

# **Wales Institute for Work Based Learning**

**Module no: BMPF7005**

## **Undertaking Research in Workplaces**

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### **1. INTRODUCTION**

Every researcher approaches their work with a personal set of beliefs and assumptions that will influence what, why and how they researching, and what methods they think they can best use to undertake their work. These beliefs and approaches can be identified as the philosophical notions of Ontology, Epistemology and Methodology. "Behind these terms stands the personal biography of the researcher, who speaks from a particular class, gendered, racial, cultural, and ethnic community perspective." (Denzin and Lincoln, 2008, p 52). It's important that I first make explicit the foundational positions that I am embracing, so that my research has relevance and integrity within my own framework of beliefs, and so that others can view my findings in the light of the assumptions from which I am working.

In this essay I will briefly explore ideas about the nature of 'reality' (ontology) and of 'knowledge' (epistemology) and how my own views of these are likely to influence the way I approach research into my own spheres of work. Then I will explore the main research paradigms that emerge from different ontological and epistemological positions and consider how my own position and research interests might best be served by adopting one or more of these. I will consider a range of research methodologies linking these to my own practice and possible research areas, considering which might be most helpful for my approaching research project.

This will put me in a good position to evaluate the advantages, disadvantages and relevance of a range of research methods, and to then to consider which might be most appropriate in exploring my areas of research interest. After a concise consideration of the important ethical considerations involved, and reflection on the advantages and disadvantages of being an 'insider researcher' I will aim to draw some clear conclusions about my own research designs and methods for my future research projects.

## **2. Ontology and Epistemology**

**Ontology** can be described as “Philosophical assumptions about the nature of reality” (Easterby-Smith, Thorpe, and Jackson, 2015, p 53). A spectrum of 4 perspectives emerge in Guba and Lincoln (1994, p109) ranging from objective to subjective positions. They name these as naive realism, critical realism, historical realism and relativism. Easterby-Smith, Thorpe, and Jackson (2015, p56) summarise these in two main positions with Realism, and Internal Realism at one end (facts exist and can be revealed, though may be obscure). Relativism and Nominalism are at the other end of the spectrum (there is no single truth, since truth is created by or dependent on the observer). My own ontological position is that reality includes both subjective truths and measurable facts. The modern day polarisation which may encourage researchers to adopt either objectivism or subjectivism perhaps misses the richer and more complex truth that both can be embraced as complementary dimensions of existence. This will have implications for my research into the impact of group singing on well-being, indicating perhaps that I will need both qualitative and quantitative aspects, suggesting a mixed methods approach.

**Epistemology** involves the nature of knowledge, both “what is known” and “how it comes to be known” (Whitehead and McNiff, 2006, p 23). Someone’s epistemological position will be shaped by their ontology. If I believe that reality exists separately from me and can be discovered objectively then I may adopt a similar position about the nature of knowledge, and feel able to measure and study it objectively (Positivism). This would lead me to adopt quantitative methods of research, looking for measurable outcomes. If I think that reality is largely constructed in the minds of each person then I will see knowledge as rooted and constructed in the experiences and perceptions of people and shaped by our interactions together (Interpretivism). In my work with groups of singers there is a major element of subjectivity in evaluating the well-being and musical outcomes for participants. The ‘knowledge’ I am seeking is therefore largely constructed in the process of research as participants express how their experiences have benefited them. Much research into singing and well-being to date has focussed on qualitative outcomes necessarily mediated through the subjects own self-reported experiences. (e.g. Clift and Hancox, 2001). In order to progress research in this area I expect to engage socially constructed understandings and knowledge of well being using qualitative methods but also to explore whether there are objective outcomes, perhaps musical, that can be measured quantitatively. If successful in achieving both of these, my research may gain greater usefulness and credibility.

### 3. Paradigms

Beliefs about Axiology (ethics), Ontology (reality), Epistemology (knowledge) and Methodology (research system) together combine to create a dimension that can be described as a paradigm, worldview, or framework of belief systems (Mertens, 2010). Mertens (2010, p 470) cites Denzin and Lincoln (2005) and Guba and Lincoln (2005), describing the concept of a paradigm in this way, “an organising metaphysical framework to enable researchers to examine the underlying belief systems that guide their work”

A researcher whose ontology and epistemology espouse naive realism and objectivism can be said to be approaching their work within the **Positivist** paradigm. They see themselves and the subjects of their investigations as separate entities. (Guba and Lincoln, 1994, p108). Positivist researchers assume that there is an ultimate truth and reality that can be measured, such as when scientists measure forces, substances and effects in the physical world and can repeat their experiments with the same results (Denscombe, 2007, p300). In my work researching the benefits of group singing this is not a paradigm that sits well. There are no purely objective measures that I can make to ascertain the social, emotional, psychological and musical benefits of my work with participants. Although some researchers have undertaken psychobiological measurements of changes in participants bodies when engaged in group singing (e.g. Bullack et al., 2018) I do not have the scientific tools to do that, cannot organise that during a global pandemic (as currently) and do not believe that these measurements will provide a good picture of the wider well-being benefits of group singing. However, as stated above, my ontological position is that realism and relativism are complementary dimensions (though no position is provable), and there may be aspects of participants' behaviour and musical ability which can be measured numerically. This might contribute to an understanding of the benefits of group singing, so I remain open to a positivist approach within my research if this seems effective.

**Postpositivism** asserts ontologically that a measurable reality exists but that it is “only imperfectly apprehendable because of basically flawed human intellectual mechanisms” (Guba and Lincoln, 1994, p110). The **Critical Theory** paradigm accepts that reality has been mediated through social, political and other factors over time and that this results in a newly shaped reality that, while being virtual, can be measured and is effectively ‘real’. The researcher influences and is connected to the subjects of enquiry and therefore research outcomes are seen in the light of these effects. (Guba and Lincoln, 1994, p110)

Beyond these three paradigms and standing separately is **Constructivism or Social Constructivism**. This paradigm embraces a relativist ontology and interpretivist epistemology. Meaning is developed through trying to make sense of life and the world rather than being a search for underlying fixed truth that needs to be discovered. For social constructivists the process of constructing meaning happens through engagement and interaction with others, exploring the historical, cultural and social context in which others operate. “They also interpret what they find, an interpretation shaped by the researcher’s own experiences and background”(Creswell and Creswell, 2018, p56). Much research into singing and well-being is planted in this paradigm, using an open ended approach to research including dialogical engagement with the participants, allowing the emerging findings to shape the next stage of research, taking account of the cultural and social backgrounds of all involved and beginning without strong pre-defined hypotheses. (e.g., Livesey et al., 2012; and Clift et al., 2007). It’s likely that my own research will be rooted in a similar paradigm, at least in part.

The **Transformative Paradigm** emerged in the 1980s and 1990s and is associated with groups of researchers who feel that other paradigms seemed to exclude what they view as the marginalised in our society e.g. ethnic minorities, people with disabilities and members of the LGBTQ community. Mertens (2010, p470) explains, “the transformative paradigm is a framework of belief systems that directly engages members of culturally diverse groups with a focus on increased social justice”.

**Pragmatism** has been contested by some philosophers as not being a true paradigm, because it allows for the opposing ontologies of realism and relativism at the same time, and seems to also allow for positivist and interpretivist epistemologies simultaneously (Johnson and Onwuegbuzie, 2004, p14). However Feilzer (2010, p8) argues, “Pragmatism, when regarded as an alternative paradigm, sidesteps the contentious issues of truth and reality, accepts, philosophically, that there are singular and multiple realities that are open to empirical inquiry and orients itself toward solving practical problems in the ‘real world’ ”. This position comes very close to my own view that opposing ontologies are in fact complementary and aligns with my sense that an approach that combines qualitative and quantitative methodologies might be most useful in well-being research with singing groups. Feilzer (2010, p14) summarises, “Ultimately, pragmatism brushes aside the quantitative/qualitative divide and ends the paradigm war by suggesting that the

most important question is whether the research has helped “to find out what [the researcher] want[s] to know” (Hanson, 2008, p. 109)

#### **4. Methodologies**

The paradigm or paradigms the researcher chooses to embrace will emerge from their ontological views, and will include the methodological approaches they want to adopt to provide the best results for their research. The main methodology adopted by those using a positivist approach is known as **Quantitative**. In contrast, those adopting a more subjective, relativist approach employ a **Qualitative** methodology. However, a third way has been developed over the last 20 years, emerging from a positivist, multiple-methods process, that seeks to combine both positivist and constructivist paradigms, and is known as **Mixed Methods Research**, aligning strongly with the pragmatist research paradigm (Feilzer, 2010, p6).

**Quantitative** methodology is concerned with concrete knowledge about a fixed reality, usually measurable through numerical data. Specific hypotheses (that may have been prompted through previous qualitative research) are proposed and tested empirically, using methods that yield numerical results. Variables and the relationships between them are stated unambiguously so that any tests may be repeated by others with the intention of achieving the same results. Experiments will be conducted in a laboratory-type setting, and results published in tables, charts and graphs, reasoning will be deductive (Merriam, 2009, p34)

**Qualitative** methodology involves inductive reasoning. Researchers may be exploring a human situation or problem and use open ended questions and approaches, take account of the participants’ cultural and social contexts and backgrounds, and may adapt their research process as it develops in order to follow or deepen the questions they are seeking to find answers to. They do not start out with a single theory or hypothesis but may use their findings to propose one. A qualitative methodology may well include numerical data in evaluating the size and extent of a qualitative pattern or effect that seems to be emerging (Creswell and Creswell, 2018).

**Mixed Methods** research involves gathering and integrating both **qualitative** and **quantitative** data and using them both according to the purposes of the researcher. It can be described “as the class of research where the researcher mixes or combines

quantitative and quantitative research techniques, methods, approaches, concepts or language into a single study” (Johnson and Onwuegbuzie, 2004, p17). Exploring the well-being and musical effects of groups singing in my own research will inevitably major on a qualitative approach since the data I am exploring relates primarily to the psychology, emotions, social engagement and spiritual benefits of this activity. These are variables that cannot be defined purely numerically. However I also want to be able to generate meaningful data that perhaps demonstrate trends in these areas using numerical data that emerges from my analysis. The majority of recent studies take a qualitative or mixed methods approach and often use established scales and systems to measure the well-being effects, sometimes using numerical data (Judd and Pooley, 2014; Fancourt et al., 2019; Corvo, Skingley and Clift, 2020; Batt-Rawden and Andersen, 2020). In my own research - comparing the benefits of singing together face to face with the benefits of singing together online from home - I intend to use a similar mixed methods approach.

### **Research Methodology and Designs**

**Phenomenology** is concerned with studying lived experience but not as it compares with anyone else’s experience or with some fixed reality. It is a seeking to understand and explore, without categorisation or conceptualisation, the raw detail of experience as expressed by individuals (Laverty, 2003, p23). Edmund Husserl is credited with being the father of phenomenology, and believed that the application of scientific, quantitative methods of research to human behaviour was inappropriate and led to inaccurate and misleading findings. He argued that the researchers who engaged humans in scientific research were not taking account of the context of the research, the background of the subject, or the way in which the circumstances of the experiment affected the subjects responses, and therefore gave false results. (Laverty, 2003, 23).

**Hermeneutic Phenomenology** “as a methodology, provides glimpses of the meanings that reside within human experience” (Crowther et al., 2017, p826). “Hermeneutics is the theory and practice of interpretation” (Paterson and Higgs, 2005, p342). In qualitative research the interpretation will be focussed on the textual material available from interviews, open ended questions and other research methods. The researcher is part of this interaction with the text as a whole, parts of the text and the research question, named the hermeneutic circle (Heidegger, 1927). Research questions are generated and explored from this ongoing movement between detailed parts of the text acquired through different research methods and the whole text, gradually constructing an emerging suggested that

a hermeneutic spiral is a clearer presentation of the circular process because each time the circuit is completed a greater understanding is gained. I am likely to use open ended questions within surveys to pursue my research into singing and well-being, so that I can explore a wide range of experiences of singing both face to face and online, without previously categorised answers.

**Ethnography** is based in anthropology and sociology and usually involves a prolonged and intensive study of the behaviours and culture of a group of people, yielding detailed understandings of their lives and lived experiences. (Easterby-Smith et al., 2008; ). It may involve the researcher working within the organisation which can have both benefits and challenges to the process, and raises insider researcher issues. Observation, interviews, textual analysis may all be employed creating a complex and challenging methodology suited to longer term studies. (Creswell and Creswell, 2018)

**Grounded Theory** was developed by Glazer and Strauss. It involves the detailed analysis of data that has usually come from open ended research methods. There is no hypothesis to prove, and no pre-set framework of analysis to adhere to. It does not depend on structures or procedures defined by previous published studies and does not start out with a theory. It is about revealing meaning and discovering non pre-existing patterns. Data from interviews, non-numerical surveys, questionnaires and similar research methods is gathered and coded to promote theoretical understandings. (Charmaz and Henwood, 2008). Possible categories of understanding can be tentatively proposed, and further clarifying questions raised. There may be many further rounds of data gathering, each based on what is emerging from the previous ones. The aim is “to check and refine categories and generate theories regarding social phenomena”. (Lingard et al., 2008, p1)

**Action Research** involves both the researcher and the participants together planning, undertaking and integrating the research methods, design, process and outcomes. It represents a significant democratisation of the research process. It is not tied to any particular research methods - all are available. It fits well within the transformative paradigm because the democratic process engages all participants and gives voice to all equally, including the previously marginalised. It is again a cyclical process and can be very time consuming. Its goal is often to address a problematic situation or create change for the better democratically and it is often used in educational settings. One popular model of action research includes Stringer’s three part cycle: Look, Think, Act (Stringer

2007, p8). I like the Look, Think, Act framework because it offers a clear menu of actions with which to approach the research process, ensuring careful observation alongside reflection and then action. However his cyclical approach may be too time-consuming a methodology to adopt for my own small-scale work-based project. It also seems largely geared towards problem solving, or exploring practices which appear to be problematic, which is not a significant factor in my work. All the same, the democratisation of the research process could be powerful and important in my research, exploring how effective our online sessions have been and to engage participants in finding ways to research and improve what we do. As I consider the ontologies, epistemologies, methodologies and designs underlying my research project, a pragmatic paradigm appears to serve me best with a mixed methods approach.

### **Mixed Methods Designs**

“The overall goal of mixed methods research..... is to expand and strengthen a study’s conclusions” (Schoonenboom and Johnson, 2017, p110). Although I am coming to a mixed methods approach in order to enable me to use whatever methods seem pragmatically helpful to answering my research questions, Greene et al., (1989, 259) offer five more specific purposes for using mixed methods (paraphrased):

- *Triangulation* - seeking to corroborate results through different methods.

Given the mainly subjective and qualitative nature of my research, using more than one method to triangulate what appears to be the emerging outcomes will be important to ensure the validity of my findings.

- *Complementarity* - using one method to clarify and enhance another.

If I use a numerical scale within a survey to gauge responses to aspects of well being, then offering a second opportunity to discuss these responses in interviews or a focus group may enhance my understanding of the data.

- *Development* - where one method may be used to extend the findings of another.
- *Initiation* - where methods suggest contradictory results, forcing a reframing or fresh perspective on results.

For example I may find that 60% of respondents in a quantified survey identify an improvement in social enjoyment by singing together, but also discover that 60% appear to make negative statements in open ended survey questions about the same aspect. This apparent contradiction would challenge me to explore statements in more detail and look more deeply at what participants are saying, perhaps returning to them with further clarifying questions or an adjusted quantified survey.

- *Expansion* - where one method suggests the need for a greater breadth and range of enquiry

These purposes seem powerful and relevant to my own proposed research into group singing and well being. The purposes and implied analyses and actions outlined by Greene (1989) above may well lead me to a more comprehensive research design, stronger conclusions and greater validity.

## Research Methods

'**Methods**' is a term refers to the tools and systems that researchers use to select participants, and collect and interrogate data. Different methodologies imply different methods.

Whatever methods are used to gather and analyse data, there will then be a decision to make about how to select samples of participants to take part in the study.

## Sampling

In sampling a group of people who have some similar characteristics or a common connection is known as a '**population**'. In order to be able to **quantitatively** investigate the characteristics or behaviours of this population a researcher might choose a smaller group from within the population to use as a research '**sample**' (Enago Acedemy, 2019). This is known as **probability sampling** and demands that much attention is paid to carefully matching the sample to the population as a whole. For example, a researcher seeking to adopt a qualitative methodology, working from a positivist or post positivist paradigm believing that what they seek to uncover is concrete, fixed and fully apprehendable (e.g. exploring changes in heart or breathing rates within subjects taking part in group singing) might aim to use suitable scientific equipment to conduct an **experiment**. This might include using probability sampling to select samples of participants if possible in many different settings and places; matching the groups in a range of factors like age, gender and singing experience; reducing or eliminating any confounding variables (e.g. taking into account the variations in general physical health of the participants); and using one or more control groups who perhaps did not sing, or undertook a different activity. The aim would be to analyse the data to see whether it confirmed a hypothesis e.g. that when singers sing in a group together their physical signs of well being related to heart beat and breathing increased.

In **qualitative** research, such as often with the social sciences, it is often not possible to apply the very restrictive variables that are present in probability sampling. Other types of samples are used known as **nonprobability** sampling. The first of these is **convenience sampling** which is used where there is a convenient, appropriate group available that is close by and easy to access. This might be a useful strategy at the start of exploring an issue - a study that might later be enlarged to a wider sample sharing similar characteristics. **Purposive sampling** is used when there is a need for a group with particular characteristics to explore an issue specific to them or their circumstances. Because of the limitations of the size and randomness of the sample group it's often not possible to create generalisations from such studies. If the subject matter is sensitive or not clearly visible in the population to the researcher **Snowball sampling** is useful. Once a small number of participants have been identified and verified they are asked to invite others they know, who share the relevant characteristics, to also take part. **Quota sampling** offers the researcher a chance to define very specifically a carefully selected sample that includes participants with varied and specific characteristics using a matrix that might include age, gender, experience and other factors that facilitate finding answers to the research question. (Berg, 2017, p39)

**Methods** that are more connected to quantitative research and emerging from a more interpretive paradigm include participant observation, role-playing, non-directive interviewing, episodes and accounts (Cohen, Manion, and Morrison, 2007, p47). Surveys and questionnaires designed with more open ended questions are not dissimilar from some types of interviews and can also be useful in qualitative research.

**Interviews** with participants can be structured, unstructured or semi-structured and can provide a wealth of rich information relating to the research question (Qu and Dumay, 2011, p244). They can be flexible and responsive, allowing the researcher to adapt to the responses of the participant and can enrich and augment observations or survey results (Berg, 2001). However they can be very time consuming and produce a large amount of data that is complicated to analyse, so are perhaps not always suitable for a small scale study.

**Focus Groups** can achieve some of the same goals as interviews, including more participants in a similar time, providing a stimulating and dynamic discussion resulting in rich data. However participants in a focus group can influence each other in discussion

and the natural characteristics of participants that emerge in group situations may influence the discussion e.g. some may be more dominant than others, peer pressure may exist to increase agreement when individually other opinions may be expressed (Berg & Lune, 2017, p106). Although I expect to use qualitative style surveys and questionnaires in my research, setting up a focus group might help me triangulate the survey findings. This might not be difficult at the moment during the national restrictions, when access to online video conferencing is commonplace. However, there may be other influencing factors that affect participant behaviours when speaking online that I need to look out for.

**Observations** are commonly used within ethnographic field study and can be most distinctive when they are used to record non verbal behaviour. They can be **unstructured** - when the researcher records a wide range of data in order to later identify issues that arise to problem solve, or to clarify possible research questions. **Structured** - where the observer has a clear checklist or focuses, knowing what they are looking for. This can generate numerical data - e.g., "frequencies, patterns and trends to be noted or calculated" (Cohen, Manion and Morrison, 2007, p398). This can provide a huge amount of useful data but has its problems. E.g. the observer being selective in their attention; the presence of the observer may influence the behaviour of the participants. If covert observation is used then ethical issues arise; the observer being distracted and missing something; personal judgement - the observer makes judgements about what criteria constitute an affirmative occurrence of what they are looking to record. There are other challenges too (Cohen, Manion and Morrison, 2007, p410)

**Surveys/questionnaires** are usually associated with quantitative methodologies because they are often closed, defined, seeking confirmation of a hypothesis and contracted to provide numerical data. However there may be a place for these methods if designed to include more open ended questions, and space for interview-type answers, and as part of a mixed methods approach alongside focus groups or interviews using both surveys and questionnaires. These two types of method are sometimes confused but here clarified by Bell & Waters (2018, p194) "A questionnaire is a set of written questions used for collecting information that is not then aggregated for statistical purposes. A survey, on the other hand, gathers information that is used to come to a conclusion about what a group of people think or how they behave, or a combination of the two." I will want to quantify some of the data I collect and propose to combine these purposes by using a mixed survey / questionnaire in my research study.

## **Ethics**

Across the range of methods being used by researchers many ethical issues can arise prompting the need for some kind of ethical framework or protocol to assure participants and other researchers that work is being carried out in a way that will ensure it remains ethical, valid and reliable. The Economic and Social Research Council have published six core principles for ethical research which address core areas: maximising benefit and minimising harm; respect for people's rights; voluntary participation; integrity and transparency; clear lines of responsibility and accountability; independence without conflicts of interest unless explained (ESRC, 2021). A briefer summary of key ethical concerns to address is provided by Denscombe, (2007, p134): 1 Respect the rights and dignity of those who are participating in the research project. 2 Avoid any harm to the participants arising from their involvement in the research. 3 Operate with honesty and integrity. I value these ethical principals and expect to address them in my own work in these ways:

- Ensuring that all participants know why I am undertaking research into the well-being and musical benefits of group singing and how the information will be used.
- Using anonymous submissions for surveys and questionnaires so that participants can submit without feeling they will be judged for the criticism they may choose to make
- Where I am exploring the emotional impact of group singing ensuring that the questions I ask do not invite unsafe sharing of personal information
- Making sure that any final outcomes and the study is available to participants in full when published

## **Insider Researcher**

A further part of my ethical consideration are the implications of the fact that I might be regarded as an 'insider researcher'. Easterby-Smith et al., (2012, p179, 189) argues that the involvement of a researcher in an activity they are part of might lead to unavoidable and possibly dishonesty or deception, and the researcher may be unaware of this. In my own studies I will be asking some participants about a project that I have set and run, participants that I see weekly and lead. In addition they pay me for taking part in these activities. This presents a situation where there may be unintended bias by me in my methodological choices, methods, wording and analysis, and bias through unintended emotional pressure in the responses of my participants. However the benefits of being an insider researcher are also clear. I am well placed to access the participants who are a central part of my study; whatever the outcomes I will benefit from the learning that

emerges; I can most easily adapt and improve the very practice that I am researching; I have close connections with the groups of people that will be participating and a passion for the subject of research which provides an energy, relevance and focus to the study Saidin and Yacob (2016, p853). One way I might seek to get the benefits of being both an insider and outsider researcher is to extend my study to other groups of singers that I do not know. This would eliminate most insider issues but retain the strengths that come from knowing my subject.

## **8. Brief Conclusion**

In the process of exploring research methods my project intentions and understandings have changed. I started expecting to design a project that would compare the well-being benefits of group singing online and offline using a singular (qualitative) methodology. Through reflection on my own views of ontology and epistemology and the methodologies that are implied by these, and by exploring the pragmatic paradigm and a mixed methods approach I have become enthusiastic about designing a project that will adopt a more bricolage approach that may include a range of paradigms and methods in order to find answers to my research question. I understand that specific ontologies and epistemologies are best served by specific paradigms, methodologies and even methods. However I don't feel able to tie my study to a polarised ontological position for the reasons described at the start of this essay. In addition I think there are reasons why adopting a more pragmatic approach might be more effective: data collecting methods available to me during this pandemic are limited; the nature of the research area that I am keen to focus on is highly subjective; seeking numerical interpretations of the data I collect where possible may provide more credible outcomes; my research question needs to be preeminent in deciding the most effective methods that will lead to answers. Two short quotes from Morgan (2007) go some way to summarising this perspective.

“..proponents of the metaphysical paradigm insisted instead that the research question should determine the choice of the research method”

“Yet if it is the research question that is supposed to determine the actual procedures in any given project, then how is that advice related to the requirement to work within one and only one of the paradigms” ?

Morgan (2007, p64)

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