to help you get closer to the answer to your research question? Write them down.

[5 minutes]

Let's now see these questions in action!

Facilitator: ask for a volunteer to come forward and ask their three questions. Tell them they are not allowed to ask any follow-up questions or change the questions they wrote down. Then ask for a second volunteer to role-play the interviewee (or role-play the interviewee yourself).

Activity 10: Role playing an interview [about 20 minutes]

Facilitator: let the interview play out, with the interviewer asking only their three questions with no follow-ups and the interviewee responding.

When the interview is over, ask the interviewer:

1) Do you think this interview produced any meaningful data you could use to help you answer your research question? Why/why not? Having done the interview, would you change any of your interview questions? Would you change your research question?

2) Did your biases or blind spots in any way influence what questions you picked, the way you asked them, and your overall interaction (including your body language and tone of voice) with the interviewee?

Then ask the interviewee:

1) How was the experience for you? Did you feel any bias against/towards you?

2) Were any of the questions leading questions?

Then open up the floor to the rest of the group to reflect on what they have just seen. Invite any comments and observations and encourage group discussion, particularly steering it towards research rigour and research ethics.

Note for the facilitator: depending on how the preceding activity went, repeat the activity multiple times, particularly if there are multiple willing volunteers working on a range of different research topics/questions which could produce different insights/give the participants further examples of good and not-so-good interview practices.

What we just saw was a **structured interview.** This means that we were sticking entirely to our research instrument—the pre-designed questions. But interviews are not always this structured and rigid. The opposite of a structured interview is an **unstructured interview** where the interviewer does not have a fixed protocol of questions they follow; instead, they keep their research question in mind and have a free-flowing, unstructured conversation with the interviewee that helps them get at insights that might help with answering the research question. In unstructured interviews, interview questions are often generated in real time.

Activity 11: Demonstrating an unstructured interview [10 minutes]

Facilitator: ask for a volunteer interviewee and conduct a sample demo of an unstructured interview on a topic/research question of your choice

[5 minutes].

Then invite questions/reflections from the rest of the group

[5 minutes].

The danger of unstructured interviews is that unless they are done very carefully and by very experienced interviewers, they can slide into informal conversations that end up being unhelpful for the research because they lack rigour. In practice, many interviewers and focus group facilitators opt for **semi-structured interviews** in which they have a prepared protocol that they follow but also introduce **probing questions** and follow-ups as needed and sometimes stray from the protocol if the conversation is taking them in a direction that seems promising for the purpose of the research.

Aside from focus groups and interviews, another qualitative method frequently used in education research is observation. Like interviews and focus groups, observation can be structured or unstructured. In structured observation, we use an **observation schedule** to track specific categories of activity. For example, we might be interested in how much time a teacher speaks during a lesson vs. how much time students speak/interact. In unstructured observation, we simply observe and take notes of things that might be relevant to our research question.

Activity 12: Observing a lesson [20-25 minutes]

Facilitator: pick a research question (ideally one of the questions that one of the workshop participants is working on that will be suitable to this task) and introduce it to the group. Ask the group to attempt an unstructured observation of a pre-recorded school lesson, keeping the research question in mind, and to take written notes. Then play them a 5-10 minute clip of a lesson, for example:

https://www.youtube.com/watch?v=49L8id4OnGk&list=PLtf3oOEbE-EVk3Rab6pu mZhO4Bl3Dg7Jl

Ask the group to share their observations and try to steer the conversation in the direction of what we can learn from observation that we cannot learn from interviews or focus groups, but also what the limitations of observation as a method might be.

There are many other qualitative research methods, including analysing archival documents, discourse analysis of policy frameworks, ethnography, visual and participatory methods. But many of the basic lessons about focus groups, interviews, and observations will apply across all research methods. We always need to be aware of our biases, be specific (but not too specific), and pay attention to ethics.

Before moving on to data analysis, let's talk about research **rigour**. What makes research rigorous? We have already covered many aspects of this:

- Choosing the right research question
- Taking a methodological approach grounded in a coherent philosophical outlook
- Picking the appropriate methods
- Translating our research question into actionable, specific instruments
- Being reflective about bias.

Another element of rigour is the strength and consistency of the evidence that our research produces. We can increase this through the **triangulation** of different data sources and methods. Triangulation means corroborating, confirming insights using multiple sources. For example, a school principal might tell us about a particular policy framework operating in their area, and we might then perform discourse analysis on the written document of the framework itself. That way, we have two different sources, and two different methods, to get insight into our research question.

Further reading for Section 3

- Weiss, R. S. (1996). *Learning From Strangers: The Art and Method of Qualitative Interview Studies*. Simon & Schuster.

Part 4: Analysing data

Once we have collected our data, the next step is analysis.

Activity 13: Common sense analysis [20 minutes]

Think about the policy problem, the research question, the methodological framework, the specific methods, and the specific interview questions you came up with earlier in this workshop. Now imagine that the research has been carried out and you have a pile of data in front of you. What does the data look like? Is it type-written? Recorded audio? Hand-written notes? Video recordings?

How will you go about analysing it? How will you turn this pile of data into actionable insights that can help you illuminate your research question?

Take 3 minutes to think about this, then share with a partner.

[7 minutes]

*Facilitator: ask for volunteers to share any questions/issues that came up during the pair discussions.*

[13 minutes]

Then, invite questions/reflections from the rest of the group.

[5 minutes]

There are several stages to data analysis. First, we need to ensure that our data is well-categorised and pay attention to data storage (including its security in line with any ethics protocols the study is following). For audio files, we need to do transcriptions, ideally also with some clean-up and quality checking.

When the data is well-organised, we can start thinking about **coding** it. Codes are categories and markers that help us identify **patterns of convergence and divergence** in the data. We need to develop, trial, and iterate lists of codes that will help us identify the insights we are looking for in the data. This is frequently done using a dedicated software such as NVivo.
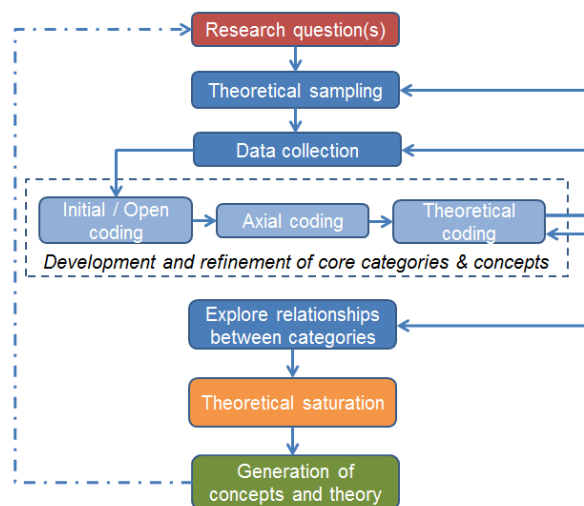
Source: Luke Owen

Once the data is coded, we can start identifying **themes** that emerge from the data, and relate these to our research question. Ultimately, we might find that our research question itself needs to be changed/iterated and that we might need to go back to the drawing board. This is called **iterative research.**

Facilitator: ask participants if the material that you have just covered in any way changes the way they think about the process of data analysis that they came up with in the previous activity.

Activity 14: Developing a simple codebook [20 minutes]

Facilitator: share with participants a sample interview transcript excerpt and a research question. Ask them to work in pairs to come up with at least 10 codes that they can use to code the transcript.

Further reading for Section 4

- LeCompte, Margaret Diane, and Jean J. Schensul. *Analyzing & Interpreting Ethnographic Data*. Rowman Altamira, 1999.

Part 5: Dissemination and impact

Disseminating findings and finding ways to maximise the potential of research to positively impact policy and intervention design are key elements of designing effective research. How can we do this?

Activity 15: Reverse-engineering impactful research [20 minutes]

Think back to everything you've learned in the workshop and try to "reverse-engineer" for impact. What kinds of choices could you make at the various stages of research design and implementation to increase the chances of your research being taken seriously and having the desired impact?

Do any of those choices compromise the rigour or ethics of the research? If so, can you find ways to achieve the same impact without compromising on rigour and ethics?

[5 minutes of reflection]

Facilitator: ask participants to share their reflections and facilitate a discussion, steering it towards the importance of recognising the need to balance rigour, ethics, impact, and feasibility in education research.

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This bibliography is available digitally in our evidence library at
https://docs.opendeved.net/lib/F6WS8X4W

Figure 4.7: The iterative processes of qualitative data analysis. (n.d.). ResearchGate. Retrieved March 2, 2022, from https://www.researchgate.net/figure/The-iterative-processes-of-qualitative-data-analysis-through-grounded-theory-data_fig14_301228759. (details)

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