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in Workplaces**

Lilli Unwin

Student Number 2243308

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Introduction.....	3
Ontology and Epistemology.....	3
Paradigms.....	5
Research Designs and Methodologies.....	7
Methods.....	10
Ethics.....	12
Insider Research.....	13
Table 1: Advantages and disadvantages of insider research.....	13
Conclusion.....	14
Reference List.....	16
Appendix.....	21
Table 2: Advantages and limitations of qualitative research methods.....	21
Table 3: Possible research design approaches for voice pedagogy scenarios.....	22
Table 4: Reflection.....	23
Table 5: Terminology.....	25

Introduction

This assignment will seek to critically evaluate the combined elements of a research project, and acknowledge the vital ontological and epistemological considerations that must be made before commencing as a first-time researcher. The work I do as a lecturer, vocal coach, and singer-songwriter will be held at the fore while examining how these elements may influence the gathering of data from within my work-based setting. To further understand how my areas of interest in voice pedagogy and performance psychology fit into the research domain, I will be evaluating the paradigms, research designs, methodologies and methods that may be appropriate, as well as those less so, and why. Furthermore, I will be covering some key ethical considerations, particularly those of insider research. In combination, these elements will provide a strong foundation from which I can develop as a researcher.

Ontology and Epistemology

To begin as a researcher it is crucial to consider how *ontology* and *epistemology* influence how a research project is designed. Grix (2002) states that students must understand the philosophical positions of prior research, as well as be explicit about their own perspectives. Research projects are flexible and iterative, with each designed in a unique way to fit the purpose (Crotty, 1998; Cohen, Manion, and Morrison, 2018). From the outset, researchers must consider their ontological position, which is to say, how they view reality (Crotty, 1998, p.10; Gray, 2009), and acknowledge the role this plays in guiding their choices (Mason, 2018). **Relativists** take the view that multiple realities can be constructed in the mind (Guba and Lincoln, 1994, p. 110), whereas in contrast, **realists** believe that an objective reality exists (Gray, 2009, p. 580). Due to the contrasting nature of these ontologies, it becomes clear how varied research projects may become, according to who is designing them, and how they view reality. Perhaps **idealism** provides a compromise to consider with the view that an objective reality does exist but is interpreted by different people in a myriad of ways (Cohen, Manion, and Morrison, 2018, p. 7). Thus far it is clear that it can be hard to determine a 'correct' approach to designing research projects, and as stated earlier (Crotty, 1998; Cohen, Manion, and Morrison, 2018), there is no best approach.

Before discussing the different epistemological positions, it should be noted that many authors agree that the terminology used in social research differs widely, with the same terms being used to describe different theories, and different terms used interchangeably to describe the same theories (Crotty, 1998, p. 1; Grix, 2002; Mackenzie and Knipe, 2006;

Gray, 2009, p. 13; Gorski, 2013). Some of the same authors who agree that terminology is confusing, especially to early-career researchers, go on to posit that constructionism and constructivism should be held separate (Crotty, 1998, p. 58), and conversely, mean the same thing (Cohen, Manion, and Morrison, 2018, p. 23). This is one example of many which demonstrate the need for clarity of terms, as well as the idea that perhaps scholars will never agree on research terminology, which is representative of ontological relativism.

Following the consideration, and acknowledgement of one's ontological position, it is crucial to go on to evaluate epistemological philosophies and how they impact research.

Epistemology is a section of philosophy which examines the criteria for what knowledge is or is not credible (Gray, 2009, p. 576). Combined with ontology, epistemology goes on to inform what paradigm(s) a researcher may align with, and subsequently, the methodologies and methods chosen (Gray, 2009, p. 17). The epistemologies that will be discussed are objectivism, subjectivism, constructionism and social constructionism. **Objectivists** believe that there is one objective truth to be discovered; objects exist independently of human consciousness (Crotty, 1998, p. 5; Gray, 2009, p. 18). In contrast, **subjectivists** take the view that meaning is imposed on the object by the subject and can be influenced by a collective subconscious, there is no interplay between subject and object in the construction of meaning (Crotty, 1998, p. 9).

As can be seen many times over in research, there is a tendency to polarise approaches and pit them against each other, rather than see them on a continuum where both can co-exist, serving different purposes. **Constructionism** combines objectivity and subjectivity (Crotty, 1998, p. 44) with truth and meaning constructed, and differently by different people. Constructionists theorise that there is interplay between object and subject (Crotty, 1998, p. 9) in the creation of meaning. **Social constructionism** builds on this by postulating that culture shapes how individuals see and feel things (Crotty, 1998, p. 58; Cohen, Manion and Morrison, 2018, p. 23). As previously mentioned, the very fact that scholars interpret the meaning of terminologies differently could be a real-world example of constructionism/social constructionism in action; there is no one objective truth, different people will interpret ideas in a different way to others with the social influence of the culture they belong to.

In a voice pedagogy domain, research conducted with an objectivist epistemology may be beneficial in providing data based on a hypothesis such as 'perfectionism is elevated by social media use in singer-songwriters' (see Table 3) but may avoid certain paradigms, methodologies and methods which may suit the purpose of the research, and therefore miss out on rich data (for example, how singer-songwriters experience perfectionism, which may give insight on how to improve the situation). This can be seen in studies on perfectionism

which seek objective, quantitative data, rather than information on how and why these experiences happen (Mor, *et al.*, 1995; Kenny, Davis, and Oates, 2004; Casale, *et al.*, 2015; Diaz, 2018; Dobos, Piko, and Kenny, 2019; Hill, *et al.*, 2020) The choice of any given philosophy, and subsequent research design, will impact the data collected, meaning there is a chance some important discoveries may be gained or missed according to the approach taken

Paradigms

The ontological, epistemological beliefs combined with **axiological** beliefs, which is to say, what is considered to be of value (Schwandt, 2007, p. 15), come together in underpinning *paradigms*. A paradigm is defined as a guiding set of philosophical beliefs that informs a researcher's approach to research design (Guba and Lincoln, 1994), also described as a *worldview* (Creswell, 2014, p. 35), or *theoretical perspective* (Crotty, 1998; Gray, 2009, p. 18). There are many different paradigms which can guide a researcher in a multitude of contrasting ways; *positivism*, *post-positivism*, *interpretivism*, *constructivism*, and *pragmatism* will be discussed here, linked to how they apply to work-based settings within voice pedagogy.

Positivism, also referred to as the '*scientific method/paradigm*' (Mackenzie and Knipe, 2006, p. 2; Scotland, 2012, p. 10; Creswell, 2014, p. 36) or '*received view*' (Guba and Lincoln, 1994, p. 106), was the leading paradigm in social science until the second half of the 20th century (Gray, 2009, p. 18). Positivists look to generalise based on objective truths which they discover through seemingly unbiased observation and testing, remaining separate from the study participants (Scotland, 2012). Positivists have been criticised for reducing complex experiences into measurable points which may not critically reflect the nature of the world as it is (Nesfield-Cookson, 1987, cited in Cohen, Manion, and Morrison, 2018). Cohen, Manion, and Morrison (2018) go on to posit that a large contention with positivism is its deterministic nature that excludes the idea that humans have agency, which they do not believe is an accurate reflection of reality.

As an effort to respond to the most pressing criticisms of positivism, **post-positivism** was developed (Guba and Lincoln, 1994, p. 109). One of its key distinctions from positivism is that post-positivism seeks to disprove theories, as a way to determine the *falsification* (Popper, 2002) of a theory (Gray, 2009, p. 19). Post-positivists accept that there may be multiple pluralistic realities, as well as no absolute truth, in fact, truth is ever-changing and

needs to be constantly challenged (Popper, 2002); they recognise the imperfection in the knowledge we gain about the world (Cohen, Manion, and Morrison, 2018, p. 16).

Post-positivists seek to objectively test hypotheses by reducing their theoretical ideas into small tests, which can result in quantitative data being collected (Creswell, 2014, pp. 36-37).

While there have been important discoveries made influenced by the positivist/post-positivist paradigm, there are some key (*anti-positivist*) paradigms which challenge these dominant perspectives. Gorski (2013) puts it that interpretivism is the most mature of these theories, with constructivism a more recent, related approach. Cohen, Manion and Morrison (2018) go on to say that constructivism falls under the umbrella of interpretive research.

Interpretivists posit that truth is socially constructed, and sits within a historical context, opposing positivism, and closely linked epistemologically to constructivism (Gray, 2009). They support the positivist view that there needs to be rigour when researching, but disagree with studying social science in the same way, as humans behave differently to the natural world (Cohen, Manion, and Morrison, 2018, p. 8). The aim of “the interpretive paradigm is to understand the subjective world of human experience.” (Cohen, Manion and Morrison, 2018, p. 19). Schwandt (2001, p. 134)) defines interpretivism as an approach which covers significant qualitative inquiry. **Constructivism** is a paradigm that believes individuals construct the truth and meaning of their realities (Gray, 2009, p. 21), with each reality being unique and valid (Crotty, 1998, p. 58). It is the goal of constructivists to understand how and why realities are constructed by individuals through being part of the research to see multiple views, as well as acknowledging their interpretations of the situation as a construction in itself (Charmaz, 2006). Creswell (2014) states that the constructivist paradigm is mostly used in qualitative research; researchers seek to develop a theory through inductive reasoning, based heavily on the views of the participants.

By now we have covered that positivists, on the whole, seek to generalise objective truths, post-positivists to falsify hypotheses, interpretivists to understand, and constructivists to understand the how and why of socially constructed realities. The final paradigm that will be discussed is pragmatism. **Pragmatism** is a view that holds the research question at the centre and seeks to answer the question through whichever means is most appropriate, giving researchers freedom of choice to choose methods appropriately according to the research question (Morgan, 2007, p. 69). Pragmatists are seeking solutions, and may draw on both quantitative and qualitative methods if required, as well as multiple paradigms (Creswell, 2014, pp. 39-40). Morgan (2007, p. 71) argues the case for using abductive reasoning (using both inductive and deductive), which is another example of the compromise

between views the pragmatists hold, ultimately to serve the research, and remain unbound by any one approach.

In summary, it can be seen that there are a variety of philosophical paradigms to consider, from objectivist postpositivism to subjectivist interpretivist paradigms such as constructivism, and the research question-focused pragmatic paradigm. These theoretical perspectives inform the type of research design of any given study through the choice of associated methodology, methods and data analysis that align with a paradigm.

Research Designs and Methodologies

Gray (2009, p. 131) describes *research design* as “the overarching plan for the collection, measurement and analysis of data”. There are three main types of research designs: *quantitative, qualitative, and mixed methods*.

Quantitative research methodologies include *experimental design, quasi-experimental design, and non-experimental design*, mostly aligning with a post-positivist paradigmatic view (Creswell, 2014, pp. 41-42). This type of research tends to result in numerical data from which researchers can draw generalisations (Leavy, 2022). Flick (2018) highlights limitations within quantitative research by saying that it is difficult to apply study results in society, as well as connect them to theory. **Experimental design** works to treat two study participant groups differently to see if specific choices impact the outcome (Creswell, 2014, pp. 41-42). A control group is put in place who are not part of the experiment group, to compare results (Gray, 2009, p. 27). Since it is often challenging (sometimes too expensive) to find groups possessing the characteristics needed for any given study, researchers may engage in a **quasi-experimental design** by using two existing groups who are appropriate for the study already, having the relevant experience(s) prior. The aim here is to apply generalisations based on the study sample to a similar wider population (Gray, 2009). **Non-experimental design** (e.g. survey research) seeks to gain quantitative data on a population by studying a sample, without using separate groups (Creswell, 2014, pp. 41-42). Critics of quantitative research posit that research is conducted with minimal contact with the people in the spirit of being objective, leaving them out of touch with the participants they are studying, and sometimes coming across as a “disinterested scientist” (Guba and Lincoln, 1994, p. 112; Gray, 2009, p. 165).

In a voice pedagogy context, it can be seen that there are positives and negatives to conducting quantitative research. For example, when investigating the hypothesis that higher levels of self-oriented and socially-prescribed perfectionism are associated with higher levels of maladaptive performance anxiety, Mor, *et al.* (1995) used scales to measure this and were able to confirm their hypothesis. Because this research was conducted quantitatively (questionnaires), statistical data was found, but there was no indication of how these experiences happened, and why, which could have been discovered through qualitative research methodologies. Similarly, a study looking at whether mindfulness reduces music performance anxiety (Diaz, 2018), found numerical data to support that meditation practices lower music performance anxiety, but no indication why or which elements would be responsible for this. Therefore, it is important to review qualitative methodologies that may be beneficial in voice pedagogy research.

Qualitative research methodologies, which have been developed mostly in the last 35 years, seek to understand people's actions and experiences through being immersed in the field of study (Gray, 2009, p. 166). Key methodologies include *ethnography*, *grounded theory*, and *participatory action research (PAR)*. Qualitative research should be used in the case that a research question requires this type of strategy (Silverman, 2013), for example trying to gain information about the experiences of an under-observed group (Flick, p. 4, 2018). The design of **ethnography**, derived from anthropology and sociology traditions, is the study of a cultural group over a long time in their natural setting, with observation and interviews often used (Creswell, 2014, pp. 42-43). Flick (2018, p. 339) highlights that an ethnographic approach requires researchers to be flexible in which methods they employ, and therefore skilled in a range of ways that early-career researchers may not be, making this methodology less appropriate for pilot studies. **Autoethnography** (a sub-approach aimed at social change) is high in **reflexivity**, with the researcher drawing on their own experience, playing a big part in telling the story of the research (Mertens, 2015, p. 304). Mertens (2015, p. 304) draws together the argument for using **photoethnography** as a means to facilitate social change as well through photographic storytelling. Researchers ask participants to document their stories through photography, which is then given context and symbolism by participants in follow-up interviews. However, Kara (2015) argues that autoethnography can often be disconnected from theory, thus rendering the methodology too self-focused and lacking relevance.

Grounded Theory, which evolved out of sociology, takes the approach that the researcher(s) generates theories based on the views of the participants (Creswell, 2014, p. 42). The data collected is then continuously analysed throughout the process, with theory

emerging from the data, not as an initial hypothesis like in the positivist/post-positivist traditions (Charmaz, 2006). Data is regularly analysed until there is no more development in the theory, a point that is viewed as theory being 'grounded in the data' (Schwandt, 2001, p. 111). Nevertheless, despite data being rigorously coded, researchers should not become complacent and have false confidence in their conclusions (Mertens, 2015).

Finally, in **participatory action research (PAR)**, participants are seen as co-researchers working collaboratively throughout, proving particularly important in contexts where a hierarchy exists (for example adult researcher and student relationships in educational settings) (Mertens, 2015, p. 310). This methodology is focused on creating change within an organisational setting (Gray, 2009, p. 30). In a music education context, Onsrud, *et al.* (2022) found that a PAR approach enhanced student agency and supported their growth by giving them a space to reflect on their development and position.

To highlight the benefits and flaws of qualitative research methodologies in voice pedagogy research it may be beneficial to use an example paper. Fletcher, Davidson, and Krause (2023) did a qualitative study examining empathy in voice teachers which used observation and interviews. The combination of these meant that the researchers were able to gain data by observing the teaching techniques but also understand the theoretical applications that the teachers had in mind. A potential pitfall is that this was a small-scale qualitative study in Australia which may not be generalisable to a wider global culture.

Mixed method research methodologies, which were developed mostly post-1980s, seek to integrate both quantitative and qualitative research. Researchers using mixed methods acknowledge the benefits and flaws in all methods, deciding therefore to integrate them to bring out the most appropriate techniques of each quantitative and qualitative research in any given project (Creswell, 2014, p. 43). Mixed methods contain a few key approaches: *convergent parallel mixed methods*, *explanatory sequential mixed methods*, and *exploratory sequential mixed methods*. **Convergent parallel mixed methods** merge quantitative and qualitative data to answer a research question, presented in integration (Creswell, 2014, p. 44), whereas **explanatory sequential mixed methods** use quantitative research first, followed in sequence by qualitative research to explain the initial findings in more detail (Creswell, 2014, p. 44). Taking the opposite approach, **exploratory sequential mixed methods** start with qualitative research to explore participants' views, which is followed by data analysis, and then a quantitative phase begins which may be informed by the initial phase. Creswell (2014, p. 44) notes potential difficulties in both sequential mixed methods in identifying which initial data to expand upon. Furthermore, Silverman (2013) highlights that researchers will not only need to be familiar with multiple types of data analysis, which may

be challenging, but also that approaching their topic widely (with a mixed methods approach) may be a symptom of having too broad a research question.

Methods

Research methods “involve the forms of data collection, analysis, and interpretation that researchers propose for their studies” (Creswell, 2014, p. 295). Many data collection methods may be used in a range of settings, but the focus will be on *observation*, *questionnaires* and *interviews*. Observation has been used in ethnography commonly, which is why it has been included, as well as questionnaires and interviews being used in recent music industry research.

Observation takes place in the natural setting of the study participants; researchers can range from solely being an observer (complete observer) to covertly observing as a participant (complete participant), with modes in between (Creswell, 2014, p. 241, see Table 2 in the appendix). Advantages of this type of study include being able to gain direct experience of being a participant, as well as being a means to explore more sensitive topics. Cohen, Manion, and Morrison (2018) argue that observations may have the scope to produce unique and authentic data that other methods may struggle to. Conversely, the researcher may be seen as intrusive (Creswell, 2014, p. 241) and unable to make a non-biased inquiry, with reflexivity only highlighting researcher bias rather than solving it (Cohen, Manion and Morrison, 2018, p. 542). The authors go on to highlight the importance of researchers practising their observational skills to be most efficient and discreet when in situ. Considerations that should be made when selecting this method are important to weigh up before engaging in the study. For example, the ‘observer effect’ (research participants altering their behaviour in the presence of the researcher) may skew the data being collected in observation as participants may falsely represent themselves, thus undermining the data gathered (Bogdan and Biklin, 2003, p. 34). Cohen, Manion and Morrison (2018) discuss the quandary associated with covert (researcher’s identity is concealed) and overt (researcher’s identity is known) observation. While covert observation provides many issues, such as the ethical concern that participants are not able to give informed consent, it can also be seen as a means to gain data on neglected and sensitive topics/groups which may be important to study (Cohen, Manion and Morrison, 2018, p. 559). Despite this, covert research is still seen as a large ethical problem because it undermines participants’ ‘informed consent’.

Gray (2009) notes that **questionnaires** are a very popular tool for gathering data as they are low in cost and time for the researcher, flexible for the respondents, and lack interviewer bias (different interviewers eliciting different responses). It is important to ensure questions are written carefully, with considered wording, with as much researcher objectivity as possible to allow for participants' views to be captured over the interests of the researcher (Gray, 2009, p. 339). Types of questions can be 'closed' (binary yes/no type answers) or 'open' (why? how? etc.). Gray (2009) states that long-form, confusing questionnaires may impact the full completion of questionnaires, as well as contribute to non-response, both of which threaten the validity of the data. Despite the many benefits of using questionnaires to gather data, there are some potential pitfalls which can impact the validity (Gray, 2009, p. 362) such as writing ambiguous questions, leading or 'double questions' that ask the respondent to answer to two different topics simultaneously which proves problematic when analysing the data (Bell and Waters, 2018). In a voice pedagogy-related pilot survey, Gross and Musgrave (2016) noted that due to unrefined questioning and the likely case of participants suffering from mental health issues self-selecting to respond (thus creating a bias), their survey would have benefitted from more methodological rigour, despite it defining a needed area of study.

An **interview** represents a formal, structured conversation (Cohen, Manion and Morrison, 2018, p. 506). It can range from being structured (interviewees are all given the same questions) to being unstructured and informal with room for the interviewer to follow the flow of the interviewee (Gray, 2009, p. 373). Creswell (2014, p. 241, see table 2 in the appendix) compares the advantages and disadvantages of this method; interviews can be beneficial to use in situations where participants cannot be observed, as well as providing rich data with ample room for the researcher to ask follow-up questions where appropriate (Cohen, Manion and Morrison, 2018, p. 509). Disadvantages noted by Creswell (2014) include the fact that it is not in the natural setting like in observation, researchers may influence interviewees' responses thus creating bias, and the medium of interviews may not be inclusive to all participants. In a voice pedagogy context, valuable data on musicians' experience of mental health has been collected through semi-structured interviews which shed light on a lesser-known area (Gross and Musgrave, 2017). However, the initial pilot study may have been biased, and the interview questions are likely to have been impacted, which may be a flaw of the research.

From evaluating several research methods it can be seen that they all have their advantages and disadvantages, evidencing a clear need to weigh up all the options before committing to any given method.

Ethics

In the pursuit of advancing knowledge on a subject by undertaking research, there may be potential risks for a researcher to be aware of and mitigate, as well as ethical considerations to be made. Due to the nature of social science research often focusing on sensitive information regarding people's lives, it is paramount that ethical standards be upheld stringently (Walliman, 2009). Bell and Bryman (2007) identified key ethical principles that researchers should be aware of including ensuring harm (physical/psychological) is prevented in the case of both participants and researcher, as well as conducting research honestly and transparently. Berg (2001, p. 56) highlights the importance of gaining informed consent from participants (usually via a consent form), which confirms their voluntary engagement with the study free from any coercion, whilst ensuring they are aware of the risks involved. Participants should be able to withdraw from the research at any time, which although it potentially complicates things for the researcher, must be respected (Walliman, 2009). Furthermore, as a practitioner researcher in an educational setting, it is crucial to be mindful of the hierarchies and power dynamics at play when researching students. Walliman (2009) highlights the importance of not abusing this power, or in any way taking advantage of this relationship. Confidentiality is another key ethical standard which must be upheld; by keeping the participant's information confidential and identity anonymous there is less chance of harm befalling them (Creswell, 2014). That being said, researchers may find themselves in a compromising position if they uncover institutional issues such as unethical practices, illegal behaviour, or even worse, abuse (Easterby-Smith, Thorpe and Jackson, 2012). In a voice pedagogy setting this may mean a researcher uncovers issues in an educational setting and depending on the severity may need to break confidentiality if there are people at risk (for example, disclosing abuse). Additionally, the protection of participant's identities must be in effect throughout the research process, including in the publishing of the findings phase (Denscombe, 2014). Finally, researchers need to risk assess their own safety while conducting research and draw on the experiences and solutions from other projects, and potential guidelines for mitigating risk such as being equipped, aware and visible at all times (Paterson, Gregory, and Thorne, 1999).

Insider Research

As a result of doing work-based research, it is important to consider the impacts of being an inside researcher (operating from within the institution or culture that is being studied).

Insider researchers have some advantages (see Table 1 for more detail) such as having a wealth of prior knowledge and experience that can inform the research, access to participants, and the ability to enact changes in practice (Costley, Elliott, and Gibbs, 2010). However, these advantages also come with a multitude of disadvantages such as being short-sighted due to being situated within the research, unaware of bias, and having to deal with adding complicated dimensions to pre-existing relationships with colleagues and students (see Table 1 for more information). Researchers must consider their **positionality** (the position the researcher takes within a study), and engage in reflexivity throughout the process to inform this (Holmes, 2020). All researchers will have pre-existing values and beliefs, as well as identity characteristics (gender, race, sexuality, age, etc) and cultural backgrounds that will impact how they approach research (Holmes, 2020). Positionality is a non-fixed aspect, which can and should change as a researcher's knowledge develops. Holmes (2020) poses the question of whether insider/outsider research should be seen as a dichotomy or continuum. If a researcher takes the view that they are an insider due to one aspect of their identity (for example, female or white) then this would be a dichotomous perspective. However, by viewing positionality on a continuum, researchers can be aware of how they are viewed as insiders (a fellow singer-songwriter) versus ways they are seen as outsiders (teacher, older, white, female), and how these parts may exist simultaneously.

Table 1: Advantages and disadvantages of insider research

Advantages	Disadvantages
• Easier access to desired research participants relevant to the study. • Prior knowledge informs suitable questioning. • Trust may already be established, eliciting potentially more candid	• Researcher bias may be harder to identify. • Due to identifying closely with the cultural group being studied the questioning may become narrow, missing important points to address from a wider perspective.

answers. • Data presented may represent the culture more authentically. • The researcher may be able to acclimatise efficiently. • The researcher may be more familiar with the verbal/non-verbal communication of a particular group.	• Participants may omit crucial information due to assuming the insider researcher already knows it. • Researchers may not be able to pursue naive lines of questioning as a novice to the culture (outsider researcher) may be able to. • Participants may not disclose as much because they are concerned they will be in contact with the insider researcher after the study.
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Table 1 includes material from Holmes (2020).

Conclusion

In summary, I have reviewed the literature on how ontology and epistemology feed into a paradigmatic viewpoint, which in turn influences a researcher's methodological approach and choice of methods. Furthermore, the inclusion of ethics and issues of insider research contribute to the overall research design, concerning voice pedagogy. There are a diverse range of ways in which people view reality (ontology) and knowledge (epistemology) which impact the paradigmatic approach, varying between the scientific approach of post-positivism through to the interpretive paradigm which focuses on understanding human experience. The literature highlights that there are many approaches one could take with research design and choice of methodology, which should be chosen as a means to answer a research question. Similarly, the philosophical perspective of a researcher is prone to change according to each context, as well as their alignment with quantitative, qualitative or mixed methods methodologies. The discussion demonstrates the benefits and flaws of various methods and the appropriateness of their inclusion in any given study. Finally, it can be concluded that ethics must be carefully considered and adhered to, and the issues of insider research must be assessed before embarking on a research project.

Working in tertiary institutions, I will need to be mindful of the pitfalls of insider research, potentially seeking participants who are not my students to mitigate these issues where

possible. Additionally, I will aim to make sure I am not overly ambitious with planning my first research project, and ensure that the design is safe for not only participants but also myself as a researcher. Potential research approaches going forward may include a qualitative research design with an ethnographic methodology using semi-structured interviews as a method for data collection, and using interpretivist paradigmatic philosophies to guide throughout.

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Appendix

Table 2: Advantages and limitations of qualitative research methods

Method	Type	Advantages	Limitations
Observation	• Complete participant • Observer as participant • Participant as observer • Complete observer	• Firsthand experience. • Able to record information throughout. • Able to observe unique moments. • Benefits in approaching sensitive topics with participants.	• The presence of the researcher may be perceived to be intrusive. • Researcher may witness private information that cannot be reported. • The researcher may not be discreet. • The researcher may not develop rapport with participants.
Interview	• In-person one on one • Telephone interview • Focus group • Email interview	• Beneficial when participants cannot be observed. • More details may be given by participants. • The researcher controls the questioning.	• Information is biased to the participants' views. • Information is not given in the natural field setting. • Participants may bias their responses due to the presence of the researcher.

			• Participants may not be able to articulate themselves accurately.
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Table 2 includes material adapted from Creswell, 2014, p. 241.

Table 3: Possible research design approaches for voice pedagogy scenarios

Example voice pedagogy scenario	Approaches that may be appropriate
Measuring the amount of time spent on social media by a singer-songwriter	• Realist ontology • Objectivist epistemology • Post-positivist paradigm • Deductive reasoning • Quantitative research designs (e.g. quasi-experimental design) • Quantitative research methodologies (e.g. survey research) • Methods: questionnaire
Collecting information on how singer-songwriters experience perfectionism	• Relativist ontology • Subjectivist/constructionist/social constructionist epistemologies • Interpretivist/constructivist paradigm • Inductive/abductive reasoning • Qualitative research design • Qualitative research methodologies (e.g. ethnography, narrative research, grounded theory) • Methods: interview, observation

Table 4: Reflection

Reflective cycle stage	My reflections
Description	For this paper I reviewed the literature on research designs, with particular focus on voice pedagogy, with a view to conducting my own research projects in the future.
Feelings	Initially, the process felt very confusing, with a vast amount of literature to digest, and mostly new terminology to learn. Once I was able to understand (to the best of my ability) the key terms associated with the subject, I felt more able to see where my future research could sit. When coming to the end of this process the research process feels simultaneously more daunting as I have more knowledge of the many areas of study and potential pitfalls, but also more manageable as I have furthered my understanding on the subject.
Evaluation	The fact that I now I have a broader perspective on the types of research approaches as well as the underpinning theory is a positive aspect of this experience. However, part of what remains challenging is planning a research project that considers relevant components such as ethics and insider research, as well as the paradigm, methodology and method approaches.
Analysis	Paradigmatically, I can see that many of the modern paradigms have benefits, as well as shortcomings. On a personal level, I strongly believe in the ethos of the transformative paradigm (social justice for oppressed and marginalised people), while recognising that in the case of the work-based research I will soon be undertaking it may not be the most appropriate paradigm as my students are not a typically marginalised group (although some of the students will be from these groups). The pragmatic paradigm seems

	appealing to me due to the fact that pragmatists believe that there are strengths to many approaches, and paradigms need not be pitted against each other, although due to the fact that I am embarking on my first research project, it seems too ambitious to align with at this point. I believe there are many things I can learn from the transformative paradigm and critical theories, but overall, I think my current view would be to align with the interpretive and constructivist paradigms.
Conclusions	As I have detailed in this paper, the process of designing research is complex and requires the researcher to critically reflect on their beliefs and choices throughout, as well as consider potential ethical issues that may arise. Due to the nature of my work, I can see that I tend to have a relativist ontology, as well as align with constructionist and social constructionist epistemologies. My work as a singing teacher and lecturer centres a lot around listening to and working with the feelings, beliefs and backgrounds of my students. As a result, I am able to discern that people view reality and knowledge in a multitude of ways, as well as have diverse life experiences which influence how they engage with me.
Action plan	I am interested in studying subjective human experiences, which most naturally align with qualitative enquiry approaches, although my research may also benefit from some quantitative methods as well (for example, the use of scales to measure perfectionism or self-compassion). Subsequently, it will be important to consider the appropriate methodologies and methods that align with both my paradigmatic view and the scope of my research. For example, I may not have time to undertake a longitudinal observation, but I can use photoethnography followed by interviews as part of an ethnographic methodology. What remains apparent is that ethics and the issues of insider research will need to be at the forefront of my approach throughout; not only in order to comply with regulations, but also as a means of being a

	reflexive researcher interested in the well-being of participants and development of future knowledge.
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Table 4 includes reflective cycle stages from Gibbs (1988, p.49-50)

Table 5: Terminology

Terminology	Definition	Citations	Any other info
Philosophies			
Ontology	"the nature of existence" (Gray, 2009); "the study of being" (Crotty, 1998, p. 10).	Guba and Lincoln, 1994; Gray, 2009; Crotty, 1998, p. 10	"what is" (Crotty, 1998, p. 10)
Realism	"a research philosophy that presumes that a knowable, objective reality exists." (Gray, 2009, p. 580); often understood to imply (whether or not correctly) an objectivist epistemological stance (Crotty, 1998, p. 10).	Guba and Lincoln, 1994; Gray, 2009, p. 580; Cohen, Manion, and Morrison, 2018, p. 5	
Relativism	Multiple realities can be constructed in the mind.	Guba and Lincoln, 1994, p. 110; Crotty, 1998	
Idealism	Reality is confined to what exists in the mind only (Crotty, 1998, p. 64); "the world exists but different people construe it in very different ways." (Cohen, Manion, and Morrison, 2018, p. 7).	Crotty, 1998, p. 64; Cohen, Manion, and Morrison, 2018, p. 7	
Epistemology	A section of philosophy; the criteria for what knowledge is	Guba and Lincoln, 1994;	"what it means to know" (Crotty, 1998, p. 10)

	or isn't credible; "how we know what we know" (Crotty, 1998, p. 8).	Gray, 2009, p. 576; Crotty, 1998, p. 8	
Objectivism	One objective truth, closely related to positivism (Gray, 2009, p. 18); objects exist independently of people/human consciousness and can therefore be studied as such to have objective truths (Crotty, 1998, p. 5).	Gray (2009) p. 18; Crotty, 1998, p. 5; Cohen, Manion and Morrison, 2018, p. 25-26	Crotty (1998) - tree in a forest exists, and is then discovered by humans
Subjectivism	Meaning is imposed on the object by the subject and can be influenced by a collective subconscious, with no interplay between subject and object in constructing meaning.	Crotty, 1998, p. 9; Cohen, Manion and Morrison, 2018, p. 25-26	No interplay between subject and object in constructing meaning (Crotty, 1998, p. 9)
Constructionism	Truth and meaning do not exist objectively, rather are constructed, and differently by different people. Combines objectivity and subjectivity (Crotty, 1998, p. 44).	Crotty, 1998, p. 8	Interplay between object and subject (Crotty, 1998, p. 9), Gray, 2009, p. 18 calls it constructivism
Social Constructionism	Culture shapes the way in which individuals see and feel things.	Crotty, 1998, p. 58; Cohen, Manion and Morrison, 2018, p. 23	
Axiology	"the study of what things are good, and how good they are...philosophical study of value..." (Schwandt, 2007, p. 15).	Schwandt, 2007, p. 15	
Paradigms/ Theoretical perspectives/ Worldviews	A guiding set of philosophical beliefs that informs a researcher's approach to research design (Guba and	Guba and Lincoln, 1994, p. 105; Gray, 2009, p. 579;	Creswell (2014) explains who uses what terminology.

	Lincoln, 1994), also described as a worldview (Creswell, 2014, p. 35).	Cohen, Manion, and Morrison, 2018, p. 8	
Positivism		Guba and Lincoln, 1994; Gray, 2009, p. 579; Cohen, Manion, and Morrison, 2018; Scotland, 2012	Critiques on positivism (Gray, 2009, p. 19), saying they can't agree on the key elements of the theory.
Post-positivism		Guba and Lincoln, 1994	More fitting with quantitative research (Creswell, 2014, p. 36); see Popper, 2002, pp. 32-39.
Constructivism		Gray, 2009, p. 575; Crotty, 1998, p. 58	
Pragmatism		Creswell, 2014, pp. 39-40	
Interpretivism		Gray, 2009, p. 577; Cohen, Manion and Morrison, 2018, p. 19	
Transformative	The transformative paradigm was born out of the need for a paradigm that went further than constructivism, and definitely post-positivism, in advocating for change for marginalised and oppressed groups in society (Creswell,	Creswell, 2014, pp. 38-39	

	2014, p. 38). Similarly to constructivists, transformative researchers aim to place their participants' needs at the centre of the study, working collaboratively as a way to mitigate further marginalisation. An area to be aware of in the transformative paradigm is researcher safety; some social justice contexts may be unsafe (Mertens, 2010) and researchers must be aware of relevant political and cultural factors to avoid coming to harm (Mertens, 2015, p. 80).		
Feminism	The view that knowledge is related to social position, with the view that women are an oppressed class, and research favours male values.	Gray, 2009, p. 26	
Critical Theory	Transformative research is closely linked to critical theory, feminism, and Marxism, to name a few theories (Mertens, 2015). Critical theorists take the view that socially constructed meanings exist in a culture in order to serve the powerful through manipulation and oppression and Marxists that those who have economic power can affect social consciousness to serve their own interests (Crotty, 1998). Feminists also believe that knowledge is related to social	Crotty, 1998, p. 59	

	position, with the view that women are an oppressed class, as well as research favouring male values (Gray, 2009, p. 26). Critical theory and feminism have both been criticised for omitting key racial issues throughout their work (Mertens, 2015, p. 74-75), which demonstrates that even theories within the transformative paradigm need to be constantly re-evaluated. The view that socially constructed meanings exist in culture in order to serve the powerful by manipulation and oppression (Crotty, 1998, p. 59).		
Symbolic interactionism	Individuals have agency in designing their actions, which are constantly being renegotiated in social settings, as well as individuals acting in ways that others do in order to influence the way they are being perceived by others (Cohen, Manion and Morrison, 2018, p. 22).	Cohen, Manion and Morrison, 2018, p. 22	Rooted in pragmatism (Schwandt, 2001, p. 244).
Inductive Reasoning	Trying to form a full picture from pieces of information.	Gray (2009) p. 14	Tends to be qualitative (Winter, 2019).
Deductive Reasoning	Starting with a full picture view, then trying to piece together the relevant parts (hypothesis testing).	Gray (2009) p. 14	Tends to be quantitative (Winter, 2019).
Abductive Reasoning	Moving between both inductive and deductive reasoning to come to the most		

	logical answer with the information available.		
Research Design	“A research design is the overarching plan for the collection, measurement and analysis of data” (Gray, 2009, p. 131).	Creswell, see also Cohen, Manion and Morrison, 2018; Gray, 2009, p. 131	
Quantitative Research Designs	Postpositivist view.	Creswell, 2014, pp. 41-42	
Nonexperimental Design	E.g. survey research - gaining quantitative data on a population by studying a sample.	Creswell, 2014, pp. 41-42	
Experimental Design	Treating two groups differently to see if specific choices impact the outcome (Creswell, 2014, pp. 41-42). A control group is put in place who are not part of the experiment group, in order to compare results (Gray, 2009, p. 27).	Creswell, 2014, pp. 41-42; Gray, 2009, p. 27	
Quasi-experimental design	Due to the fact that it is often challenging (sometimes too expensive) to find groups possessing the characteristics needed for any given study, researchers may engage in Quasi-experimental design by using two existing groups who are appropriate for the study already, having the relevant experience(s) prior. The aim here is to generalise based on the study sample to a similar wider population (Gray, 2009).	Gray, 2009, p. 27& 141)	

Qualitative research designs	Developed mostly in the last 35 years. Research seeks to understand people's actions and experiences through being immersed in the field of study (Gray, 2009. p. 166).	Creswell, 2014 (p. 42)	
Research Methodology	The philosophical and theoretical reasons for using particular methods in research.	Gray, 2009, p. 578	
Narrative Research	Researcher asks individual(s) to provide stories about their lives and then represents this with their own stories in a narrative that is collaborative.	Creswell, 2014 (p. 42); Gray, 2009, p. 171	
Phenomenological Research	Phenomenological research (developed in the philosophy and psychology traditions) aims to describe the experiences of individuals who have all experienced the same phenomenon, commonly using interviews to collect data (Creswell, 2014, p. 42). The aim is to get a clear picture of how the participant views a particular event (Mertens, 2015, p. 308). Combined with the fact that phenomenology aligns with epistemological subjectivity (Lester, 1999) which may make data less objective, phenomenological research has been critiqued for its lack of generalisability due to small case studies, and lack of replicability as a result of how unstructured the data can become (Gray, 2009, p.	Creswell, 2014 (p. 42); Gray, 2009, p. 28	

	28).		
Grounded Theory	Rooted in sociology, the researcher generates theories based on the views of the participants (Creswell, 2014, p. 42). Data is continuously analysed throughout the process, with theory emerging from the data, not prior. Data is then rigorously coded, although this should not give a researcher false confidence in their conclusions (Mertens, 2015, p. 309).	Creswell, 2014 (p. 42); Cohen, Manion and Morrison, 2018, p. 20	
Ethnography	The study of a cultural group over a long period of time in their natural setting. Observation and interviews are often used. The design is from anthropology and sociology.	Creswell, 2014 (pp. 42-43)	
Autoethnography	High in reflexivity, the researcher draws on their own experience and plays a big part in telling the story of the research. Aimed at social change.	Mertens, 2015, p. 304	
Photoethnography	Researchers ask participants to document their stories through photography, which is then given context and symbolism by participants in follow-up interviews. Aim of social change.	Mertens, 2015, p. 304	
Case studies	In-depth case built up.	Creswell, 2014 (p. 43)	

Participatory Action Research (PAR)	Participants are seen as co-researchers, working collaboratively throughout, which is particularly important in contexts where a hierarchy exists (for example adult researcher/student) (Mertens). This methodology is focused on creating change within an organisational setting (Gray, 2009, p. 30).	Gray, 2009, p. 30;	
Mixed Methods Designs	Developed mostly post-1980s, integration of both quantitative and qualitative research. Acknowledges the flaws in all methods, therefore using both to bring out the most appropriate of each quantitative and qualitative research in any given project (Creswell, 2014, p. 43).	Creswell, 2014, p. 43	
Convergent parallel mixed methods	Merging of quantitative and qualitative data to answer research question, presented in integration (Creswell, 2014, p. 44).	Creswell, 2014, p. 44	
Explanatory sequential mixed methods	Using quantitative research first, followed in sequence by qualitative research to explain the initial findings in more detail. Potentially difficult to identify which initial data to expand upon (Creswell, 2014, p. 44).	Creswell, 2014, p. 44	
Exploratory sequential mixed methods	Qualitative research is undertaken to explore participants' views. Following data analysis, a quantitative	Creswell, 2014, p. 44	

	phase begins which may be informed by the initial phase. Potentially difficult to identify which initial data to expand upon (Creswell, 2014, p. 44).		
Research methods	Research methods "involve the forms of data collection, analysis, and interpretation that researchers propose for their studies".	Creswell, 2014, p. 295	Types of methods include questionnaires, observation, and interviews.
Sample	A smaller subset from which researchers will collect data on in order to make generalisations to apply to the wider population (Easterby-Smith, Thorpe, and Jackson, 2012, p. 222).	Easterby-Smith, Thorpe, and Jackson, 2012, p. 222	Various types listed in Gray, 2009, pp. 151-153; issues with sampling listed in Easterby-Smith, Thorpe and Jackson, 2012, p. 223; Creswell, 2014, p. 209 discusses the effect of nonrespondents in creating 'response bias' (the lack of responses changing the results in the data). Types of sampling include random sampling, purposive sampling, quota sampling, convenience sampling, and snowball sampling. Gray, 2009, pp.151-153.
Reflexivity	A continual approach of monitoring a researcher does on how they impact the research.	Gray, 2009, p. 580; Creswell, 2014, p. 235	
Triangulation	Using multiple viewpoints within research to corroborate findings, usually aiming at increasing validity (Flick, 2004, p. 178).	Flick, 2004, p. 178; Bogdan and Biklen, 2003	

Bricolage/Bricoleur	Qualitative researchers that may have to adopt diverse strategies from a range of paradigms and methodologies.	Schwandt, 2001, p. 20	
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