

Module Two:

**Developing a
Deeper Understanding of
Research Paradigms,
Methodologies, Designs, Methods
and Ethical Considerations in
Work-Based Contexts of
Speech and Language Therapy
and Vocal Pedagogy**

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Table of contents

1. INTRODUCTION	3
2. RESEARCH PARADIGMS	4
3. RESEARCH METHODOLOGIES AND METHODS	8
4. ETHICAL CONSIDERATIONS AND INSIDER RESEARCH.....	13
5. CONCLUSION.....	16
REFERENCES	17
LIST OF TABLES	24

1. Introduction

Understanding the interplay of research paradigms, methodologies, and ethical considerations is essential for conducting impactful research. These elements form the backbone of scholarly inquiry, ensuring rigor, ethical soundness, academic understanding, and trust in research findings (Creswell, 2014). In this assignment, I aim to critically examine these concepts to build a solid theoretical foundation for my future research projects. As a speech and language therapist (SLT) specializing in vocal rehabilitation for professional singers, my research interests center on the various laryngopharyngeal configurations, such as those described by Jones (2016), Chalfin & Morris (2018), and Obert (2022), their effects on vocal production (Bozeman, 2013; Titze, 2020), and the muscular activities required to produce them, as outlined by Hirano (1988), Chhetri & Neubauer (2015), or Harris & Howard (2018).

Before considering the specific needs of my empirical projects, it is essential to explore the broader landscape of research. In this essay, I will examine how ontological, epistemological, and axiological perspectives shape research paradigms. I intend to evaluate quantitative approaches, which focus on measuring and analyzing numerical data (Raithel, 2006), and qualitative approaches, which explore subjective experiences and social phenomena (Lim, 2024a), while acknowledging the potential value of mixed methods for future exploration. Ethical considerations in work-based settings will also be addressed, as will the challenges of insider research, including the balance between personal involvement and impartiality. In the conclusion, I will reflect on how the insights gained throughout this process are likely to influence my approach to future research projects.

I will address the following research questions:

1. How can I develop a deeper understanding of appropriate methodological approaches, research designs, and research methods to support effective data collection in complex work-related contexts of speech and language therapy and vocal pedagogy?
2. Which ethical considerations should be taken in these contexts, particularly when applied in work-based settings?
3. What are key challenges associated with insider research, and how can these be addressed to ensure ethical and methodological rigor?

2. Research Paradigms

Research is a systematic process of inquiry guided by **overarching philosophical perspectives (paradigms)** that are shaped by assumptions about reality (ontology), knowledge (epistemology), and values (axiology) (Saunders, Lewis & Thornhill, 2019). While each researcher holds their personal “worldview” shaped by experience (Easterby-Smith, Thorpe & Jackson, 2012, p.150), the paradigm chosen for a study must align with the research question to ensure coherence and relevance (Dieng & Reinke, 2024). The four paradigms most commonly used in medical education research (Bunniss & Kelly, 2010) – Positivism, Post-positivism, Constructivism, and Critical Theory – each provide distinct frameworks for guiding research design and interpretation (also summarized in Table 1):

- **Positivism:** The oldest paradigm, originating with French philosopher Auguste Comte in the 19th century, emphasizes **empirical evidence** and **logical reasoning** while **rejecting metaphysics** (Cohen, Manion & Morrison, 2018). Positivism is sometimes referred to as the “scientific method” or “empirical science” (Creswell, 2014, p.36) due to its reliance on **systematic observation, measurement, and experimentation** to uncover **neutral truths** of an **objective reality** (Brown & Dueñas, 2020). It predominantly employs **quantitative methods** to investigate and analyze phenomena (Sol & Heng, 2023). While positivism once dominated medical and voice science, most leaders in the field now adopt a post-positivist stance, acknowledging research findings are provisional (Titze, 2024).
- **Post-positivism:** Post-positivism challenges the positivist view by asserting that knowledge of the world is not absolute but partial and subject to change (Bunniss & Kelly, 2010). While still acknowledging an **objective reality** (Cohen, Manion & Morrison, 2018, p.47), it recognizes that **scientific observations are inherently fallible**, meaning **reality can only be understood imperfectly** (Brown & Dueñas, 2020). Research in the post-positivist paradigm typically uses a **quantitative approach** (O’Leary, 2004) but often integrates **mixed methods**, combining qualitative and quantitative techniques systematically (Fox, 2008). Post-positivism supports systematic investigation into measurable phenomena while acknowledging scientific limitations, an approach often embraced by voice science researchers like Sundberg (1974, 1987), Titze (2020, 2023), Story (2006), and Echternach (2016).

- **Constructivism:** Constructivism has its intellectual roots in Edmund Husserl's phenomenology and the interpretive tradition of hermeneutics advanced by Wilhelm Dilthey and other German philosophers (Mertens, 2007). It highlights **how individuals interpret and make sense of the world** through their **subjective reality** (Brown & Dueñas, 2020), focusing on the sharing of **lived experiences** and **language** as a crucial medium (Easterby-Smith, Thorpe & Jackson, 2012). Constructivists often apply **qualitative approaches**, emphasizing methods for collecting and interpreting narrative data (Gannon, Taheri & Azer, 2022). In the context of vocal pedagogy, Constructivism is invaluable for exploring the mental (Fancourt & Perkins, 2018) and physical (Morrison & Clift, 2013) health benefits of singing, offering insights that go beyond what purely quantitative measures can provide.
- **Critical Theory:** According to Guba and Lincoln (1994), critical theory serves as an umbrella term that encompasses a range of alternative paradigms, including **Marxism**, **Feminism**, or Materialism. These paradigms share a common goal of **critiquing existing, “asymmetric” power structures** (Creswell, 2014, p.39) and empowering people to **change society radically** (Brown & Dueñas, 2020). Critical Theory can use **quantitative or qualitative approaches** (Mackenzie & Knipe, 2006), often in an “iterative design” (Bunniss & Kelly, 2010, p.361), while Somekh & Lewin (2005) advocate for **mixed methods** to incorporate diverse perspectives and offer richer insights. Critical Theory can, for example, examine how societal norms influence vocal identity and gender, such as in transgender voice therapy, emphasizing the need for inclusivity and equity in supporting individuals' authentic vocal expression (Hancock & Siegfriedt, 2020).

Aspect	Positivism	Post-positivism	Constructivism	Critical Theory
Ontology What is the nature of reality?	- Reality is single and objective. - There is an ultimate truth.	- Reality is single and objective. - There is an ultimate truth.	- Reality is subjective and evolving. - There is no ultimate truth.	- Reality may be objective, but is deeply influenced by social, political, cultural, economic, ethnic, and gendered contexts. - Truth is continually challenged and redefined by groups.
Epistemology What is the nature of knowledge?	- Knowledge is neutral or free of values. - Objective, generalizable theories can be created to describe the world accurately.	- Knowledge is provisional, aiming to uncover probable truths. - Objective knowledge is unattainable due to human and research fallacies.	- Knowledge is subjective, influenced by context and culture. - Knowledge reflects diverse interpretations shaped by individual experiences.	- Knowledge is created through interaction between individuals and groups. - Knowledge is influenced by power relations, making it continuously subject to change.
Axiology What is the role of values in the research process?	- Personal values are excluded from the research process. - Researchers strive for objectivity and neutrality to limit influence on findings.	- Personal values are acknowledged but minimized or controlled. - Researchers acknowledge objectivity is unattainable but aim to minimize bias.	- Personal and shared values are included and seen as formative, shaping the research process. - Researchers and participants co-create meaning through shared interactions.	- Personal and societal values are central, driving a transformative agenda to challenge and reshape societal structures. - Researchers advocate for emancipation, justice, and the empowerment of marginalized groups.
Reasons for conducting research	- To identify generalizable laws explaining the natural world.	- To identify generalizable laws explaining the natural world.	- To explore and understand human nature and its complexities.	- To dismantle myths and empower radical societal change.
Preferred Methodology	- Quantitative methods	- Primarily quantitative and mixed methods, rarely qualitative	- Qualitative methods	- Qualitative, quantitative, and mixed methods

Table 1: Philosophical Foundations of Research Paradigms: Positivism, Post-positivism, Constructivism, and Critical Theory (Guba & Lincoln, 1994; Bunniss & Kelly, 2010; Brown & Dueñas, 2020)

Positivism, Post-positivism, Constructivism, and Critical Theory each offer unique strengths and limitations, shaped by their philosophical foundations (Guba & Lincoln, 1994). **Positivism** excels in capturing measurable data and offering cost-effective insights for policy-making, particularly when aggregating findings from large samples (Easterby-Smith, Thorpe & Jackson, 2012). However, critics highlight its limited ability to address complex human behaviors and nuanced social dynamics (Sol & Heng, 2023). **Post-positivism**, building on positivist

foundations, emphasizes reflexivity and acknowledges the fallibility of researcher neutrality, making it particularly suited to contemporary natural sciences (Bunniss & Kelly, 2010). Both paradigms, however, face criticism for inflexibility, limited capacity to address subjective meanings, inability to develop new theories, or inform future changes (Easterby-Smith, Thorpe & Jackson, 2012). **Constructivism**, in contrast, focuses on subjective realities and rich, context-dependent insights through qualitative methods (Brown & Dueñas, 2020). While valuable for exploring individual perspectives and developing innovative concepts, it struggles with generalizability and the application of research concepts like validity and reliability (Yazan, 2015). **Critical Theory** emphasizes exposing power structures and societal change (Bunniss & Kelly, 2010) but faces challenges with neutrality and is often explicitly "value mediated" (Guba & Lincoln, 1994, p.110). Across all paradigms, rigor or "trustworthiness" (Rolfe, 2006, p.305) requires clear premises, theoretical soundness, and methodological precision. For positivist and post-positivist paradigms, this emphasizes validity and reliability (Guba & Lincoln, 1994), while Constructivism focuses on authenticity and coherence in qualitative analysis (Creswell, 2014). Critical theory further incorporates ethical reflexivity and attention to power dynamics (Mertens, 2007), urging researchers to critically engage with their assumptions to produce credible insights.

My own personal epistemological assumptions, supporting the existence of neutral knowledge, align with my aim to expand understanding of the vocal apparatus in voice science. Positivist and post-positivist frameworks, which strive for "value-free", objective findings (Bryman & Bell, 2019, p.10), resonate with my approach of investigating neutral, quantifiable data in voice science, such as measuring laryngopharyngeal configurations and the muscular activities required to produce them. Ontologically, my belief in a shared, objective reality aligns with these paradigms, though I recognize individual sensory and cognitive differences can lead to varying perceptions of this reality (Ibáñez et al., 2023). This acknowledgment of subjective perception highlights a potential bridge between positivist/post-positivist stances and relativist or constructivist perspectives. While I primarily align with Post-positivism, some research questions, such as the psychological impacts of voice disorders, may benefit from a constructivist paradigm, which explores lived experiences and subjective realities (Creswell, 2014). As Dieng & Reinke (2024) emphasize, the research question or topic should always guide the choice of paradigm for a study, rather than the individual preference or worldview.

3. Research Methodologies and Methods

The term *research methodologies* refers to the overarching “procedures of inquiry” (Creswell, 2014, p.31) or a “collection of methods or rules” (Somekh & Lewin, 2005, p.346) that are closely aligned with the theoretical framework guiding the study. In contrast, *research methods* are the systematic procedures or tools employed to collect and analyze data within that framework (Mackenzie & Knipe, 2006). Three primary approaches to **research methodology** are recognized (Creswell & Creswell, 2017): quantitative, qualitative, and mixed methods, each offering distinct strategies for inquiry and analysis depending on the research objectives and underlying theoretical framework (Cohen, Manion & Morrison, 2018). While mixed-methods research offers significant benefits by integrating quantitative and qualitative approaches to provide comprehensive, unanticipated insights (Bryman, 2006), triangulate findings (Creswell, 2014), and enhance the validity of results (Doyle, Brady & Byrne, 2016), its implementation requires substantial time, resources, and expertise in both methodologies (Döring, & Bortz, 2016). Given the scope of this assignment, I will concentrate on examining quantitative and qualitative research methodology domains individually, aiming to provide a detailed analysis of their respective strengths, limitations, and applications below.

- **Quantitative research** is the oldest research approach (Atteslander et al., 2010) and is grounded in the **positivist** or **post-positivist paradigms** (Easterby-Smith, Thorpe & Jackson, 2012). It relies on the standardized assessment of **measurable phenomena** (Voss, 2020) against established quality criteria, namely **objectivity**, **reliability**, and **validity**, to ensure the rigor and credibility of the results (Dieng & Reinke, 2024). Hofäcker & Stegl (2021) distinguish **four research designs** in quantitative research: **descriptive designs (1)**, which aim to explore and describe key characteristics of a subject area; **hypothesis-testing designs (2)**, which empirically test theoretically derived hypotheses; **evaluation designs (3)**, which assess the effectiveness or implementation of practical interventions using systematic research methods; and **experimental designs (4)**, which investigate causal relationships by systematically controlling and varying conditions, often in laboratory or field settings. **Methods** such as **experiments**, **measurements**, **observations**, **surveys**, or **questionnaires** are commonly employed to generate **replicable** and **generalizable** findings (Creswell, 2014). Using statistics as an essential analytical tool, quantitative research enables the examination and summarization of data from a specific sample (**descriptive statistics**) and allows for the assessment of correlations, testing of hypotheses, and prediction of the behavior of the entire population (**inferential statistics**) (Klaghofer & Buddeberg, 1999).

- **Qualitative research** was first developed in the 1950s (America) and 1960s (Europe) as a counter-movement to quantitative research (Atteslander et al., 2010), emerging from dissatisfaction with its limitations in addressing complex, **subjective**, and contextual aspects of **human experience** and critiquing the reductionism of positivist paradigms (Kelle, 2008). Rooted in **constructivist** or **Critical Theory** paradigms (Bunniss & Kelly, 2010), qualitative research emphasizes **reflection** – systematic contemplation of one's practice to bridge the "theory-practice gap" (Schön, 1987, p.27) – and **reflexivity**, the process of questioning and evaluating oneself to uncover how personal and institutional biases shape the research process (Ide & Beddoe, 2023, p.725). Lim (2024a) identifies **five key design approaches** to qualitative research – **grounded theory (1)**, which focuses on developing explanations or concepts directly from the data, rather than testing existing theories (induction); **phenomenology (2)**, examining lived experiences to reveal their deeper meanings; **ethnography (3)** (or **netnography**), immersing into physical or virtual cultural contexts; **action research (4)**, merging participatory methods with practical change; and **general inquiry (5)**, a flexible framework using narrative, historical, or case study methods to traverse diverse qualitative landscapes. These designs employ **methods** such as **interviews**, **focus groups**, and **questionnaires** with open-ended questions to gather rich, detailed insights into human behavior and perception (Creswell, 2014). Qualitative researchers often employ **analytic techniques** such as **Coding**, a systematic process of categorizing data to identify patterns and relationships that inform emerging theories (Strauss & Corbin, 1990); **Thematic Analysis**, a structured approach for identifying and refining themes to transform raw data into coherent narratives (Braun & Clarke, 2006); and **Concept Map Analysis**, a graphical tool that organizes knowledge hierarchically while highlighting relationships between concepts (Novak & Cañas, 2008).

Table 2 provides an overview of the research methodologies, designs, and methods outlined in this essay.

Methodology	Quantitative Research				
Designs	Descriptive Designs	Hypothesis-testing Designs	Evaluation Designs	Experimental Designs	
Methods for Data Gathering	Experiments	Measurements	Observations	Surveys	Questionnaires
Methods for Data Analysis	Descriptive Statistics		Inferential Statistics		

Methodology	Qualitative Research				
Designs	Grounded Theory	Phenomenology	Ethnography/ Netnography	Action Research	General Inquiry
Methods for Data Gathering	Interviews		Focus Groups	Questionnaires	
Methods for Data Analysis	Coding		Thematic Analysis	Concept Map Analysis	

Table 2: Research Methodologies, Designs, and Methods Presented in This Assignment

Research methodologies in both quantitative and qualitative domains offer unique strengths and limitations that shape their application in various contexts. **Quantitative research** is valued for its ability to generalize findings from large, often randomized samples (Creswell, 2014). It is particularly effective for testing hypotheses and establishing causal relationships, especially within controlled environments (Wellenreuther, 2000). For instance, Aaen et al. (2018, p.806.e10) employed a quantitative methodology incorporating laryngostroboscopy, high-speed videoendoscopy, electroglottography (EGG), and acoustic analyses to investigate the role of laryngeal tilt in vocal fold lengthening, identifying this mechanism as a distinguishing feature between mix-belt and pure belt (“reduced density” vs. “full density”) on same-pitch phonation. However, quantitative approaches can oversimplify complex social phenomena by reducing them to measurable variables (Little, 2013b), often struggling to capture the depth of psychological experiences (Willig, 2013) and overlooking important contextual subtleties, which can make applying findings to real-world scenarios challenging (Lim, 2024b). For example, Story (2023) identified the acoustic sensitivity functions of the first and second resonance of the vocal tract (fR1 and fR2), demonstrating how even minor changes in vocal tract constriction or dilation significantly affect resonance frequencies. While these findings are fascinating, they are challenging for singers to apply in practice, as they demand exceptionally nuanced control over vocal tract movements, many of which are primarily controlled reflexively rather than voluntarily (Repkow, 2023).

In contrast, **qualitative research** shines in exploring complex, subjective experiences, offering insights into contexts that quantitative methods may overlook (Thorne, Stephens, & Truant, 2016). It emphasizes depth over breadth (Döring & Bortz, 2016), making it particularly useful in studying intricate social behaviors or emotional experiences (Somekh & Lewin,

2005). In the context of vocal pedagogy, a study by Okan & Usta (2021) examined conservatory students' experiences with music performance anxiety (MPA), revealing personal and educational factors that influence MPA and providing insights for developing targeted interventions. However, qualitative approaches also present distinct challenges, such as vulnerability to researcher bias (Lim, 2024a), which underscores the importance of rigorous reflexivity (Rowley et al., 2023) and transparency (Lincoln & Guba, 1985). Additionally, qualitative research can encounter challenges in establishing standardized criteria for evaluating quality, which may complicate its acceptance in broader scientific communities (Döring & Bortz, 2016).

Exploring various **research designs** reveals distinct approaches in both quantitative and qualitative methodologies. However, given the scope of this assignment and my specific research interest in medical diagnostic techniques, I will focus exclusively on quantitative research designs and methods. One such approach within the quantitative domain is the **descriptive design**, which aims to explore and characterize a specific phenomenon or population by empirically describing their essential attributes through extensive data collection (Creswell, 2014). While it provides a solid foundational understanding (Klaghofer & Buddeberg, 1999), it is often seen as overly simplistic in the social sciences (Hofäcker & Stegl, 2021), failing to provide an explanation of 'why' something occurs and falling short in delivering causal relationships (Bryman & Bell, 2019). In voice science, a descriptive design could be employed to investigate specific vocal phenomena, such as Titze's (2022) analysis of the acoustic characteristics of twang, which detailed the vocal tract configurations and impedance patterns responsible for this quality without extending to causal relationships.

Another key approach in quantitative studies is the **hypothesis-testing design**, where researchers test theoretically grounded assumptions about relationships between variables (Wellenreuther, 2000). Its strength lies in its ability to examine correlations and causality while providing explanations for observed phenomena and testing the applicability of theories (Hofäcker & Stegl, 2021). However, this design can be susceptible to biases if assumptions are flawed or control measures are inadequate (Neuman, 2014). A hypothesis-testing design is often used to compare two different voice therapy methods, such as Phonation Resistance Training Exercises (PhoRTE) and Vocal Function Exercises (VFE) for the treatment of presbyphonia (Ziegler et al., 2014).

Looking at some specific **research methods**, (physiological) **measurements** play a crucial role in quantitative research by systematically assigning numerical values (numerical relative) to the observed attributes of objects (empirical relative) according to a predefined scale (Hofäcker & Stegl, 2021). A compelling illustration of physiological measurements in practice

is provided by Chhetri et al. (2014), who investigated the effects of intrinsic laryngeal muscles on phonation in an in vivo canine model, demonstrating how individual muscle activations influence glottal posture, fundamental frequency, and aerodynamics. When conducting any kind of measurement, it is essential to carefully determine which attributes or characteristics of an object are to be assessed (Klaghofer & Buddeberg, 1999), as this choice, guided by the research question, directly influences the relevance and validity of the results (Dieng & Reinke, 2024). Measurements enable precise and systematic categorization, ranking, or comparison of attributes (Wellenreuther, 2000). However, their analysis relies heavily on statistical methods (van Ophuysen et al., 2021), which are prone to fallacies, such as overlooking key variables or using poor-quality instruments that lead to invalid results (Little, 2013b).

Questionnaires are a method widely used to systematically collect structured responses through various question and response modes, including open- and closed-ended questions, multiple-choice questions, and rating scales (Cohen, Manion & Morrison, 2018). They are efficient for gathering large amounts of data from many participants in a short time and are well-suited for sensitive topics due to their perceived anonymity (Wellenreuther, 2000), but they require participants to have certain literacy skills and do not allow for immediate clarification or follow-up by the researcher (Döring & Bortz, 2016). In the field of SLT, commonly used questionnaires include the Voice Handicap Index (VHI) for assessing the biopsychosocial impact of voice disorders (Johnson et al., 1997) and the Reflux Symptom Index (RSI) for evaluating reflux-related symptoms (Belafsky, Postma & Koufman, 2002).

The exploration of research methodologies, designs, and methods in this chapter has highlighted diverse approaches for investigating complex research questions. My future research endeavors will predominantly employ quantitative designs and methods to advance understanding of the efficiency, health, and functions of the vocal apparatus. This aligns well with my goal to produce precise (Raithel, 2006), replicable (Hofäcker & Stegl, 2021), and systematically derived findings (Tachtsoglou & König, 2017) that contribute to advancing understanding in voice science.

4. Ethical Considerations and Insider Research

Ethics can be defined as “a matter of principled sensitivity to the rights of others” (Cavan, 1977, p.810). It involves prescribed (“ought”) and proscribed (“ought not”) behaviors, providing guidance on what is considered **right** or **wrong**, **good** or **bad** (Cohen, Manion & Morrison, 2018, p.150). According to the U.S. Department of Health and Human Services (2024), the *National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research* published the Belmont Report in 1978, establishing three fundamental ethical principles for research involving human subjects: respect for persons, beneficence, and justice. Beauchamp and Childress (1979) further elaborated on these principles in their seminal work on biomedical ethics. They emphasized **respect for autonomy**, where participants make informed and voluntary decisions; **nonmaleficence**, the duty to avoid causing harm; **beneficence**, the responsibility to promote well-being; and **justice**, ensuring fairness in the distribution of research benefits and burdens. A crucial application of these principles is ensuring the **confidentiality** of participants, which involves controlling access to their data, and their **anonymity**, which ensures their identities are concealed in research outputs (Cohen, Manion & Morrison, 2018). Researchers must **secure participants' data** through measures like **encryption** and **safe storage**, in compliance with the *General Data Protection Regulation* (GDPR). Even though ethical considerations are integral to the research process (Bisit, 2013), they are **often insufficiently published** or highlighted in many studies (Taljaard, 2011), making the inclusion of structured ethics appendices, as proposed by Asiedu et al. (2021), a valuable way to enhance transparency and ensure consistent standards.

Navigating ethical challenges in research is inherently complex, even with the best of intentions, as researchers must balance competing priorities and address nuanced, context-specific dilemmas (Döring & Bortz, 2016). For instance, in studies involving vulnerable populations, such as children or individuals with impaired decision-making capacity, researchers must reconcile respect for autonomy with beneficence, employing innovative, context-sensitive strategies to uphold participants' dignity and rights (Osler, 2010). Moreover, quantitative research, with its focus on systematic data collection, analysis, and claims of objectivity (Roos & Leutwyler, 2011), presents distinct ethical concerns, including risks of statistical manipulation and misrepresentation of findings (Little, 2013a), as well as potential breaches of confidentiality when handling large datasets (Creswell, 2014). Adding to these complexities, a study by Lindkvist, Koppel & Tinghög (2024) reveals that researchers often overestimate their ethical practices, underscoring bounded ethicality that inflates self-perceptions and obscures ethical shortcomings.

A key ethical consideration in research is the relationship between the researcher and the researched, which raises questions about positionality and the influence of the researcher's identity on the study (Costley et al., 2010). This consideration becomes particularly significant in the context of **insider research**, where the researcher's **dual role** as both an **insider within a community or organization** and an **investigator** (Brannick & Coghlan, 2007) creates unique ethical and methodological challenges (Labaree, 2002). Insider researchers draw on **firsthand experience** and **shared cultural understanding** within the study context (Hamdan, 2009) but navigate fluid positionality, balancing professional roles and personal identities (Greene, 2014). To address these challenges, they can adopt **structured reflexivity practices**, such as maintaining a field journal to document biases and incorporating peer debriefing to validate findings (Dwyer & Buckle, 2009).

One of the strengths of insider research (as outlined in Table 3) lies in the depth of understanding and contextual knowledge the researcher brings to the study (Lester & Costley, 2010), which fosters trust and empathy, encouraging narratives that authentically reflect participants' lived experiences (Bulk & Collins, 2023). This proximity introduces a significant risk of bias, such as selective data interpretation (Greene, 2014) or over-assumptions of shared knowledge, which can compromise the study's rigor (Galdas, 2017). Ethical challenges often arise as researchers manage dual roles, navigate power dynamics, and maintain confidentiality, ensuring that sensitive information is not disclosed to unauthorized individuals (Costley & Armsby, 2008). Insider research can face skepticism, questioning its rigor and generalizability due to concerns about bias and the challenge of maintaining critical distance (Ramsey, 2008). This can add pressure on researchers to defend their methodologies (Bulk & Collins, 2023).

Aspects	Strengths	Limitations
Depth of Understanding	Provides rich contextual knowledge	Risk of bias from assumptions about shared knowledge
Trust and Empathy	Builds trust, encouraging authentic narratives	Participants may feel pressured to join or withhold honest responses
Proximity to Participants	Allows nuanced interpretation of lived experiences	Challenges maintaining confidentiality in dual roles
Ethical Dynamics	Reflexive practices improve bias awareness	Navigating power dynamics and dual roles is complex
Methodological Rigor	Reflexivity tools enhance rigor	Faces skepticism about objectivity and generalizability
Researcher Identity	Dual roles offer unique insights	Balancing personal and professional roles is challenging

Table 3: Strengths and Limitations of Insider Research (Labaree, 2002; Ramsey, 2008; Dwyer & Buckle, 2009)

As a SLT with a strong interest in voice science, my primary focus is on conducting studies designed to produce objective, replicable, and generalizable findings. While certain limitations of insider research, such as over-assumptions of shared knowledge or cultural understanding (Galdas, 2017), are more prominent in qualitative methodologies (Somekh & Lewin, 2005), other challenges also arise in quantitative designs. Among these, navigating power dynamics during participant recruitment – particularly when involving patients or students – presents a notable ethical consideration. Reflecting on my own experience as a participant in an unpublished CT imaging study, I recognize potential ethical pitfalls, as camaraderie with the researchers may have skewed my judgment about the risks of radiation exposure. This underscores the critical need for transparency and rigor in the consent process (Dwyer & Buckle, 2009), particularly when conducting studies that involve potential health risks (Beauchamp and Childress, 1979).

5. Conclusion

Through this assignment, I have acquired valuable insights into research paradigms, methodologies, designs, and methods, enhancing my critical awareness of the complexities involved in conducting research in work-based settings, particularly in the field of voice science. I now have a refined understanding of the four paradigms explored. My perspective predominantly aligns with Post-positivism, reflecting a belief in objective reality and neutral facts (Brown & Dueñas, 2020), tempered by an awareness of the provisional nature of research findings (Titze, 2024). At the same time, I recognize the nuanced insights offered by constructivist and Critical Theory paradigms for examining psychological and social phenomena (Bunniss & Kelly, 2010).

In exploring methodologies, I have deepened my understanding of quantitative and qualitative approaches while recognizing the need to further examine mixed methods. My preference for quantitative research has been reinforced, particularly for studies involving medical diagnostic techniques like laryngoscopy or MRI/CT imaging. I aim to expand my knowledge of evaluation and experimental designs (Hofäcker & Stegl, 2021) to strengthen research planning and intend to deepen my expertise in quantitative data analysis and statistical methods through collaboration and focused training.

Ethical considerations have become a pivotal part of my learning, extending beyond planning and ethics committee approval to include informed consent, safeguarding anonymity, and secure data handling. This broader perspective will guide me in addressing ethical challenges with greater sensitivity and responsibility. My understanding of insider research has grown, and I plan to address its challenges like inherent bias through structured reflexivity (Hamdan, 2009) and peer debriefing (Greene, 2014).

In summary, this assignment has provided a strong foundation for conducting research in work-based settings and will shape my growth as a voice science researcher. I now feel equipped to undertake my first empirical study, likely involving laryngoscopy and videofluoroscopy to explore pharyngeal dilation and laryngeal movement during abdominal accents according to the *Accent Method* of voice therapy (Thyme-Frøkjær & Frøkjær-Jensen, 2014).

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List of Tables

Table 1: Philosophical Foundations of Research Paradigms: Positivism, Post-positivism, Constructivism, and Critical Theory (Guba & Lincoln, 1994; Bunniss & Kelly, 2010; Brown & Dueñas, 2020) 6

Table 2: Research Methodologies, Designs, and Methods Presented in This Assignment ..10

Table 3: Strengths and Limitations of Insider Research (Labaree, 2002; Ramsey, 2008; Dwyer & Buckle, 2009).....14