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Research in the Voice Studio

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Introduction

In my line of work as a voice teacher and music director, I spend time working with clients, students and congregants who sing not because they have to, but for the love of it. In our time together, I often hear glimpses of their understanding of how the voice works or their perception of it. Somewhere along the line, they could have been told any number of vocal falsehoods that exist on the spectrum of unhelpful to patently dangerous. Perhaps they were told in early childhood that they could not and should not sing. Others may have never been asked what they feel or how they feel while singing. In order to understand these phenomena, or how and why do singers know what they know (or not know), it is best to follow Grix's (2002) advice: to let research be question-led as opposed to method-led. There is a large body of research exploring the relationship between a singer and their voice including studies on singers' perceptions of their vocal function (Vella, Brown and Phyland, 2021), knowledge of vocal function (Marconi *et al.*, 2018) and self-perception and handicap (Silva *et al.*, 2024). What many of these studies have in common is their use of the positivist paradigm and quantitative methodologies to paint a picture of human experience. I find myself asking however: what has the singer experienced to bring them to their current understanding?

Throughout this work, I will consider this question and discuss the process through which rigorous research is accomplished, while advocating for the epistemological and ontological paradigms that support robust research giving voice to the singer's *experience*. As shown in figure 1 (p. 4), there will be brief explanations of two opposing paradigms (positivism and interpretivism), methodologies from an interpretivist perspective, appropriate methods, and a potential course for data collection.

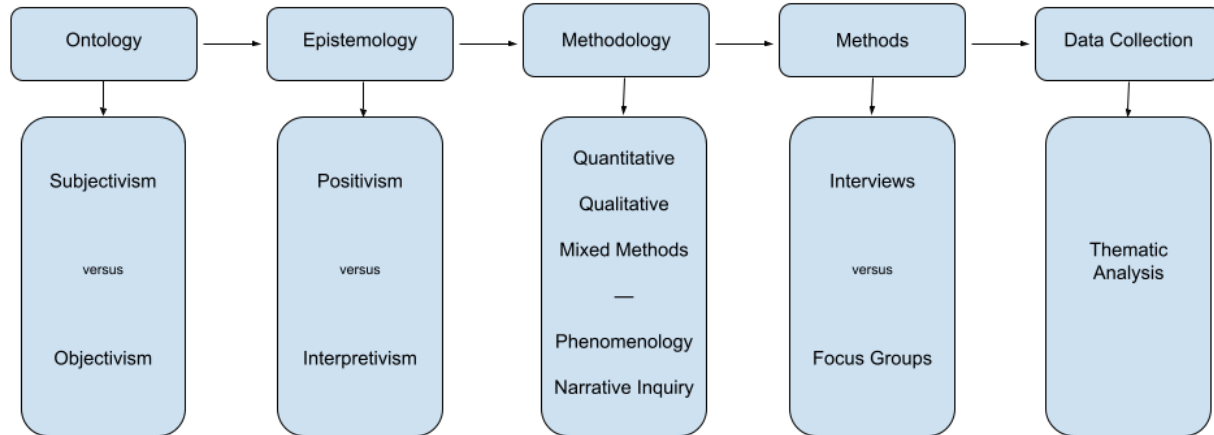


Fig. 1: An overview of the module; adapted from Brown and Dueñas (2020, pg. 550).

Due to the limited scope of this module, discussion of particular paradigms and research methods are left out. Ethnography would benefit my research as I consider working with groups of people in certain social and cultural contexts. Surveys would be a helpful tool as I navigate completing research as a beginner in the field while simultaneously collecting quantitative and qualitative data. Unfortunately, these and other components are missing from the following pages, they are no less useful or valuable in the collection of knowledge.

Paradigms

Mertens (2007) defines the research paradigm as the way in which a researcher formulates their understanding of the world. In critically evaluating ourselves, we avoid projection on those with whom we work and remain open to the experiences of others (Willig, 2019). Willig (2019) suggests a practitioner's willingness to be flexible regarding the presuppositions of the world allows for collaboration; before flexibility can occur, the practitioner must evaluate their ontological and epistemological stances.

Ontology

Before one can wonder about a thing, there must be a reality in which a thing can be pondered. Ontology is concerned with a researcher's understanding of reality and the existence of a thing (Scotland, 2012; Willig, 2019). It simply asks 'what is there?' An ontological perspective will paint a picture of their 'social reality' (Grix, 2002) and informs what exists in reality. Voice teachers should critically evaluate their own ontological positions, as operating

within a social science inherently requires a nuanced stance of the world from one's own perspective. It will also behoove them to understand that these perspectives will fall on the spectrum between *objective* and *subjective* reality (Fisher *et al.*, 2017).

Epistemology

Also within a researcher's paradigm is their understanding of knowledge, or epistemology, which asks about the source, acquisition and extent of knowledge (Klein, 2005; Scotland, 2012; Alharahsheh and Pius, 2020). The ultimate goal is to understand what can be known as a means to distinguish elements of reality. Imperatively, it informs what we can claim to be true, not what we *believe* to be true (Willig, 2019). Epistemology also defines what the researcher deems correct and incorrect (Alharahsheh and Pius, 2020). Practically speaking, an epistemological stance will inform the researcher's direction for acquiring knowledge; two influential positions are *positivism* and *interpretivism*.

Ontological Paradigms: Objectivism and Subjectivism

Objectivism is the ontological position that reality exists on its own, apart from the meaning given to it by someone or something else (Grix, 2002). It asserts that the nature and truth of what is real is defined at face-value; anything on the contrary would be incorrect (Fisher *et al.*, 2017). Objectivity can therefore be used as a tool to steer researchers away from their bias and conflicting paradigms (Davis and Bellocchi, 2018).

Objectivism's counterpart, subjectivism asserts that reality is defined by the judgements about reality that make it true (Fisher *et al.*, 2017). Subjectivism does not claim to have a single correct answer (in opposition to objectivism), but rather many possible answers; the truth lies within the one who interacts with it (Scotland, 2012; Fisher *et al.*, 2017). Due to the nature of working with others, particularly in voice-related settings, a practitioner should be flexible considering other perspectives (Willig, 2019; Paul, 2022). Perspectival flexibility is inherently contradictory to an objectivist's ontological stance as it assumes a different reality can even be entertained.

Meyer and Goss (2024) claim that voice teachers will find themselves in an ontological bind when determining the next pedagogical step because we cannot truly know a singer's feelings, or their reality. Though the singer is perceiving something objective, we cannot see the systems at work and therefore must alter our approach to uncovering reality. For such a

situation, one can consider Davis and Bellocchi's (2018) suggestion that objectivity may be a layering of subjective realities.

Epistemological Paradigms: Positivism and Interpretivism

Positivism is the epistemological position that knowledge is gleaned from observable fact and tested via sensory experience and scientific method (Scotland, 2012; Sol and Heng, 2022). Positivist research explores causal relationships to provide formulas and offer concrete answers (Scotland, 2012; Meyer and Goss, 2024). For those working with singers, the positivist paradigm has benefits. Causal relationships allow voice teachers to identify practical tools to optimize efficiency in a particular area of the vocal system (Sundberg *et al.*, 2007; Ragan, 2020). Because positivism asserts that knowledge is measurable and singular (Brown and Dueñas, 2019), many find this paradigm incompatible with other methods of research. Within the social sciences there exists numerous critiques of positivism, including Scotland's (2012) scathing review that positivism is not, in fact, free from value when each methodological choice contains the researcher's values.

Interpretivism plays in opposition to positivism and is concerned with knowledge as understood through human experience and behavior (Sol and Heng, 2022). Where positivism asks about the causal relationship, interpretivism inquires about interaction and perspective (Scotland, 2012). Researchers who see knowledge as perspectival will also be concerned with the contexts in which people exist; that is to say, reality can be interpreted at the individual level (Scotland, 2012; Brown and Dueñas, 2019). According to Scotland, 'The interpretive paradigm does not question ideologies; it accepts them' (2012, p. 12).

Consider two separate studies: Hamden *et al.* (2007) and Harper, Hazelton and van Mersbergen (2022). Both studied the impacts of pregnancy on the voice, but from different paradigms. Hamden *et al.* (2007) used experimentation and observation through acoustic analysis measures to identify vocal changes in the perinatal period. Harper, Hazelton and van Mersbergen (2022) asked study participants about their experiences of voice changes during pregnancy, yet still produced similar results. It was not until data had been collected that the theory of how a voice changes during pregnancy was supported; this concept, that data precedes theory, is key to interpretivism (Scotland, 2012).

The Author's Stance

For the purposes of my own research, I align with interpretivist and subjectivist stances as they relate to the *transformative paradigm*. Mertens (2007) explains the transformative paradigm as having an awareness of reality as understood by individuals within exclusionary power structure. It can provide numerous possibilities for voice researchers because the flexibility of the paradigm lies not in its values or philosophical stances, but in its methodological approaches (Wulff, 2021). It does not prescribe a specific research path, but directs the chosen path to see that particular issues are addressed. Though there is methodological flexibility, Mertens concisely states ‘...the reason we need good mixed methods research is that there are real lives at stake that are being determined by those in power’ (2007, p. 214). In a field dominated by western styles of music, it is easy for many singing teachers within the dominant realm to leave people and cultures on the outside and stick to what is comfortable. The transformative paradigm challenges this while using various methodologies to dismantle oppressive systems.

Methodology

After considering their epistemological and ontological views, the researcher can formulate a plan of action to answer their questions. This plan, or *methodology*, leads the researcher to specific methods of inquiry resulting in data (Mertens, 2007; Scotland, 2012). Voice researchers will find their toolbox is not limited to one pathway for research; as Meyer and Goss (2024) suggest, both qualitative and quantitative inquiries can robustly contribute to voice science.

Quantitative, Qualitative and Mixed Methods

Quantitative research tests and measures phenomena to produce quantifiable data (Lim, 2024b). It is a common approach in research generally aligned with positivism and objectivism, as the data identify clear takeaways in numerical form to neatly explain relationships and outcomes (McCarthy *et al.*, 2017; Lim, 2024b). The quantitative method can utilize varying sample sizes to produce statistically significant results when done cross-sectionally or longitudinally (McCarthy *et al.*, 2017), yielding scalable and generalizable results (Limb, 2024b).

While numerical data provide concise results to be delivered both at a practical and policymaking level, it often lacks the context of the variables at play (Holmes and Holmes, 2013; Lim, 2024b). This, paired with a large amount of quantitative research using self-report

measures, leads to limitations of reliability (McCarthy *et al.*, 2017). In addition, as is inherent to the objective positivist's conundrum, quantitative measures will still include bias (Scotland, 2012). Though bias must still be accounted for, qualitative research provides the context quantitative data lacks.

Qualitative research does not begin with a hypothesis to be tested, but a phenomenon to be explored (Meyer and Goss, 2024). Through interviews, focus groups and other collaborative data collection methods, researchers seek to understand behaviors in context (Lim, 2024a). It is interpretivist and constructivist in epistemology, lending credence to the researcher who aims to uncover who, what, when, where, why and how one interacts with and interprets their world (Lim, 2024a). Though quantitative research provides voice practitioners with valuable insight into the measurable aspects of voice production, it is usually the client or singer's experience that informs our immediate work.

Holmes and Holmes (2013) note that qualitative research is controversial for its potential lack of academic rigor. Therefore, qualitative research must incorporate numerous safeties in order to ensure data is rigorous and enriching, enhancing the meaning of quantitative research (though qualitative research does not exist merely to validate its opposite). Researchers will need to regularly return to their field notes and data sources, while 'seeking external feedback through peer review' (Lim, 2024a, p. 6). Though not as explicit as its counterpart, qualitative research still provides voice practitioners with practical tools to guide their work.

Occasionally researchers seek answers to questions that cannot be holistically answered with quantitative or qualitative research (Paul, 2022); mixed methods can provide the flexibility and intensity a researcher needs in order to uncover knowledge and truth. Here, quantitative and qualitative methods are used, though it is not necessary for one to be used more predominantly than the other, or for them to be used equally (Mayoh and Onwuegbuzie, 2015). Mertens (2007) advocates for mixed methods within the transformative paradigm because it holistically involves stakeholders; these various pathways have the potential to utilize diverse sampling so as to enhance data collection.

Paul (2022) uses mixed methods research to better understand the pedagogy of critical literacy (CLP); she recognizes that while quantitative and qualitative data present as paradigmatic opposites, they can also inform each other and bridge gaps to bring context and nuance to the complex topic of critical literacy. Similar research methods have been used to legitimize music therapies for grieving adolescents (Myers-Coffin *et al.*, 2019), contextualizing study results and providing further ideas for future research.

Phenomenology

Phenomenology emerged in the early 20th century as a critique of the positivist paradigm that dominated psychological research of the time (Burns *et al.*, 2022). It advocates for subjective human experience to be researched and bracketed (that is to say, with suspended judgement in order to understand without presuppositions) to allow for a distilled look at said experience (Aagaard, 2016; Burns *et al.*, 2022; Lim, 2024a). Phenomenology aims to uncover the essence of a phenomenon (Aagaard, 2017; Davis and Bellocchi, 2018). Though some will say that antagonism between objectivity and subjectivity is suspended in phenomenological research, Leavy (2020) states phenomenology does not adhere to an objective reality.

Phenomenological research asks questions about lived experience within a particular realm, and therefore relies on listening to subjects. Throughout the process, the researcher should allow subjects' responses to challenge previously held beliefs to form a new perspective (Burns *et al.*, 2022). After rigorous bracketing and coding, the researcher weaves a narrative of the experience that brings clarity to the behaviors and patterns of those experiencing a similar phenomenon (Leavy, 2020). The phenomenological narrative becomes one in which people see themselves, providing insight into their own world, but in which people confront others. Phenomenological research does not simply inform or challenge; it can build empathy.

Narrative Inquiry

Though phenomenology and narrative inquiry overlap in numerous ways, the key difference is narrative inquiry's use of subject *stories* to interpret meaning. Narrative inquiry is based on the understanding that people exist in three realms: relationally, chronologically, and positionally (Clandinin, 2006); it is therefore inherently antithetical to positivist research. Narrative inquiry uses nuance and storytelling to fill gaps that numbers leave behind and neglects none of the three realms (Clandinin, 2006). Through interviews, negotiations, triangulation, member checking and collaboration, researchers can gain a deeper understanding of their subjects. What results from narrative inquiry is the opportunity for participants to share stories that would have otherwise not been shared (Wang and Geale, 2015). This is valuable for a researcher aligned with the transformative paradigm; narrative inquiry can highlight underrepresented voices.

Barrett (2011) uses narrative inquiry to tell a story of almost five year-old Beatrice who infuses music into every aspect of her life. Through the use of interviews, diary entries and Beatrice's musical compositions (including "I Love Toast"), the researcher and reader gain insight to the ways in which a young child uses song and dance to make sense of her

relationship with herself, others and the world. While quantitative data may show positive correlations between a child's well being and their access to musical creativity, Barrett (2011) provides multifactorial context to provide the same data, but through the eyes of a child.

Methods

After considering methodologies, researchers must consider appropriate data collection methods. Though surveys and questionnaires can collect quantitative and qualitative data for mixed methods research (Roulston and Choi, 2018), the following section will discuss two methods of qualitative data collection compatible with phenomenology and narrative inquiry: interviews and focus groups.

Data Collection

Individual interviews can provide depth, context and nuance in research settings. In a question-answer format, the participant's voice constructs an understanding of perspective on phenomenon (as is the case of phenomenology), culture (ethnography) and a broad range of other methodological considerations (Flick, 2018). With well-formulated questions, responses can be in-depth and personal, even vulnerable (Lim, 2024a). The researcher's interview guides should include a range of questions relevant to the research question that have been cultivated for relevance and clarity (Flick, 2018). The researcher's journals and field notes should be as detailed as possible with little presupposition (Leavy, 2020; Burns *et al.*, 2022). While well-constructed interviews may highlight in-depth thoughts, they do not benefit from a larger sample size that can bring perspective.

Focus groups, another widely used tool in qualitative research, provides the opportunity for group discussion to produce robust data that may not have surfaced in one-on-one interviews alone (Roulston and Choi, 2018). Matsunobu (2023) suggests that in addition to being the interviewer, the researcher can be moderator or facilitator, a useful consideration when working with participants who know each other. Regardless, they can be a useful tool in retroactive research, such as the case in Matsunobu's (2023) research on the long-term impacts of music education. Adults who participated in music together as students, along with their former teacher, were asked to return to discuss their experiences, and what resulted was a story of the student experience in a high level music education (Matsunobu, 2023). From this method of narrative inquiry, former students referred to the shared relationship (relational) during

childhood (chronological) in their music class (positional) to create a deeper understanding of the long-term impacts of music education.

Data Analysis

Armed with recordings, transcripts, field notes, survey results and other forms of collected data, the researcher can begin to answer their research question. Qualitative data analysis can take many forms, but it is imperative to consider the philosophical underpinnings of the chosen route. Lester, Cho and Lochmiller (2020) consider *thematic analysis* to be generally appropriate because of its flexibility and broad application. They propose the following seven-step process for analysis:

1. Organisation
2. Transcription
3. Familiarisation
4. Reflection through memos
5. Coding
6. Categorisation and thematic analysis
7. Transparent portrayal of analysis (Lester, Cho and Lochmiller, 2020)

This particular process varies slightly from Lim's (2024a) insofar as Lester, Cho and Lochmiller include organisation *and* transcription, emphasising the value of data formation in such a way that familiarisation is easy and accessible. Other forms of data analysis include summary-based reporting and content analysis, both of which carry some flexibility, but work best under different interview strategies (Morgan and Hoffman, 2018).

Throughout the analysis process, and in order to ensure validity and trustworthiness of the data, a researcher must do their due diligence to confirm the research they publish. Through *triangulation*, researchers seek multiple perspectives, consult existing research and perform various related methods to double check their information (Flick, 2018; Noble and Heale, 2019). Triangulation can clarify complex topics for readers (Noble and Heale, 2019) as in the case of Fitzpatrick and Sweet (2024), who begin their case study of women's experience as mothers in higher education music departments with quantitative data expressing the systemic challenges women face. Though the reader gains a holistic understanding of the issues discussed in the research, statistical data provide concrete numbers to quell the familiar tropes commonly used to dismiss a woman's experience in the workplace.

Ethics

Ethics are paramount for the researcher. Research requires a thorough understanding of subjects' rights as individuals, and of the researcher's responsibility to care for them. Various documents have been published that speak generally to ethical research and lay down the fundamentals. The 1978 Belmont Report named three guiding principles which inform *all* research: respect for persons, beneficence and justice (United States, 1978). These inform the practical applications to request consent, define risks and benefits and engage in careful, thoughtful participant selection (United States, 1978). The 'Singapore Statement on Research Integrity' built on these principles over two decades later to recognize globalization's impact on the research community (Resnik and Shamoo, 2011). The conference decided on four principles: honesty, accountability, professional courtesy and good stewardship. These guidelines were left open enough to be globally applicable while still maintaining specificity to address recent research controversies that had crossed ethical boundaries. Both the Belmont Report and Singapore Statement are designed for *all* researchers, and most certainly for those engaging in insider research.

Voice researchers who also teach and sing are considered *insider researchers*, a phenomenon in which the researcher identifies with the specific characteristics of the research participants (Yvonne Bulk and Collins, 2024). In my particular case, I will be entering into research fields where I interact with others who have backgrounds in choral singing, direction and teaching. This can present issues which can call into question the researcher's level of bias and extent to which their research is based on presuppositions. Wilkinson and Kitzinger (2013) explore four ways in which insider researchers can manage these issues:

1. Minimize their experience to avoid any personal influence,
2. Utilize their experience to recruit and build rapport with participants,
3. Maximize their experience and use it as the research subject, or
4. Incorporate their experience into the research (Wilkinson and Kitzinger, 2013)

In choosing a stance, the researcher enters their field work *intentionally*, evaluating their level of influence and doing so openly. Others have suggested whether insider research can be deemed as such; after all, who decides who is in or out (Nowak and Haynes, 2018; Yvonne Bulk and Collins; 2024)? The insider researcher therefore must reflexively critique themselves throughout the process and with due consideration, counter the bias to which they are vulnerable (Wilkinson and Kitzinger, 2013).

Bias

Researchers will encounter influences that distort the way they see and interpret data. These influences constitute the researcher's biases (Galdas, 2017). Arguments have been made that quantitative research is inherently less biased due to its objective nature; however many are quick to note that even the most objective scientific inquiries with variables and resulting quantitative data are subject to bias, as the simple act of selecting variables was a choice (Scotland, 2012; Mayoh and Onwuegbuzie, 2015; Meyer and Goss, 2024). Qualitative data is however highly scrutinized for its susceptibility to bias. Galdas criticizes the notion that bias should be 'managed' at every level of qualitative research, but that researchers should clearly state intentions and be reflexive, or 'critically self-reflective about their own preconceptions, relationship dynamics, and analytic focus' (2017, p. 2).

For voice practitioners researching in their own field, bias will inevitably play a role throughout the research process. The questions I ask will be tangled in my presuppositions of the world as I see it: subjective and to be interpretive. I will also have to work with what Meyer and Goss call 'intellectual humility' (2024, p. 434). Though insider researchers will likely be experts in their field, it is incumbent on them to seek further knowledge when necessary.

Conclusion: Theory to Practice

Concerning potential research, I am inspired by Marconi *et al.*, who suggest that both amateur and professional singers have a 'limited to moderate' knowledge of the singing voice (2018, p. 626). Suggested theories as to why this is the case range from the understanding that amateur choral singers in particular learn mostly from choral rehearsals, or that not all professional singers have formal training (Marconi *et al.*, 2018). Because this particular study was conducted from a positivist paradigm and used a questionnaire to obtain data, questions still remain as to *how* and *why* singers know about their instrument. If one were to conduct narrative inquiry research on, for example, amateur choral singers who have been in a choir for over a decade (if not more), they could gain valuable insight on how the singers understand and perceive their vocal function. For such research, carefully and thoroughly constructed interviews would provide comfortable spaces that allow participants to tell their story in depth. Creating a safe environment for participants to share would be key not only for adequate data collection, but to also build trust with the participants who are willing to teach the researcher.

Ragan's (2018) framework for evidence-based vocal pedagogy advocates for a disciplinary trifold that informs the evidence-based pedagogue: voice research, voice teacher expertise and experience and student goals and perspectives. She acknowledges the value in anecdotal experience when it is methodologically sound, a concept that has been thoroughly validated throughout this module (Ragan, 2018). As I begin to form potential research topics, I consider Holmes and Holmes (2013) acknowledgment that the often used quantitative methodologies which study the cognitive and behavioral aspects of music perform fall short in building a collective understanding of the musician's experience. After all, it is the experience I am interested in researching, and not the causal relationship. While positivism and objectivism offer clear and concise numbers by which to organize the subjective experience of musicking, their counterparts accomplish the same goals while giving voice to the artists who generously give their time and share their experience to those ready to learn.

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