

Mixed methods

KEY WORDS

- ▶ Methods
- ▶ Methods
- ▶ Methodology
- ▶ Mixed methods
- ▶ Mixed methodology
- ▶ Multiple dimensions
- ▶ Triangulate

In the last paper in this series we considered how we use triangulation in our day-to-day lives to help us navigate to places, as well as in explaining personal preferences. We used the example of providing points of longitude and latitude on a map so that someone can understand exactly where somewhere is, rather than the use of a vague description of a location that may get an individual lost.

We started to describe how research methodologies (the over arching approach to a piece of research), and research methods (the tools used to collect research data), might be used to add a further dimension to the collection of data, and the breadth and richness of research findings.

In this paper we will consider how triangulated research methodologies, also known as mixed methodologies, and mixed methods might be used in research. While the distinction between mixed methods and methodologies is not as distinct as suggested in this paper, it is useful to separate the two, to enable the reader to gain an understand of how and why a researcher might considered mixed methodologies or triangulation in their research.

MIXED METHODOLOGIES OR MIXED METHODS

Much of the literature refers to mixed methods research, where it might be better to consider the research as mixed methodologies, especially since the research approaches used come from the two main research paradigms, what we have called in this series qualitative and quantitative research paradigms. This is very confusing, since within any methodology, a researcher may use more than one approach to collecting data and these data collecting approaches are widely known as methods.

We will keep the two ideas separate, as far as possible, in this paper for the purposes of clarity of understanding, but readers should be aware that much of the literature about mixed or multiple methodological research approaches

refers to mixed or multiple methods.

Greene (2007) famously provides five good reasons why methods (methodologies) can be usefully mixed in research:

- ▶ **Triangulation:** this allows the researcher to look for corroboration and convergence of the results within the study, but from different approaches, as we discussed in the previous paper (Ellis, 2021)
- ▶ **Complementary:** in this sense the methods used seek to add further detail to the understanding gained from the research, such that the results are enhanced or further elaborated
- ▶ **Development:** here one method is used to develop the ideas and insights gained from using the first method.
- ▶ **Initiation:** recognises that there may be contradictions or paradoxes discovered by reframing questions, so they are researched from more than one perspective or research design
- ▶ **Expansion:** allows for the breadth of the enquiry to be developed.

In health and social care all of these are valid reasons for approaching research using mixed methods/methodologies. Providing care for people is complex, and holistic, person-centred and evidence-based models of care need to be informed by sophisticated and innovative research designs.

At its most basic level, mixed methodologies allow us to answer questions about the same phenomenon from two different angles. If we consider how the methodologies that sit exclusively within the quantitative and qualitative paradigms each have their advantages and disadvantages, we can start to appreciate better the advantages of the mixed methodologies.

If we recall that quantitative research seeks to answer questions about the objective world, about cause and effect, about numbers and proofs, while qualitative research seeks to understand people's subjective experiences and understandings of the world, then we might

start to see the purpose of mixed methodologies. Exclusively quantitative research, while often being generalisable to the wider population, tends not to consider the individual perspective, while qualitative research which recognises the individual world view of participants might not be generalisable to the wider population and is often not good for informing policy. Approaching the issue of understanding the purpose of mixed methodologies in these simple terms, enables us to understand how such research might help us decide on treatment approaches which are both effective and acceptable.

MIXED METHODOLOGIES

We gave the example in the last paper of how there is little point in creating a wound dressing that is great at healing wounds, but is also more of a burden for the patient than the wound. Therefore what is needed is a dressing that both aids healing and is not a burden to use or for the patient. How we investigate if this is the case is perhaps best achieved using mixed methodology research. Johnson et al (2007, p123) identify mixed methodology research as:

“the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration”.

So for example to prove the dressing is good at aiding wound healing we might use a quantitative approach that records the wound type and perhaps measures its size and then use a statistically sound sampling method to create two treatment groups. The methodology then might compare the rate of wound healing using two different wound dressing regimes. This allows us to see prove that a particular wound dressing aids the healing of a particular wound type more

effectively than another. The same study might also collect semi-structured interview data from the participants in each arm of the study about their experience of the wound dressing — this being a qualitative methodology.

What this gives the researcher, and the reader of the research, is a multidimensional view of the impact of the dressing providing a more rounded evaluation of the product than might be gained from a single methodology. Creswell and Creswell (2018) identify this sort of approach to research as sophisticated in its ability to minimise the limitations associated with single methodology (although they call it method) research.

One could use something like a validated questionnaire to score the individuals experiences of the wound dressings, this would be an equally reasonable way of undertaking the research. Validated questionnaires sit within the quantitative paradigm and so this approach would not be mixed methodologies.

MIXED METHODS

When undertaking research, the research questions and resulting aims and objectives are used to inform the research design and the way in which data is collected, that is the research methods. Sometimes the methods, even within one research methodology are mixed, because of the nature of the sorts of questions the research methodology answers, as we saw with the previous example. Another good example of a research methodology which will help us illustrate methodologies that use a mix of methods for data collection is ethnography.

Ethnography is essentially the study of a group with the intention of understanding what the group do, what their norms are as well as why they behave as they do, and therefore what motivates them, essentially their culture (Ellis, 2019). It is not possible to collect all the data needed to understand the behaviour and motivations of a group of people using one data collection method. To understand how people behave one needs to observe their behaviours, because if we

