

Module 2
BMPF7005
Undertaking Research in Workplaces

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I. INTRODUCTION

The purpose of this paper is to acknowledge three fundamental understandings of the research process: 1) ontological beliefs have implications for research design (Castellan, 2010; Creswell, 2003; Crotty, 1998; Mackenzie and Knipe, 2006); 2) there is no superior philosophical approach to ascribe to in research (Cohen *et al.*, 2000; Crotty 1998; Makombe, 2017; Okesina, 2020; O'Leary, 2017; Tuli, 2010); and 3) each theoretical approach gives the researcher a unique lens to reveal findings to a research question (O'Leary, 2017). These key understandings place the onus on the individual to first discern how they view reality (*ontology*), how they believe knowledge to be acquired (*epistemology*), and consider what methodologies align with their worldviews (*paradigm*). The methods and tools that will be used for the inquiry are then chosen based off these considerations (Cohen *et al.*, 2000; O'Leary, 2017; Tuli, 2010).

This essay will first define ontology and epistemology to lay the foundation for the analysis of three prominent research paradigms—positivism, constructivism, and pragmatism. This will prompt a discussion of how particular paradigms may lead the researcher to explore a more quantitative, qualitative, or mixed-method approach. The paper will then provide examples of three methodologies compatible with the three different approaches such as experimental, hermeneutics, and action research before highlighting the methods that can be used within each methodology, namely survey, interview, and focus group. Turning attention to ethical considerations, the essay will address potential challenges in insider research and then conclude by weighing the advantages and disadvantages of each research design, considering their applicability to a choral director such as myself.

II. FOUNDATIONS OF RESEARCH POSITION: ONTOLOGY AND EPISTEMOLOGY

Ontology is the study of being and the nature of existence or reality (Gray 2009, p.17). Ontological views can primarily be categorized as an objective and singular reality, as a subjective and perspectival reality, or as a constructionist reality (Scott, 2023). A researcher's ontological beliefs determine a cascading series of decisions and assumptions within the research process, beginning with epistemology (Hitchcock and Hughes, 1995). **Epistemology** refers to "what it means to know" (Gray 2009, p.17). Furthermore, epistemology is particularly concerned with knowledge validation and the methods that are used for said validation (Walliman, 2005). Another understanding of this term is how one "makes sense of the world" (Walliman 2005, p. 432).

If one holds an objective ontology, then it implies their epistemological stance would be empirical (O'Leary, 2017). In contrast, a subjective or constructionist ontological perspective may acquire

knowledge through gathering many perspectives and pulling meaning from many individual experiences (Lee, 1992). However, the implications of an ontological belief do not cease at epistemology. In fact, the whole research design relies on a “golden thread” (Makombe, 2017, p.3380) of connection between ontological views, epistemological assumptions, and the rest of the research process (Creswell, 2003; Crotty, 1998; Gray, 2009; Mackenzie and Knipe, 2006; Makombe, 2017; O'Leary, 2017).

Novice researchers can fall prey to glossing over the interconnectedness of *ontology*, *epistemology*, *paradigm*, *methodology*, *method* and *design* (Makombe, 2017). This lack of understanding can cause a premature jump from proposing the research question straight to determining what methods they would like to use in their research (Mackenzie and Knipe, 2006; Okesina, 2020; Tuli, 2010). Missing this connection can threaten the legitimacy of one's research, as taking the step to consider one's methodology showcases that the researcher has engaged in thoughtful, rigorous processes, and is committed to addressing responsibilities and controversies associated within their epistemological stance (O'Leary, 2017).

III. RESEARCH PARADIGMS

While ontology and epistemology address the broader concept of the nature of reality and acquisition of knowledge, Mackenzie and Knipe (2006) emphasize the importance of exploring and establishing one's paradigm. They warn the researcher that without choosing a paradigm as the preliminary stage of the research process, “there is no basis for subsequent choices regarding methodology, methods, literature or research design” (Mackenzie and Knipe, 2006, p.2).

A **paradigm** is a comprehensive framework encompassing shared assumptions about the nature of reality, the role of the researcher, and the appropriate methods that guide the entire research process and shape researchers' perspectives within a particular field (Bogdan and Biklen, 1998; Kuhn, 1962; Mackenzie and Knipe, 2006; Schwandt, 2007; Walliman, 2005). Minding that there are numerous theoretical frameworks, (some of which can be found in a supplemental table of additional paradigms in **appendix A**) this essay will now examine three of the more prominent paradigms found within research literature: positivism, constructivism, and pragmatism (Creswell, 2009; Gray, 2009).

The **positivist paradigm**, sometimes referred to as “empirical science,” (Creswell, 2003, p.6) assumes that there is one, objective truth, independent of consciousness (Gray, 2009). Positivists view reality as a “concrete structure” which is best understood through prioritizing causation of the things that exist in nature's fixed reality (Lee, 1992, p.2). Positivism follows a very systematic

approach to research, generally the scientific-method, making replicability and generalizability possible (Hammersley, 2007; O’Leary, 2017). Traditionally positivism has been viewed as the dominant epistemological paradigm employed in research, especially in the mid twentieth century, (Gray, 2009) although recent literature deems positivist research as insufficient or lacking meaning without putting data into meaningful context (Lee, 1992).

Another criticism from recent literature challenges the positivist paradigm as unable to handle anomalies that may surface when conducting research, which can cause a positivist researcher to question the validity of the study or even mark their predictions as failed (Morgan, 2007). Pope and Mays (2020) believe positivism to face great obstacles when applied to human research participants due to their capacity for reflection, self-awareness, subjective views, and the ability to alter behavior and opinions intentionally. They go as far to suggest that positivism is better suited for non-human subject matter (Pope and Mays, 2020). Crotty (1998) illuminates a large point of ontological dissonance within the positivist paradigm. Crotty (1998, p.40) states “no matter how faithfully the scientist adheres to scientific method research, research outcomes are neither totally objective, nor unquestionably certain.” The inherent challenge of achieving absolute objectivity in empirical research serves as a critical pivot point, prompting an exploration into alternative paradigms that grapple with the subjectivity of human experiences— for example, the constructivist paradigm.

The **constructivist** paradigm, also referred to as “social-constructivist” or “interpretivist,” (Creswell, 2003, p.8) posits a relativist ontology, suggesting the existence of multiple realities and embraces a subjectivist epistemology, wherein the knower and respondent collaboratively shape understandings (Denzin and Lincoln, 2018; Mackenzie and Knipe, 2006; Okesina, 2020; Scott, 2022). Additionally, constructivism adopts a set of naturalistic methodological procedures (as opposed to an experiment which controls variables and tries to isolate phenomena), grounded in the exploration of phenomena in the natural world (Denzin and Lincoln, 2018). What literature boasts about as an advantage of constructivism also poses as a limitation, as constructivism tends to focus on context-specific understanding which makes generalizing findings a challenge (Dobrovolny and Fuentes, 2008). In the same vein, the prolonged engagement and in-depth exploration of constructivist research can be time-consuming and may not always align well with the practical constraints of certain research projects (Dobrovolny and Fuentes 2008; O’Leary, 2017). Constructivism, like many other paradigms that fall under the subjective and qualitative category of research, struggles with validity (which will be discussed in section IV. Critical Evaluation of Research Approaches).

For Feilzer (2010), The **pragmatic** paradigm enables researchers to explore diverse ideas without being limited to a single theoretical framework. Here the focal point is the "research problem," and all approaches are employed to comprehend this issue (Creswell, 2003, p.11). With the research question at the forefront, data collection and analysis methods are selected based on their potential to offer insights into the question, without strict allegiance to any philosophical paradigm (Mackenzie and Knipe, 2006). Some pragmatists view paradigms as too limiting in the types of methods that can be utilized in research, which can squander "intellectual curiosity" (Feilzer, 2010, p.7). Morgan (2007, p.66) agrees that metaphysical paradigms may prioritize abstract concepts without a clear emphasis on practical implications or the effectiveness of different "lines of action." The pragmatic approach gives space for the researcher to explore rather than definitively establish a singular truth (Feilzer, 2010). Although Morgan (2007) has a compelling argument for the use of pragmatism and mixed methods (utilizing both quantitative and qualitative methods), this may not be the best choice for a novice researcher who is already lost in the "swampy lowlands" of navigating the complex nuances of theoretical frameworks, ontologies, and epistemologies (Schön, 1983, p.42). What Morgan calls limiting when referring to other traditional paradigms (ie. positivism, constructivism) can maybe serve as a welcome guard-rail for those embarking on this path for the first time (Hampson and McKinley, 2023). Hampson and McKinley (2023) express concerns that the emphasis on "what works" may compromise the pursuit of universal truths or principles. Sidestepping paradigmatic issues may seem like an appealing way to get the best of both worlds, however, the legitimacy of research methods depends on the corresponding beliefs within their respective paradigms (O'Leary, 2017). If the beliefs of one paradigm are true, the beliefs of another paradigm may be false, making both research methods seemingly incompatible (Hampson and McKinley, 2023). Morgan (2007) rejects this argument by rejecting the idea of the paradigm altogether. Morgan (2007, p. 49) prefers the term "pragmatic approach." The abstract metaphysical concepts are less relevant or meaningful to the pragmatist if they do not contribute directly to solving real-world problems or informing practical decisions. Hampson and McKinley (2023) retort with three compelling arguments. First, even though Morgan (2007) rejects the idea of pragmatism as a paradigm, much of the research being conducted with a pragmatic approach tends to follow a paradigmatic structure, thus making it fair play to evaluate it with comparable criteria (Hampson and McKinley, 2023). Secondly, while "do what works" may sound reasonable, it lacks an exploration of the criteria for defining what constitutes as "working" (Hampson and McKinley, 2023, p. 135). Thirdly, what pragmatists view as a weakness of the paradigm can be a strength in that theoretical frameworks can provide a roadmap to researchers when trying to determine which methodologies to apply (Crotty, 1998; Mackenzie and Knipe, 2006).

To summarize, **positivism**, has historically dominated research its emphasis on empirical observation and scientific rigor, but achieving objectivity in the complex realm of human experiences remains to be a challenge. **Constructivism**, on the other hand, embraces subjectivity and participant perspectives, making it suitable for exploring psychosocial influences. However, a notable disadvantage is its focus on context-specific understanding, which poses issues with generalizing findings to broader populations or situations. **Pragmatism**, offers flexibility and allows exploration of diverse ideas, making it suitable for navigating research complexities. However, emphasis on what works in the immediate context may lead to a neglect of fundamental theoretical underpinnings, potentially limiting the development of overarching principles and deeper understanding in the long run. Engaging in research extends beyond the mere adoption of a paradigm or methodology. The decision on the method used inherently signifies a particular viewpoint on the studied situation, embedding implicit assumptions and yielding answers about the subject being examined (Lee, 1992). Given this and understanding that each paradigm offers advantages and disadvantages, the researcher ought to first reflect on what their philosophical stances are in relation to what is being researched, consider how each paradigm supports their position, and weigh the methodology and methods implications associated with each paradigm before proceeding with their research project (Makombe, 2017; Okesina, 2020; O'Leary, 2017; Tuli, 2010).

IV. QUANTITATIVE, QUALITATIVE, AND MIXED-METHOD RESEARCH APPROACHES

The terms *quantitative*, *qualitative*, and *mixed-methods* are all approaches that describe overall research methodologies, methods, and data (Creswell, 2003; O'Leary, 2017). Crotty (1998) notes that every research problem can be addressed using quantitative, qualitative or mixed methods, however each approach handles knowledge acquisition differently. **Quantitative research** is often found within the positivist paradigm and seeks to uncover objective truths through systematic empirical observation and measurement (Gray, 2009; Creswell, 2003). This approach typically utilizes numerical data, statistical analysis, and a deductive reasoning process to draw generalizable conclusions.

Qualitative research is not grounded in any one theoretical framework (Gray, 2009), however, the constructivist paradigm often calls for a qualitative approach (Creswell, 2003). This approach emphasizes in-depth exploration, often employing methods such as interviews, observations, or content analysis. While qualitative research provides a nuanced understanding, its context-specific nature limits generalizability, and rigor is sometimes questioned (Gray, 2009; Lub, 2015).

Mixed-methods research combines both quantitative and qualitative elements to provide a comprehensive understanding of a research question (Creswell, 2003). This approach is often used in the pragmatic approach, as it acknowledges the strengths of both paradigms and aims to focus on inquiry and the research question over allegiance to metaphysical paradigms (Chenail, 2011; Morgan, 2007).

A. GATEKEEPING VALIDITY IN RESEARCH: QUANTITATIVE VERSUS QUALITATIVE METHODS

Bias is inherent in holding any belief at all (Scott, 2023). Bias in research is not a matter of is it present or is it not, but rather to what extent has the research design accounted for bias and mitigating it (Pannucci and Wilkins, 2010). Yet, it is qualitative research that seems to historically struggle with validity as it is often criticized as “subjective, unscientific, and anecdotal” (Winter, 2020, p.18). Dobrovolsky and Fuentes (2008) make the case that the need for judgement or decision making during the evaluation process may categorize qualitative and quantitative research as equally subjective and possibly emotionally or politically charged, depending on the context of the researcher. This stance is contrary to the narrative that has been told about reliability of research methodology since the 1970s. The “battle of egos” (Long *et al.*, 2000, p.190) or “paradigm wars” (Williams, 2020, p.82) between quantitative and qualitative research are well documented (Ercikan and Roth, 2006; Kelle, 2006; Lub, 2015; Long *et al.*, 2000; Mackenzie and Knipe, 2006; Morgan, 2007). Efforts from the qualitative side have shifted towards establishing stricter standards, particularly focusing on external reviews to verify the credibility of the findings (Lub, 2015). One of the methods used to increase qualitative research validity is **triangulation** (Vogl *et al.*, 2019). In triangulation, at least two sources of different types are compared to reduce the chances of reaching inaccurate conclusions (Hammersley, 2008; Vogl *et al.*, 2019). While Guba and Lincoln (1985) set the original standards for qualitative validity criteria, Morse *et al.* (2002) note that there has been a large influx of terms and criteria, which seem to cause more disarray than direction in establishing the validity of qualitative research (Caelli, *et al.*, 2003). Even still, there lies a point of contention between quantitative and qualitative research. Sandelowski and Barroso (1993) reject the idea of universal standards for qualitative research, noting that the varied epistemological approaches within qualitative methods make it too challenging to devise a one-size-fits-all set of criteria.

V. METHODOLOGY

Methodology refers to the “overall approach to research linked to the paradigm or theoretical framework” while **method** refers to “systematic modes, procedures or tools used for collection and analysis of data” (Mackenzie and Knipe, 2006, p.5). Hampson and McKinley (2023, p. 127) puts

it a little more simply as *methods* as the “source of data collection” and *methodology* as the “way to analyze the data.” As shown in **figure 1**, I combined elements from Creswell (2003), Makombe (2017), Mackenzie and Knipe (2006), and Gray (2009) to create a table showing how facets of research design are related and highlighted examples of various methodologies and methods that correspond with the different paradigms and approaches. Note that this table is just an example, and the options are not exhaustive.

	Paradigm	Methodologies	Methods
Quantitative Approach:	Positivist Postpositivist	Correlational Research Experimental Survey Research	Experiments Quasi-experiments Sampling Scales Surveys Tests
Qualitative Approach:	Constructivist Interpretivist Postpositivist	Case Study Ethnography Ethnomethodology Grounded Theory Hermeneutics Phenomenology	Document reviews Focus Groups Interviews Observations Research Diary Video, photograph, documents Visual data analysis
	Transformative	Cultural Studies Ethnomethodology Gender Studies Narrative Analysis Participatory Action	Diverse range of methods with equity, access and non-discrimination in mind
Mixed Methods Approach:	Pragmatic	Choices from both quantitative & qualitative methods (see positivist & constructivist)	

Methodology not only offers a roadmap for potential replication by other researchers but also establishes credibility by ensuring that the chosen methods align with the research objectives and are appropriate for the selected research paradigm (Creswell, 2003; Crotty, 1998). The following methodologies are meant to provide a range of examples of types of research design for quantitative and qualitative research.

A. EXPERIMENTAL

Experimental research design involves manipulating independent variables to observe their effects on dependent variables, allowing researchers to establish causal relationships (Walliman, 2005). Perhaps the most notable aspect of the experimental approach is the element of “cause and effect” (Walliman, 2005, p.118). The physical experiment itself is only one part of the research process. The scientific-method is a model a researcher may utilize if they are conducting an

experiment. This methodology is often associated with quantitative research, as experiments often generate numerical data for statistical analysis (Creswell, 2003). This methodology would be beneficial to a choral director looking to test a theory, the effectiveness of a teaching technique, or to explore anatomy and physiology. An advantage of this method is that it is highly controlled which can lead to better understanding of causal relationships (Walliman, 2005). The challenge, however, lies in the complexity of human behavior and the multitude of uncontrollable variables that participants may introduce (culture, beliefs, attitudes and experiences), making it difficult for researchers to isolate and control all relevant factors in a social science experiment (Pope and Mays, 2020). Variables labeled as "independent" are often interrelated and influenced by the variables being studied (Lee, 1992). Additionally, ethical concerns may arise if researchers attempt to control variables in a study that could alter aspects of participants' experiences, as this could potentially lead to unequal treatment or compromise the well-being of the participants (O'Leary, 2017).

B. HERMENEUTICS

The term hermeneutics stems from the Greek verb, "hermeneuein" (to interpret) and is traced back to "Hermes", the messenger and interpreter of knowledge between the mortals and the Greek gods (Gillo, 2021, p.42). Hermeneutic research is known for its deep focus on biblical text analysis and interpretation but has since opened to explore the human experience (Paterson and Higgs, 2005). As a methodology, hermeneutics is an interpretive approach to understanding human experiences, emphasizing the interpretation of meanings embedded in texts, conversations, or cultural phenomena (Koch, 1999). Hermeneutics involves understanding through language and diverse interpretations brought together in dialogue between researcher and participants, emphasizing continuous conversation for knowledge construction, and utilizing a circular dance of interpreting parts and wholes for an evolving understanding (Koch, 1999; O'Leary, 2017). Hermeneutics is commonly employed in qualitative research to explore the depth of meaning within a specific context (Pope and Mays, 2020). Focusing on interpreting the context, language, and cultural nuances surrounding a phenomenon hermeneutics allows researchers to delve into the subjective experiences and perspectives of participants. Hermeneutics allows for rich, qualitative descriptions that capture the complexity of human experiences, leading to a deeper interpretation of phenomena (Gray, 2009). However, disadvantages are that it can be time-consuming to sort through that much data (O'Leary, 2017) and its susceptibility to interpretation bias, as the researcher's preconceptions and perspectives may influence the analysis and understanding of the data (Gillo, 2021).

C. ACTION RESEARCH

Action research is a participatory approach where researchers collaborate with participants to identify and address practical issues, aiming to yield positive change through research processes (Walliman, 2005). In contrast to an objective experiment where the researcher holds the power, action research invites stakeholders to be co-researchers in the process (O'Leary, 2017; Walliman, 2005). Action research is designed to solve real-world problems, making it highly relevant to practical settings. Often conducted in cycles, action research uses ongoing feedback to make adjustments based on the evolving understanding of the issue. The immediate changes that action research achieves can make it a desirable methodology. However, as shown in **figure 2**, the simultaneous nature of the planning and execution can make it a challenging process to facilitate. O'Leary (2017) suggests that action research has a goal in mind, but next steps can only be determined once informed decisions from stakeholders have been made.

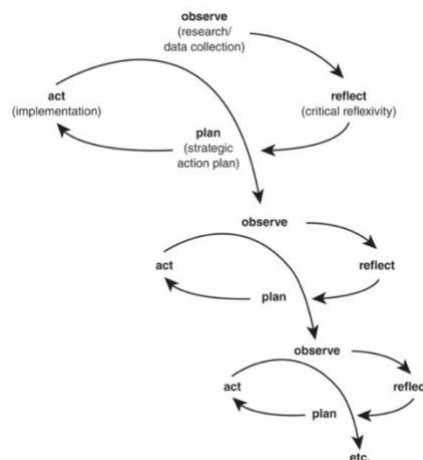


Figure 2 – the cyclical nature of action research (O'Leary, 2017).

VI. RESEARCH METHODS

In research, "methods" encompass the specific techniques, procedures, or processes employed for data collection, analysis, and interpretation (Creswell, 2003). These systematic approaches, as highlighted by Mackenzie and Knipe (2006), aid researchers in addressing their research questions. The appropriateness of these methods is contingent upon the researcher's ontological views, original research questions, goals, and the nature of the studied phenomenon (Castellan, 2010; Creswell, 2003; Crotty, 1998; Mackenzie and Knipe, 2006; O'Leary, 2017). While there is some flexibility in method selection, the overarching guidance for research design comes from the philosophical framework, ensuring coherence throughout the research project (Tuli, 2010).

A. SURVEY

Surveys, as a quantitative research method grounded in the positivist paradigm, involve the methodical collection of data through structured questionnaires. Utilizing closed-ended questions with predetermined response options, surveys are recognized for their efficiency in obtaining data from a large sample (Walliman, 2005). However, their limitation lies in the potential oversight of nuanced or in-depth insights (Gray, 2009). Qualitative surveys or mixed-methods surveys can be designed to include open-ended questions, allowing respondents to provide narrative responses. This approach adds a qualitative dimension to the survey, capturing rich, descriptive data alongside quantitative insights; however the researcher should be cognizant that open ended questions may hinder reliability of the data (O'Leary, 2017). While not typical in pure qualitative research, this hybrid survey method allows researchers to gather a broader range of information, combining the strengths of both qualitative and quantitative approaches.

B. FOCUS GROUP

In the qualitative realm, focus groups convene individuals from the study population in a designated setting to collectively discuss a particular issue, thereby generating research data through group dialogue that highlights how individual perspectives come together to make sense of the given topic. Due to the emphasis on many individual perspectives, a focus group may prove to be useful to a researcher who holds an interpretivist or constructivist paradigm. The strengths of this approach lie in generating in-depth qualitative data over a determined period of time (Gray, 2009). Yet, challenges may emerge in managing group dynamics, especially in the case if there is cynicism or hostility towards the research theme (Gray, 2009).

C. INTERVIEW

An interview is a method that encompasses both interpretivist and pragmatic paradigms and involves one-on-one interactions between a researcher and a participant (Gray, 2009). This approach allows for a comprehensive exploration of experiences, opinions, and perspectives (Creswell, 2003). While interviews provide detailed insights, they may be resource-intensive and time-consuming (Creswell, 2003).

VII. ETHICAL CONSIDERATIONS IN INSIDER RESEARCH

Addressing ethical concerns in research is paramount, especially when the researcher occupies an insider role within the setting under investigation. Insider research involves studying a context or community to which the researcher belongs, such as conducting research within one's workplace or community (Costley *et al.*, 2010). Lincoln and Guba (1989) draw attention to the

unfortunate account of numerous unethical reports, discouraging individual discretion for determining what is appropriate, making a series of guidelines necessary (Lincoln and Guba, 1989). The Belmont Report (HHS.gov, 1979) provides three ethical principles to serve as an analytical framework for ethics: 1) Respect for persons – the imperative to acknowledge autonomy and safeguard those with diminished autonomy. 2) Beneficence – the primary commitment to do no harm, maximize potential benefits, and minimize potential harms. 3) Justice – on both individual and societal levels, ensuring fairness in the distribution of resources and opportunities. Struggles of objectivity, power dynamics, and conflicts of interest are common ethical considerations when conducting insider research (Costley *et al.*, 2010). Researchers must be vigilant in maintaining transparency, avoiding biases, and navigating relationships to uphold the integrity of their work. Ethical review processes and clear communication with participants are essential components of mitigating ethical concerns in insider research. Striking a balance between insider insights and maintaining ethical standards is crucial for producing valid and trustworthy research outcomes (Costley *et al.*, 2010).

VIII. ETHICAL CONSIDERATIONS FOR THE CHORAL DIRECTOR

As a public-school teacher engaging in research, ethical considerations take on added significance when working with children. Extra safeguards are needed to protect this vulnerable population, primarily through guardian permission and consent forms (Universities, UK, 2022). The dual role of teacher and researcher brings forth challenges related to power dynamics, confidentiality, and potential impacts on students. Protecting the well-being and privacy of students is a top priority. Informed consent processes become crucial, ensuring that students, parents, and school administrators are aware of the research's nature and potential risks. Moreover, ethical considerations extend to how research findings are shared, ensuring responsible dissemination within the educational community. Furthermore, as a choral director, I want to be extra cautious about not triggering trauma or causing psychological stress by delving into extremely personal and vulnerable topics such as “have you ever had a negative or abusive experience with a voice teacher and how has that impacted your abilities and connection to singing?” The researcher must consider potential risks and harm from both the physical and mental sense (University of Wales Trinity Saint David, 2022). Taking these precautions and adhering to such a high set of ethical standards ensures that integrity and quality of research are upheld whilst protecting all involved in the process.

IX. CONCLUSIONS AND CONSIDERATIONS OF RESEARCH DESIGN FOR THE CHORAL DIRECTOR

This paper highlighted the profound impact of ontological beliefs on research design (Castellan, 2010; Creswell, 2003; Crotty, 1998; Mackenzie and Knipe, 2006), eliminated the idea of a superior philosophical approach (Cohen *et al.*, 2000; Crotty 1998; Makombe, 2017; Okesina, 2020; O'Leary, 2017; Tuli, 2010), and considered the generic benefits and limitations that each theoretical approach offers (O'Leary, 2017). While these basic understandings underscore the individual's responsibility in discerning how their ontological and epistemological views align with the many methodologies and methods available for each research inquiry (Cohen *et al.*, 2000; O'Leary, 2017; Tuli, 2010), the paper will conclude with important considerations for a public-school choral director embarking on a research project.

For choral directors seeking scientific answers to technical problems of the voice, a positivist paradigm and quantitative methods may be appropriate and most beneficial (Scott, 2022). However, due to the nature of a classroom or studio dynamic where students and teachers bring personal views and experiences to the environment, the strict objective lens that is required for quantitative research may be difficult to achieve (Mercer, 2007; Scott, 2022). Even still, for some teachers, finding objective truths may be what is best for the student if they are seeking to uncover objective, measurable, and observable phenomena. The positivist approach to voice research can raise questions of ethics due to the invasiveness of medical instruments and examinations of the body (Callaghan cited by Winter, 2019, 2:20). Some other considerations of the positivist lens are that it often requires use of costly resources. Historically teachers have not had sufficient access to classroom resources and often need to personally pay for their supplies (Litvinov, 2022). Financial barriers can limit sample sizes and access to appropriate equipment required for the study which can impact replicability, credibility, or generalizability (Dobrovolsky and Fuentes, 2008). In contrast to a positivist approach, choral directors wishing to explore the psychosocial influences of the voice may find that a constructivist approach complements the interpersonal connections that naturally occur within the studio (Winter, 2020). This approach would allow choral teachers to engage in rich discussions and sort through many perspectives of students while also embracing and utilizing their own perspective shaped over years of teaching experience. For choral teachers interested in integrating quantitative measurements of vocal function with qualitative insights into singers' experiences or preferences may decide to take a pragmatist approach and utilize mixed methods (Scott, 2023).

Researchers may hold different philosophical perspectives depending on what the context of the question is (Feilzer, 2010; Morgan 2007; Morgan 2014). Looking forward to applying this to my own research in Module 3, I would like to find ways to engage with my students to better

understand the polarizing culture surrounding views on singing, ability, and overall value of performing arts in secondary education. In **appendix B**, there is a plan for this potential research focus engaging in quantitative methodology and the positivist paradigm and in **appendix C**, there is a plan using qualitative methodology and the constructivist paradigm. Both appendix B and C utilize the Driscoll (2007) reflective model. What this demonstrates is whilst navigating the complex terrain of research methodologies and paradigms, researchers function as discerning explorers. Guided by their philosophical compass, akin to a map, they navigate the intricacies of methodological choices. Researchers leverage these philosophical foundations as essential beacons, casting light on the path forward and shaping the landscape for meaningful knowledge discovery.

X. REFERENCE LIST

- Bogdan, R., & Biklen, S. K. (1998) *Qualitative Research for Education: An introduction to theories and methods*. Boston, MA: Allyn and Bacon, Inc.
- Castellan, C., (2010) 'Quantitative and Qualitative Research: A View for Clarity', *International Journal of Education*, 2(2), pp. 1-14. Available at: <https://doi.org/10.5296/ije.v2i2.446>
- Caelli, K., Ray, L. and Mill, J., (2003) "Clear as Mud": Toward Greater Clarity in Generic Qualitative Research', *International Journal of Qualitative Methods*, 2(2), pp. 1-13. Available at: <https://doi.org/10.1177/160940690300200201>
- Chenail, R. J. (2011) 'Ten Steps for Conceptualizing and Conducting Qualitative Research Studies in a Pragmatically Curious Manner', *The Qualitative Report*, 16(6), pp. 1713-1730. Available at: <http://www.nova.edu/ssss/QR/QR16-6/chenail.pdf>
- Costley, C., Elliott, G., and Gibbs, P. (2010) *Doing work based research: Approaches to enquiry for insider-researchers*. Thousand Oaks, CA: Sage Publications Ltd.
- Creswell, J.W. (2003) *Research design: Qualitative, quantitative, and mixed methods approaches*. 2nd rev. edn. Thousand Oaks, CA: Sage Publications Ltd.
- Creswell, J.W. (2009) *Research design: Qualitative, quantitative, and mixed methods approaches*. 3rd rev. ed. Thousand Oaks, CA: Sage.
- Crotty, M. (1998) *The Foundations of Social Science Research*. St Leonards, New South Wales: Allen and Unwin.
- Dicther, B.K., Breshears, J.D., Leonard, M.K., and Chang, E.F. (2018) 'The Control of Vocal Pitch in Human Laryngeal Motor Cortex', *Cell*, 174, pp. 21-31. Available at: <https://doi.org/10.1016/j.cell.2018.05.016>
- Dobrovolny, J.L., and Fuentes, S.C.G. (2008) 'Quantitative versus qualitative evaluation: A tool to decide which to use', *International Society for Performance Improvement*, 47(4), pp. 7-14. Available at: <https://doi.org/10.1002/pfi.197>
- Denzin, N. and Lincoln, Y. S. (2018) *Handbook of qualitative research*, 5th rev. edn. Thousand Oaks, CA: Sage.

Driscoll, J. J. (2007) *Practicing Clinical Supervision: A Reflective Approach for Healthcare Professionals*. 2nd rev. edn. London: Bailliere Tindall.

Ercikan, K. and Roth, W. M. (2006) 'What Good is Polarizing Research into Qualitative and Quantitative?', *Educational Researcher*, 35(5), pp. 14-23. Available at: <https://doi.org/10.3102/0013189X035005014>

Feilzer, M. (2010) 'Doing Mixed Methods Research Pragmatically: Implications for the Rediscovery of Pragmatism as a Research Paradigm', *Journal of Mixed Methods Research*, 4(1), pp. 6-16. Available at: <https://doi.org/10.1177/1558689809349691>

Gillo, M. D. (2021) 'Fundamentals of Hermeneutics as A Qualitative Research Theoretical Framework', *European Journal of Education and Pedagogy*, 2(3), pp. 42-45. Available at: <https://doi.org/10.24018/ejedu.2021.2.3.43>

Hammersley, M. (2007) 'The issue of quality in qualitative research', *International Journal of Research & Method in Education*, 30, pp. 287–305. Available at: <https://doi.org/10.1080/17437270701614782>

Hampson, T., and McKinley, J., (2023) 'Problems posing as solutions: criticising pragmatism as a paradigm for mixed research', *Research in Education*, 116(1), pp. 124-138. Available at: <https://doi.org/10.1177/00345237231160085>

Herbst, C.T., (2017) 'A review of singing voice subsystem interactions—toward an extended physiological model of “support”', *Journal of Voice*, 31(2), pp. e13-e19. Available at: <https://doi.org/10.1016/j.jvoice.2016.07.019>

HHS.gov, (1979) Belmont Report. Rockville: U.S. Department of Health & Human Services. [Internet]. Updated on 1979 Apr 18; cited on 2024 Jan 4. Available from: <http://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/index.html>

Hitchcock, G., and Hughes, D. (1995) *Research and the teacher*. 2nd rev. edn. London: Routledge.

Kelle, U. (2006) 'Combining qualitative and quantitative methods in research practice: purposes and advantages', *Qualitative Research in Psychology*, 3(4), pp. 293-311. Available at: <https://doi.org/10.1177/1478088706070839>

Kuhn, T. S. (1962) *The structure of scientific revolutions*. Chicago, IL: University of Chicago Press.

Lee, S.K.J. (1992) 'Quantitative versus Qualitative Research Methods — Two Approaches to Organisation Studies', *Asia Pacific Journal of Management*, 9, pp. 87–94. Available at: <https://doi.org/10.1007/BF01732039>

Litvinov, A. (2022, October 14). Out-of-Pocket Spending on School Supplies Adds to Strain on Educators. neaToday. Available at: <https://www.nea.org/nea-today/all-news-articles/out-pocket-spending-school-supplies-adds-strain-educators> (Accessed: 30 January 2024).

Lub, V. (2015) 'Validity in Qualitative Evaluation: Linking purposes, paradigms, and perspectives', *International Journal of Qualitative Methods*, pp. 1–8. Available at: <https://doi.org/10.1177/1609406915621406>

Lincoln, Y.S., and Guba, E.G., (1989) 'Ethics: the failure of positivist science', *The Review of Higher Education*, 12(3), pp. 221-240. Available at: <https://doi.org/10.1353/rhe.1989.0017>.

Long, R. G., White, M. C., Friedman, W. H., and Brazeal, D. V. (2000) 'The 'Qualitative' Versus 'Quantitative' Research Debate: A Question of Metaphorical Assumptions?', *International Journal of Value-Based Management*, 13, pp. 189-197. Available at: <https://link.springer.com/article/10.1023/A:1007850027589>

Mackenzie, N., and Knipe, S. (2006) 'Research dilemmas: paradigms, methods and methodology,' *Issues in Educational Research*, 16(2), pp. 193-205. Available at: <http://www.iier.org.au/iier16/mackenzie.html>

Mercer, J. (2007) 'The challenges of insider research in educational institutions: wielding a double-edged sword and resolving delicate dilemmas', *Oxford Review of Education*, 33(1), pp. 1–17. Available at: <http://www.jstor.org/stable/4618693>

Morse, J. M., Barrett, M., Mayan, M., Olson, K., and Spiers, J. (2002) 'Verification strategies for establishing reliability and validity in qualitative research,' *International Journal of Qualitative Methods*, 1, pp. 13–22. Available at: <https://doi.org/10.1177/160940690200100202>

Okesina, D.M. (2020) 'A critical review of the relationship between paradigm, methodology, design and method in research.' *IOSR Journal of Research & Method in Education*, 10(3), pp. 57-68. Available at: www.iosrjournals.org

O'Leary, Z. (2017) *The essential guide to doing research*. 3rd rev. edn. London: Sage.

Pannucci, C. J., and Wilkins, E. G. (2010) 'Identifying and avoiding bias in research', *Plastic and Reconstructive Surgery*, 126(2), pp. 619–625. Available at:
<https://doi.org/10.1097/PRS.0b013e3181de24bc>

Paterson, M., and Higgs, J. (2005) 'Using hermeneutics as a qualitative research approach in professional practice', *The Qualitative Report*, 10(2), pp. 339–357. Available at:
<https://doi.org/10.46743/2160-3715/2005.1853>

Pope, C., and Mays, N. (2020) *Qualitative research in health care*. 4th rev. Edn. Hoboken, NJ: John Wiley & Sons Ltd.

Sandelowski, M. (1993) 'Rigor or rigor mortis: The problem of rigor in qualitative research revisited', *Advances in Nursing Science*, 16, pp. 1–8. Available at:
<http://dx.doi.org/10.1097/00012272-199312000-00002>

Scott, S. (2022) 'Insights, considerations, and suggestions for the practitioner-researcher in voice studies', *Voice and Speech Review*, Available at:
<https://doi.org/10.1080/23268263.2022.2137972>

Scott, S. (2023) 'Demystifying Research Methodology', [Online]. Available at:
https://voiceworkshop1-my.sharepoint.com/personal/debbie_voicestudycentre_com/_layouts/15/stream.aspx?id=%2Fpersonal%2Fdebbie%5Fvoicestudycentre%5Fcom%2FDocuments%2FMA%20Student%20System%2FAssignments%2FModule%202%2FSupporting%20Videos%20and%20Documents%2F3%2E%20Demystifying%20Research%20Methodology%2FDemystifying%20Research%20Methodology%20with%20Sophie%20Scott%2016th%20November%202023%20Part%201%20of%206%2Emp4&referrer=StreamWebApp%2EWeb&referrerScenario=AddressBarCopied%2Eview
(Accessed: 2 December 2023).

Universities UK. (2022). *Concordat to Support Research Integrity*. Available at:
<https://www.uwtsd.ac.uk/media/uwtsd-website/content-assets/documents/research/REICoP-July-2022.pdf> (Accessed: 7 January 2024).

University of Wales Trinity Saint David, (2022) *Research Ethics & Integrity Code of Practice*. Available at: <https://www.uwtsd.ac.uk/media/uwtsd-website/content-assets/documents/research/REICoP-July-2022.pdf> (Accessed: 7 January 2024).

Vogl, S., Schmidt, E. and Zartler, U., (2019) 'Triangulating perspectives: ontology and epistemology in the analysis of qualitative multiple perspective interviews', *International Journal of Social Research Methodology*, 22(6), pp. 611-624. Available at:

<https://doi.org/10.1080/13645579.2019.1630901>

Williams, R. T. (2020) 'The paradigm wars: is MMR really a solution?', *American Journal of Trade and Policy*, 7(3), pp. 79–84. Available at: <https://doi.org/10.18034/ajtp.v7i3.507>

Winter, D. (2019) "5. Paradigms" [Online]. Available at: https://voiceworkshop1-my.sharepoint.com/personal/debbie_voicestudycentre_com/_layouts/15/stream.aspx?id=%2Fpersonal%2Fdebbie%5Fvoicestudycentre%5Fcom%2FDocuments%2FMA%20Student%20System%2FAssignments%2FModule%202%2FSupporting%20Videos%20and%20Documents%2F5%2E%20Qualitative%20Research%20Methods%2F5%2E%20Paradigms%2Emp4&referrer=StreamWebApp%2EWeb&referrerScenario=AddressBarCopied%2Eview (Accessed: 4 January 2024).

Winter, D. (2020) 'Understanding research methods: from singing teacher to practitioner researcher', *Voice Workshop*, pp. 1-27. Available at: <https://doi.org/10.13140/RG.2.2.16046.13122> (Accessed: 6 January 2024).

Zhang, Z. (2016) 'Mechanics of human voice production and control', *The Journal of the Acoustical Society of America*, 140(4), pp. 2614–2635. Available at: <https://doi.org/10.1121/1.4964509>

XI. APPENDICES

APPENDIX A

Table of additional paradigms

Positivist/ Postpositivist	Interpretivist/ Constructivist	Transformative	Pragmatic
Experimental Quasi-experimental Correlational Reductionism Theory verification Causal comparative Determination Normative	Naturalistic Phenomenological Hermeneutic Interpretivist Ethnographic Multiple participant meanings Social and historical construction Theory generation Symbolic interaction	Critical theory Neo-marxist Feminist Critical Race Theory Freirean Participatory Emancipatory Advocacy Grand Narrative Empowerment issue oriented Change-oriented Interventionist Queer theory Race specific Political	Consequences of actions Problem-centred Pluralistic Real-world practice oriented Mixed models
Adapted from Mertens (2005) and Creswell (2003)			

Source: Mackenzie and Knipe (2006, p.4)

APPENDIX B

Plan for Module 3 Research Question: engaging with a quantitative methodology and the positivist paradigm using the Driscoll (2007) reflective model.

“how can past singing experiences impact self-perceived abilities and enjoyment of choral singing in students aged 13-18?”

What?
In investigating the research question, "How can past singing experiences impact self-perceived abilities and enjoyment of choral singing in students aged 13-18?" the focus is on applying a positivist lens with the methodologies of 'experiment' and the method of 'survey' to unveil quantifiable relationships between past singing experiences and students' self-perceived abilities and enjoyment in choral singing.
So What?
Choosing a positivist ontological stance aligns with the belief in an objective reality that can be measured and understood through empirical evidence (Gray, 2009). This approach seeks to identify measurable patterns and causal relationships, emphasizing the need for systematic and replicable research design (Creswell, 2003). Applying this perspective involves conducting experiments to establish controlled conditions for causal inference and using surveys with the Likart Scale to collect numerical insights (on a scale from 1-10, 10 being strongly agree and 1 being strongly disagree) into students' self-perceived abilities and enjoyment (Makaombe, 2017). These methodologies align with a positivist worldview, prioritizing empirical evidence and objective measurement.
Now What?
Evaluating the pros and cons of adopting a quantitative methodology (experiment) and the positivist paradigm involves recognizing the strengths of obtaining precise and replicable data through experimental approaches. Experiments can provide insights into the causal relationships between past singing experiences and students' self-perceived abilities and enjoyment. Additionally, the use of surveys enhances the quantitative aspect, offering numerical data that can be statistically analyzed to draw meaningful conclusions. Surveys seem like a reasonable a meaningful way to collect data. However, it is crucial to acknowledge the limitations inherent in a positivist approach, and an experimental methodology, particularly the potential to oversimplify complex human experiences. Furthermore, if the question is asking about individual experience, how do you create an objective experiment without running into extreme ethical issues? For example, while you could argue, that you could compare different choirs after creating a negative choral experience and a positive one, the ethical red flags are raised. It is not ethical to cause harm or stress in research! While this approach allows for a large collection of data through survey collection, the rest of what the experimental and positivist approach does not seem appropriate for the research question I aim to engage with.

APPENDIX C

Plan for Module 3 Research Question: engaging with a qualitative methodology and the constructivist paradigm using the Driscoll (2007) reflective model.

“how can past singing experiences impact self-perceived abilities and enjoyment of choral singing in students aged 13-18?”

What?
Exploring the research question, "How can past singing experiences impact self-perceived abilities and enjoyment of choral singing in students aged 13-18?" involves adopting a constructivist ontological stance, emphasizing the subjective and contextual nature of reality. The qualitative methodology chosen is action research, with a focus on the method of a focus group, aiming to capture the richness and depth of students' experiences through collaborative exploration.
So What?
Embracing a constructivist paradigm aligns with the belief that reality is socially constructed, emphasizing the importance of individual perspectives and the context in which experiences occur (Denzin and Lincoln, 2018; Mackenzie and Knipe, 2006; Okesina, 2020). Action research as a qualitative methodology facilitates an iterative process of reflection and action, allowing opportunity to make changes to the systems that have allowed for students to have negative and even harmful singing experiences. The goal of the action research is to give voice to those who may have been mistreated or neglected, account for inequitable resources that may be the reason for the negative experiences, and even provide dignity for those who are involved in choir but get bullied because it is not “the cool thing to be a part of. This approach allows for a nuanced understanding of the impact of past singing experiences on student’s current outlook on singing and their personal singing abilities. Utilizing focus groups enhances this qualitative exploration by fostering group dynamics, encouraging participants to share diverse viewpoints, and unveiling collective interpretations of their choral experiences.
Now What?
Evaluating the advantages and disadvantages of a qualitative methodology (action research) within a constructivist paradigm involves recognizing the strengths of capturing the complexity and depth of individual experiences. Action research allows for flexibility, enabling the researcher to adapt the study based on emerging insights (O’Leary, 2017). Additionally, the use of focus groups provides a platform for collective sense-making, generating shared understandings and uncovering nuances that may be missed in individual interviews (Creswell, 2003). However, it is essential to acknowledge the potential limitations of a qualitative approach, such as the subjectivity inherent in interpreting findings and the challenge of generalizability. While action research provides rich and context-specific insights, the findings may not be easily transferable to different settings. To address this, complementing qualitative methods with quantitative measures, like triangulation through incorporation of surveys, could offer a more comprehensive view, ensuring a balanced exploration of the research question. In summary, adopting a constructivist paradigm and employing a qualitative methodology like action research, along with the focus group method, allows for an in-depth exploration of the impact of past singing experiences on students' self-perceived abilities and enjoyment. While qualitative methods capture the intricacies of individual experiences, combining them with

quantitative measures ensures a holistic understanding and enriches the overall research findings. Furthermore, understanding the voice in a more holistic context, a “neurological, physiological, emotional, and psychological phenomenon” (Dicther et al., 2018; Herbst, 2017; Scott, 2023; Zhang, 2016), may better lend itself to this type of research question.