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Issues in academic educational research: The impact of current issues on research activity

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Issues in Academic Educational Research: The Impact of Current Issues on Research Activity

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Abstract

Previous investigations into educational research in Australia have highlighted important issues affecting research, with the majority of issues remaining to date. The Australian government and several research academics have examined issues relevant to educational research, including areas such as research design, dissemination of research results, and effectiveness of research. However, few studies have given voice to the academic researchers working in this field. Therefore, in light of the complexities and broadness of issues faced by educational researchers, this study aimed to investigate what current issues were pertinent to academic educational researchers through an examination of their experiences. This study also sought to determine the reasons for these issues and ascertain possible solutions.

This study used a qualitative approach within a critical theory framework. In addition, this study also utilised a radical interactionist philosophical perspective. The technique used to gather data was through a questionnaire using open-ended questions. There were 18 participants currently engaged in academic educational research in this study. The questionnaire transcripts were analysed through open coding and axial coding to establish categories. These categories were developed into a model and included the themes of: research purpose, ethics processes, collaboration, value of educational research and academic freedom. The overarching theme to which all other themes were connected was research culture.

The results of this study revealed that issues faced by academic educational researchers are of a perpetual nature and highlights the significant difficulty in overcoming these issues. This study also demonstrated that the issues in academic educational research are sustained through a lack of research culture. This lack of research culture was found to provide a significant barrier to research activity and recommendations are provided toward developing a research culture within the field of academic educational research.

For future research, the categories within the developed model may be investigated in more depth, and knowledge structures and strategies within research-intensive universities may be further investigated in relation to research activity and research cultures.

Declaration

I certify that this thesis does not, to the best of my knowledge and belief:

i. incorporate without acknowledgement any material previously submitted for a degree or diploma in any institution of higher education;

ii. contain any material previously published or written by another person where due reference is made in the text of this thesis; or

iii. contain any defamatory material.

Natalie Brown

Date: 11/10/2018

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CHAPTER ONE

THE ORIGIN OF PHASE TWO RESEARCH

Chapter Overview

The first chapter provides a description of the research background, which outlines the initial project undertaken (described as Phase One) and the issues and difficulties faced during this initial research phase. The aim of this chapter is to provide an explanation of the necessary and subsequent deviation to a new topic of investigation, that being issues in academic educational research from the perspective of academic researchers (Phase Two). This background account is important, as it provides a rationale for the progression toward this final body of work.

Phase One Research Background

The aim of the initial study was to examine the effects of working memory training and motivation on academic achievement in primary school students. Due to the difficulties and obstacles experienced during this study, the project could not be completed and a change in direction was required. Significant issues that arose during this initial study included those related to the psychometric properties of the working memory assessment tool and the extreme difficulty in obtaining and retaining participants from schools for the study. Experiencing these issues throughout this initial phase, led to the current study which examined issues in academic educational research, from the perspective of academic researchers working in the field of education. The initial phase of the research provides a background and rationale to the second phase and, therefore, a detailed overview will be provided. In the following section, excerpts from the initial project are provided that outline the research questions, purpose, background and rationale to the first phase.

Research Aim and Questions

The main aim of this study was to investigate the use of a cognitive training program to improve academic achievement. The investigation sought to determine whether a working memory training program could increase working memory and motivation and, therefore, lead to improvements in academic achievement. Excerpts from the literature review are provided at the end of this study (see Appendix A).

Research questions were addressed using a quasi-experimental design. The central question of this research was:

What is the effect of cognitive training on the working memory and motivation in middle to late primary school students?

The study was guided by the following sub-questions:

1. To what extent does working memory training improve working memory score?
2. To what extent does working memory training affect motivation?
3. How does improvement in working memory ability influence motivation?
4. To what extent are students able to recognise self-regulatory strategies?
5. To what extent are students able to evaluate their own motivation and use of self-regulation strategies for learning?

Project Design and Participants

The aim of the first phase was to investigate whether working memory and motivational capabilities could be increased to affect academic achievement. Assessment instruments used in this project included a working memory assessment tool (see Appendix B) and a motivational strategies questionnaire (see Appendix C) that were to be given pre- and post-children's completion of an online working memory training program. The project utilised an online working memory game called Jungle Memory that is designed to increase working memory over an eight-week training period. Results from the pre-intervention working memory assessment (see Appendix D) and the Motivated Strategies for Learning Questionnaire (see Appendix E) are provided.

The population for this study was school children aged between year five and six who were enrolled in a metropolitan Australian school. Participants were a mix of both male and female students and ranged from 9 to 11 years of age. There were ten participants in this study. The participants had not been selected on academic achievement levels and had no diagnosed learning difficulties or disabilities known to the researcher. Therefore, a range of academic achievement levels may have existed between participants. However, to allow for an appropriate matching of all participants, each participant was given the Ravens IQ test.

It was anticipated this research would demonstrate the benefits of training working memory in order to improve working memory ability and motivation of students, the outcome of which was targeted at reducing rates of failure within the classroom.

Summary of the Research Process

During the course of this project I encountered many obstacles. The main barrier to this research was finding participants. Following the completion of the proposal, and after many months of meetings and negotiations with teachers and principals of various schools, my supervisor assisted in locating a public school that was very keen to participate in my project. However, before commencing data collection, the psychometric properties of the online working memory assessment tool were brought into question by the designers of the program and it was subsequently taken off line until rectifications could be made. This required me to delay my research temporarily. Unfortunately, when recommencing the project, I was starting again with having to locate participants. In order to make my project more appealing to teachers and principals I needed to reassess and adjust the data gathering methods. I found this to be necessary, as the complex nature of my project required a fairly heavy time commitment from the teacher and participants. The original proposal required the use of a control group, which demanded greater time and further added to the complexity of the project. This time commitment seemed to be a significant obstacle to their willingness to participant, regardless of their keen interest in the topic I was investigating. Adjustments were subsequently made so that participation in the project was not too disruptive to the classroom routine and ensured that time taken out of the classroom was kept to a minimum.

Following my adjustments, finding a school within the public sector was continuing to be difficult. I therefore approached a private school that was very willing to participate in my project. Working memory was of extreme interest to the school, especially to the teacher who consented to being involved in the project and several parents in the school community. It appeared that finally I was going to be able to gather the data I needed to complete my research. The initial assessment tasks for working memory and motivational strategies were completed. The working memory training program was then be due to commence following the term break.

However, during the term break, another issue was to arise. Although I was unaware, there had been a great deal of 'political' unrest going on within the school between the principal, teachers and parents. On returning from term break, I was informed by the office administrator that several parents had withdrawn their children from the school and several teachers had resigned, including the teacher who had consented to being involved in the project. This teacher's resignation also meant that I no longer had access to the student participants I had recruited. Following this information, I was only permitted to conduct correspondence via email through the school administrator, to the principal. I made several attempts to ascertain whether I was able to continue my project with the new class teacher. My emails were not returned. I resigned myself to the fact that this school was no longer willing to participate in my project. I sent a final email informing the principal that if the project no longer had permission to continue, I would need to contact the parents advising them of this. Such contact was not only an ethical obligation for me as a researcher, but it was also necessary, as many of the parents were interested in the progress of their child and in the final results of my thesis. I received no reply from the principal or school administrator.

Following this disheartening experience and with only six months left of candidature, I was set to abandon the project and my Master of Education research. I scheduled a meeting to discuss this with my supervisor. I was extremely frustrated at the seemingly impossible task of recruiting school-aged participants, especially in the public sector. My frustrations also extended to the lack of value that some principals, teachers and parents held for the research enterprise. As mentioned, many found the topic interesting and could see the potential benefits of the program but were unwilling to commit the time required for participation. Although I could understand schedules and commitments to the curriculum, I found it surprising that research which held potential benefits to student learning could be so swiftly disregarded. It seemed research was not a priority for these schools. I found myself questioning the fact that there was no system in place to assist research students in the recruitment of participants, especially in government schools.

Prior to meeting with my supervisor, I deliberated over the barriers I faced as a researcher. I began to question the research process and subsequently concluded that I could not be the only educational researcher experiencing major obstacles to their research. I wondered if

other researchers were experiencing difficulties in obtaining participants. I also wondered if professional academic researchers experienced significant difficulties with the research process. I began a brief inquiry into the topic of issues in educational research and found that this topic was indeed an area of concern. As a result, I approached the meeting with my supervisor no longer with the aim of discontinuing my research, but to discuss the possibility of re-focusing my research topic. This was a daunting task given that I was already in the data collection phase of my initial topic and hence with a new direction, I would be right back at the beginning. Despite the workload this would bring and the short time frame, I was keen to delve into this important area of educational research. With great encouragement from my supervisor, it was following this meeting that I then embarked on the current phase of my research project, issues in academic educational research.

In the following chapter the research aim, rationale and context for the current study are given. A brief outline is given connecting the researcher's experience discussed here in chapter one, to the current study.

CHAPTER TWO

PHASE TWO: INTRODUCTION

Chapter Overview

In this chapter, a brief outline of the aim of this study is given. This section provides a rationale and context for the current research, which outlines the concept of educational research and relevant issues in this field with particular focus on educational research within Australia. A brief summary of the researcher's personal experience with educational research issues is given, connecting these experiences to the current topic of investigation. Concluding this section, the significance of this research is discussed.

RESEARCH AIM

The aim of this study was to investigate the issues that exist for educational researchers working in the field of academic educational research. This study sought to determine the nature of these issues and how these issues may be addressed. This examination was concerned predominately with academic research, that which is conducted by universities, and as such the investigation was conducted through the perspectives of academic educational researchers.

RATIONALE AND CONTEXT

The practice of research has fast progressed to become a global enterprise. Knowledge production and the education of people has long been a high priority on an international scale. The demands for increased levels of literacy and numeracy globally, rise alongside what Brew and Lucas (2009, p. 6) describe as an, "insatiable demand for knowledge of every aspect of human existence generated through the media and sustained by governmental requirements for knowledge that will help to address the issues confronting nations." Education continues to remain one of these confronting issues. Education contributes to the progression of society and is concerned with the development of citizens who contribute in effective and productive ways. The aim of education should, therefore, not only be to provide knowledge, but also to promote a society based on values, rights, dignity, freedoms and social unity (Oliver and Shaver, cited in Larkins & McKenny, 1980). In addressing these

aims in education, the questions of what justifies effective education and how to improve educational processes are raised and form the basis of educational research. In Australia, similar views are also held, whereby educational research is seen not only to generate knowledge, but to also serve “Australia’s social, economic, and cultural priorities and needs” (Commonwealth of Australia [COA], 1992, p. x).

Universities have become the main institutions for knowledge generation through research, referred to as academic research. However, despite this high priority focus on education and educational research, there is much debate over the research work conducted in universities and the issues that surround this research work. The COA (1992) acknowledged that educational research requires a great deal of support if education is to improve. Yet, in Australia, of the total personnel resources in the field of education, research comprises less than one percent, although some evidence suggests that of this, 90 percent of personnel are university-based researchers (Department of Education, Youth and Training Affairs [DEYTA], 2000). Although these findings are dated, it indicates that lack of support has been an issue for some 25 years. Universities have a major responsibility in producing high quality research and effective researchers.

In order to conduct high quality research, it is necessary to first recognise the issues concerning research and the difficulties of conducting research specific to the field of education. Difficulties arise where society is demanding of information and yet is weary of the nature of this information, and where society changes faster than information can be generated (Brew & Lucas, 2009). This sentiment is certainly true of educational research. Research in education faces unique problems due to the complexities of human nature, the broad area that the field of education covers and the constantly evolving world in which education exists. Further problems, which arise in educational research, include the varied dichotomies that continue to endure and divide the discipline, such as pure versus applied research, qualitative versus quantitative methodologies and the often, opposing forces of academics and stakeholders. As suggested by the National Research Council [NRC], “What makes research scientific is not the motive for carrying it out, but the manner in which it is carried out” and suggest that this battle which exists serves to discredit education and “diminish its promise” (2002, p. 20). Therefore, it is important for educational researchers to remain focused on quality research, whilst embracing various methods and research

paradigms. A strong focus on knowledge generation works toward the building of a valuable knowledge base in the field of education and educational research.

With the Australian government placing greater demands for educational results, close scrutiny of educational research investigates the practices in this field. Several studies have been conducted both in Australia, as well as internationally, and serve to highlight issues in educational research. A report was issued by a review panel, appointed by the Australian Research Council (ARC), on a study that examined educational research in Australia. The report found several areas of concern, including practitioner perception of research as irrelevant, inadequate levels of funding, lack of government support for researchers, poorly coordinated research activities, and a lack of researcher training and dissemination (COA, 1992). Following this, in 1998, the Department of Education, Training and Youth Affairs (DETYA) together with the ARC, commissioned four studies to explore the impact of educational research in Australia. A summary of the findings included: a decline in the quality of research by Australian authors; research productivity was distributed unevenly among institutions and a large number of universities published very little research; international collaborations had increased over time, however, more regional collaborations were needed; research expenditure related directly to research output; a lack of organisation of research enterprise in educational research and a vast majority of research had a direct relevance to practice, although ineffective dissemination contributed to a lack of influence and use of the findings (DETYA, 1998).

Subsequently, in 2011 the Australian Association for Research in Education (AARE) and the Australian Council of Deans of Education (ACDE) established a plan designed to strengthen Australia's educational research capacity. The investigation collated data from 2010 and 2012 gathered by the government appointed assessment body known as the Excellence in Research for Australia (ERA), which was established in 2008, and from an in-depth survey of academic researchers. Findings from this project included: a lack of dissemination of research, a lack of engagement with the wider community, uneven distribution of research output, a high number of national collaborations, but limited international collaboration (Seddon et al., 2012). Most results reflected findings similar to those found in the 1992 and 1998 studies, indicating that pertinent issues have remained and hence there is a strong

need for continued analysis, understanding and strengthening of research enterprise, especially in the field of educational research.

In addition to the Australian government initiative, ERA, several other nations have established research assessment bodies in order to ascertain the nature and quality of research being conducted and these include the Research Excellence Framework in Britain and the New Zealand Performance Based Research Fund. When based on international comparisons, ERA rated Australia in 2010 with a standard of 2.2 (ranking below the world standard of 3) in educational research (Seddon et al., 2012) and subsequently, received a rating of 2.4 in 2012 and a rating just below 3.0 for 2015 (Cutter-Mackenzie & Renouf, 2017). These ratings highlight the need to examine what quality educational research is and the relevant issues researchers face in achieving quality research. In the assessment of what constitutes quality research, government measures include, determining the value of the research being funded, the impact research has toward academic endeavour and the wider community, the quality of postgraduate training and the accessibility of the research (Marchant, 2009).

Researcher's Personal Experience with Issues in Educational Research.

In the examination of issues faced by researchers in the field of education, it was important to reveal some insight into my own experiences in relation to research issues. As discussed in the research background at the beginning of this paper, the first phase of the researcher's project was subject to significant research barriers. It was important to make note of these barriers as they were greatly influential in the research activity and subsequently determined the reasons for the current topic under investigation.

One major research barrier was gaining access to and retaining participants. As discussed at the beginning of this paper, during the first phase of this project, finding schools willing to participate in the project was very difficult and prevented the majority of the data gathering.

Experiencing these barriers to research, I began to question the research process. I questioned why little help was given to research students in sourcing participants. I also felt that I surely could not be the only researcher to come up against barriers in their research.

This prompted me to begin an investigation into the topic of issues in academic educational research. I wanted to ascertain what issues and obstacles researchers working in this field were experiencing and how these barriers to research affected their research activity.

Significance of Study and Contribution to Knowledge

Through the examination of researchers' experiences, it was expected that this narrow focus would serve to highlight the current difficulties and issues researchers face in the field of educational research. Close scrutiny of research and literature to date indicated that the major issues encountered in educational research may be of a perpetual nature (Keeves, 1999; Lagemann & Shulman, 1999; DETYA, 2000). This sustained dilemma in education and educational research highlighted the importance of the current investigation in revealing possible reasons for this occurrence. Further to this, it was expected that this study would help to illuminate the implications that these issues present for education and research activity, as well as provide direction for improving future research.

Delimitations

This study adopted a radical interactionist approach (Athens, 2013). This approach examines social phenomena through an investigation of the roles of dominance and power and may examine this through perspectives of both sides of the power equation. This study was conducted with a focus on the personal experiences of educational researchers. Therefore, this investigation did not examine the phenomena from the perspectives of other stakeholders involved in educational research such as teachers and administrators within the school systems.

Summary

Having experienced significant barriers to research activity, and with prominent issues in educational research having been under investigation for some years, along with increasing pressures to provide high quality educational research, an analysis of the current circumstances faced by researchers working in this field was pertinent. The aim of the research reported in this study was to determine what current issues exist within the field of educational research. This study also sought to determine whether the issues faced by current researchers were a continuation of those reported in previous investigations. In

determining the current issues in educational research, this study then attempted to ascertain reasons for these issues and identify possible solutions. In the following chapter, what defines educational research is discussed and an analysis of the key issues relating to academic educational research is provided through a review of the literature.

CHAPTER THREE

LITERATURE REVIEW

The literature review is not available in this version of the thesis.

CHAPTER FOUR

RESEARCH DESIGN

Chapter Overview

Chapter Four outlines the method used and the philosophical paradigms behind this study. In this chapter the research design will be discussed and includes participants, materials, procedures and analysis. The philosophical framework that informed and guided this research was radical interactionism (Athens, 2013) and the methodology utilised was a qualitative approach, from the perspective of critical theory. In the following chapter the data and analysis are presented and in chapter six the interpretations are discussed.

Phase Two Aim and Research Questions

The aim of this phase was to investigate the issues that exist in the field of educational research, to determine the nature of these issues, and how these issues may be addressed. This investigation was concerned predominately with academic research, that which is conducted in universities.

This study sought to determine what current issues exist in both research as a profession and more specifically, research within the field of education. Through the literature review, educational research issues, including ethics, methodologies, design, dissemination and effectiveness, were examined both from a broad, overarching international context, as well as from national research issues within Australia. Subsequently, this study attempted a more in-depth perspective by looking at current research issues from a local context, through insights from educational researchers employed at a university in Western Australia. Conducting this study from the perspective of educational researchers was important, as a radical interactionism approach gives voice to participants with consideration to context of power and dominance relationships.

This phase was guided by the following questions:

1. What obstacles prevent researchers from conducting effective research projects in education?

2. What influencing factors contribute to the existence of current issues in educational research?
3. To what extent do educational researchers perceive they can exercise autonomy in their research?
4. Why do educational researchers believe educational research is important and therefore what influence do they have through their research?

Philosophical Framework

Taylor and Medina (2013) advocate the use of what they term as multi-paradigmatic research, whereby research quality and methods are drawn from multiple paradigms. They further state that such an approach is a powerful means of transformative research. The use of both a critical theory and radical interactionism approach was useful for this research because it gave a voice to participants whilst examining the emerging issues in educational research with consideration given to the political and ideological contexts within which the social phenomena exist.

Both positivist and interpretive approaches utilised in educational research are criticised for providing an incomplete view of social behaviour, as they fail to consider contexts in which research is conducted, such as political and ideological contexts (Cohen et al., 2018). As such, this study adopted a critical theory approach. Within a critical theory approach, political and ideological interests of individuals and groups are given importance in the research. Unlike the interpretive paradigm, critical theorists view hierarchies of 'context' and 'knowledge' as critical to the research and utilise the gained understandings to contribute to change and improvement within societies (McLaren & Giarelli, 1995). Taylor and Medina (2013) state that a critical theory paradigm enables a researcher to question whose interests are being served and that its purpose is to address and transform power imbalances within social structures, policies, beliefs and practices. Although not strictly emancipatory, this study does aim to investigate issues in educational research from the perspective of critical theory. Critical theory may attempt to address the idea that participants may be subject to the interests of others, but they may not necessarily be aware, or are accepting of the social situation, and so the legitimacy of this situation is brought into question through this approach. As such, giving participants a voice becomes

important for critical theory research. Cohen et al. (2018) state that critical theory is employed not only to interpret and understand, but also to address inequality and promote individual freedoms with a focus on groups, institutions and social arrangements. As in critical theory, this research considered the institutions and structures that are influential in educational research.

This study was also guided by the concepts of radical interactionism and will be discussed in relation to its origins from the theory of symbolic interactionism. Radical interactionism is a relative new theory with its development still in progress, therefore access to theoretical references was limited. The key concepts pertaining to radical interactionism are discussed, however, for a more extensive and detailed account, the relevant authors discussed within this framework would need to be further investigated.

In sociology, interaction is examined from the perspective of social actions and what drives these actions and it is this human interaction that helps construct social reality (Marvasti, 2004). Among this stream of thought are the theories of symbolic interactionism and the more recent, radical interactionism. Both symbolic and radical interactionism are concerned with naturalistic inquiry through observation of human action within the individual's natural environment (Cook, 2011). However, there are major points of differences between the two schools of thought.

In order to discuss the concepts of radical interactionism, which informed this study, its origins must first be examined, thereby providing justification for its use. Radical interactionism derives from symbolic interactionism. The theory of symbolic interactionism was formalised through the work of Mead in 1934 (Cohen et al., 2018) and further developed in conjunction with fellow sociologist Blumer (Athens, 2013). Symbolic interactionism seeks to understand the 'social act', what Mead described as 'sociality'. Sociality is "the idea that something affects, and is affected by, the physical or social systems it occupies" (Puddephatt, 2013, p. 58). Although symbolic interactionism does not have a set of common assumptions, Mead postulated three basic principles: human beings act towards things on the basis of the meanings they have for them; action results from a continuous process of meaning attribution and are in a constant state of change; and, that

this process takes place in a social context where individuals align their actions to those of others (Cohen et al. 2018).

However, there are several significant criticisms of symbolic interactionism. A major criticism is that while it acknowledges the role of domination and power in certain situations, these concepts are generally ignored and are "not positioned as a primary theoretical concern" (Puddephatt, 2013, p. 55). Therefore, another criticism is that symbolic interactionism operates from a perspective of romantic idealism. The failure of symbolic interactionism to examine the roles of dominance and power in all social interactions creates an idealistic and utopian view of reality (Athens, 2013). A third criticism, as suggested by Athens, is that this romantic idealism prevents objective research and hence the notion of 'value free' research within symbolic interactionism is false. Puddephatt, in summarising these criticisms, outlines the faults of symbolic interactionism as, bound by a tradition that is "a-structural, unscientific, a-historical, too subjective, blind to class, race, gender and related issues of power, is too conservative, and implicitly defends the status quo under the guise of value-neutrality" (p. 61).

In light of the 'failures' of symbolic interactionism, the sociologist Robert Park deviated from this train of thought, as he believed a greater emphasis should be placed on the concepts of dominance and power in social interactions (Athens, 2013). Subsequently and more recently, Athens added to Park's development of interaction theory and in 2007 coined the term 'radical interactionism' (Puddephatt, 2013). Within this contemporary account of interactionism, the notion of reality differs from that of symbolic interactionism. Mead's ontological assumption of sociality is replaced in Athens's radical interactionism by the ontological assumption of domination (Puddephatt, 2013). Park and Athens maintain that dominance and power permeate all social interactions and are essential components of human social existence (Athens, 2013). Athens outlines the basic principles of radical interactionism as the following: it presumes that domination and power are always of great importance for understanding human group life; it is mandatory for researchers to examine the role of dominance and power during social interaction; it stresses the impact of individuals' and groups' unstated assumptions on their interaction with one another; and, it discourages researchers falling into the trap of linguistic phenomenalism (2013). This last principle is defined by the idea that "nothing is said to exist for either an individual or group

until they designate it to themselves, thereby, consciously incorporating it as part of their 'definition of the situation'" (Athens, 2013, p. 15). However, Athens challenges this idea in saying that individuals are not always in situations which require them to "linguistically inform" themselves that power is being asserted over them, before acting, and that in certain situations this exercise of power upon an individual will be a "taken for granted" occurrence. He states, "After a while, we merely come to take for granted how our community or a group imposes its will on us" (Athens, p. 16). Therefore, it is important to bring awareness to situations in which this may occur in order to bring about change where necessary, such as to address inequality.

In discussing the role of domination, Athens (2013, p. 36) states that, "dominance is required for the completion of any human social act that has any degree of complexity" and that this occurs through the division of labour, with the assigning of roles. This division of labour requires the assigning of superordinate and subordinate roles and, therefore, there is a place for dominance in the construction of social action (Athens, 2013, p. 37). Park (cited in Athens, p. 9) believed that dominance and power are important elements in both cooperative and conflictive types of social interaction. He suggests that individuals will either accept or reject and challenge the dominance order respective to the type of interaction. Park further adds that individuals may not always be conscious of the domination and power plays that occur in their social life.

Adopting an approach of radical interactionism has methodological implications on the study of social interaction. Puddephatt (2013) suggests that if domination is to replace sociality as the ontological assumption in social inquiry, then domination must be examined and analysed in all levels of social action. In support of this, Marzano (2012) points out that ethnographers may gravitate toward investigating 'weaker' groups in society (from an ethical standpoint) in order to give such groups a place in society, but which has led to inadequate investigation into studying strong and powerful social groups. However, regardless of the research focus, both sides of the power relationship, between and within groups, should be examined. Athens suggests the same methodological procedures apply to both streams of interactionism, designed to guide a naturalistic approach to inquiry, which involve the steps of 'exploration' and 'inspection', to which Athens later added the step of 'confirmation' (Athens, 2013).

Radical Interactionism and the Practice of Science. Athens suggests that science and hence the practice of research, exist in institutions that are subject to competition and conflict (Puddephatt, 2013). Further to this, he purports that the scientific domain is defined in terms of hierarchies, where status and prestige are influential factors. It is also argued that within this field, domination and power relations will influence work practices and the direction of activities within academic institutions. Therefore, Park was also cognisant of the struggles of women and minority groups within the field of science education. Puddephatt suggests that a radical interactionist approach to the examination of science in academic institutions allows a close investigation into areas such as the status of disciplines, the power positions of stakeholders involved in research, the types of exchanges that take place between relevant parties, and how the experiences of individuals working in this field may change depending on the status of the leaders or institution in which they work. He further states that knowledge production and an individual's operating attitudes will be determined by the answers to such investigations.

The philosophical framework of radical interactionism is utilised in this study to gain an understanding of the complex nature of the interactions between stakeholders in educational research. It is these interactions that are pertinent to the issues of educational research. Using this framework, therefore, provides insights and guidance for the analysis of the issues that exist between the relevant stakeholders within the field of educational research. However, it should be noted that this study examines these issues from the perspective of only one of the relevant stakeholders, that being academic educational researchers. Taking a radical interactionist approach allows for an inspection of these relationships from the perspective that power and dominance are part of social interactions between individuals and groups. This approach is therefore useful when examining educational research issues and the influence of political and ideological perspectives within this field. This framework provides a premise for the nature of this inquiry and the methodological approaches used. From this philosophical perspective a qualitative approach is necessary in order to gain in-depth understandings of researchers' experiences and interactions, and the meanings they attribute to their experiences. The utilisation of this approach was important in helping to reveal insights into how issues in educational research affected the day to day research activities of the researchers.

Conceptual Framework

Model of Knowledge Generation and Research

This study was influenced by a user-centric model outlining the process of knowledge generation between relevant stakeholders. This model was chosen as it evolves around the concept of interaction.

The DETYA (2000) offer a user-centric model of research that demonstrates the interaction and interconnectedness between research, knowledge and the world (our environment) in which problems occur (see Figure 1). The authors draw attention to the 'currency' of ideas (which includes research, media and practice) and suggest that all these factors compete within a marketplace alongside economics and politics. Further to this, the media are acknowledged for their crucial role in knowledge dissemination and as a vital arena for educational debate. However, the DETYA note that the media are not often utilised or are even ignored by policy makers, practitioners and researchers. This user-centric model of research has helped inform this study because it articulates the connection between stakeholders in educational research as well as the connection of this research enterprise to the 'outside' world or wider community. This is important, as research is not an isolated enterprise, but one that is responsible and accountable to the global community in which it exists. The nature of these relationships becomes evident through the examination of educational research issues, as is conducted in this study.

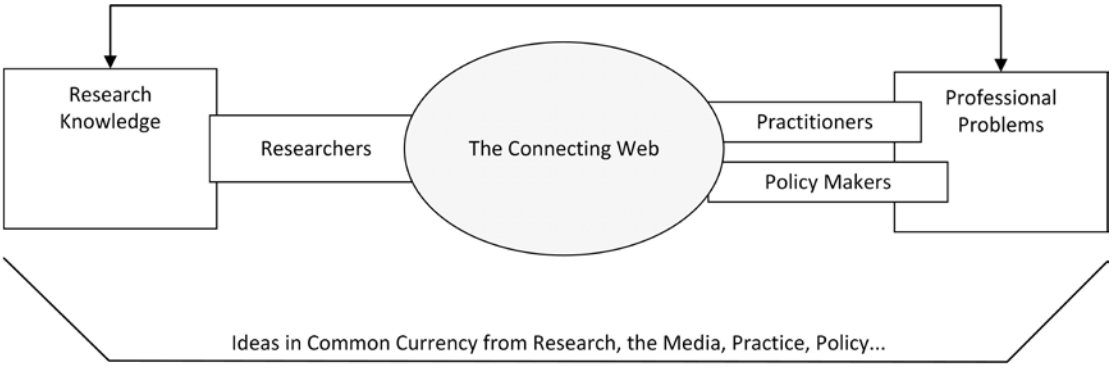

Figure 1. User-centric model of the impact of educational research (DETYA, 2000).

A Qualitative Approach

Qualitative research includes a wide range of techniques and purposes, designed to examine and interpret the world and actors within. As defined by Denzin and Lincoln (2005) qualitative research involves the observation of people within their natural settings, where researchers attempt to understand and interpret phenomena in relation to the meanings that people attribute to them. An important aspect of a qualitative approach, and one that is very relevant to this study, is the investigation of the quality of relationships, activities and situations (Basit, 2010, p. 16). Also relevant to this study is the focus of qualitative research to provide an in-depth understanding of actions, attitudes, intentions and behaviours, whilst giving a voice to the subjects under study and examining the issues that emerge from such a detailed investigation (Cohen, et al., 2018). With this purpose, qualitative research is designed to give an in-depth account of social phenomena rather than provide significant breadth to the study. Therefore, in this study a small number of participants were recruited in order to provide a detailed, close and personal account of the phenomena under investigation. In a qualitative approach, information is presented textually rather than numerically (Cohen, et al., 2018) and this study follows this guideline.

Rigour

Rigour is an important factor in qualitative analysis and demonstrates integrity of the research. Rigour refers to the quality and trustworthiness of the research and demonstrates the credibility and authenticity of qualitative research (Liamputtong, 2013). In qualitative research, credibility demonstrates that the realities constructed by participants have adequately been represented. Consequently, the participants must be “purposefully and carefully selected for their knowledge and unique characteristics” to ensue credible representation (Liamputtong, 2013, p. 25). This research used purposeful selection in order to gain participants who had the knowledge and experiences that would reveal insights into the phenomena being studied. In supporting the interpretations made in this research, quotations from participants were provided verbatim. As Baxter and Eyles (1997, p. 508) state, quotations are vital for “revealing how meanings are expressed in the respondents’ own words”.

Reflexivity is used to support the integrity of qualitative research. Reflexivity is defined as the process of reflecting on the self within the research process. The researcher's position and background will inevitably contribute to and influence the research. However, critical reflection will aim to prevent researcher bias through making the biases explicit (Liamputtong, 2013). It is important that the researcher be aware of any personal biases and to ensure that the data determine the results. As such, in this study the raw data were constantly referenced to and checked with a third party (university supervisors) in order to ensure that the themes and interpretations of data were accurate.

Method

Participants

There were 18 participants in Phase Two, who were between 30 and 70 years of age and held postgraduate qualifications. Participants were all employees of the same Western Australian metropolitan university and all worked within a School of Education. This group of participants was selected using purposive sampling as they were typical of the particular characteristics being sought, hence were the most likely to be in a position to respond to the questionnaire given. Purposive sampling is often utilised to acquire people who have specific knowledge or experiences about certain issues and, therefore, it provides greater depth to the study (Cohen, et al., 2018).

Materials

Materials for Phase Two included an initial introductory email and web-link for recruitment purposes and an online questionnaire. The questionnaire (see Appendix F) was administered via an online survey program called Survey Monkey. It was necessary to devise a questionnaire for the purposes of this phase and this comprised of a series of seven open-ended questions designed to prompt detailed responses. The questions were based around eliciting key information about vital concepts and issues of concern in educational research. To avoid researcher bias, the questions provided were constructed in a way so as to not suggest any particular response. The questions were designed to capture areas of general opinion (GO), professional judgment (PJ) and academic research interpretation (ARI).

The general opinion question was included to capture attitudes in regard to research in education. Participants were asked to, “Briefly describe why you believe research in education is important.”

The professional judgment questions were designed to capture aspects of participants’ professional research experience: for example, “What have been the major stumbling blocks you have encountered in trying to conduct your research?”

The academic research interpretation question was included to inquire about what changes researchers believe are needed in order to improve their professional research activities in the future. The question was, “What changes would you like to see take place in order to facilitate the implementation of effective research in education?”

Procedure

Recruitment. Recruitment was conducted through a metropolitan Western Australian based university. Participants were recruited from the School of Education within the university, via a third-party contact person. Potential participants were contacted through email and were provided with a brief description of the research project and a web-link to follow should they be interested in participating. Being employees of the university, it was important that the participants remained anonymous, especially due to the investigative nature of the research topic and therefore, possible sensitivity of the questions being asked. To provide anonymity, no personal details regarding age, gender or employment were required of the participants. However, the questionnaire was designed to target those previously or currently involved in educational research and, as a result, participants were solicited on that basis.

Through Survey Monkey, participants were provided with an information letter (see Appendix G) and were required to provide their consent (see Appendix H) before participating. The information letter gave a thorough description of the project and participants were advised that they were able to withdraw at any time. In completing the questionnaire, participants were required to answer a series of open-ended questions. The majority of respondents completed the questionnaire within two days of receiving the invitation to participate and responses were completed in an average of 6 minutes.

Although an obvious correlation, respondents who took longer to answer gave more detailed responses.

Analysis. Questionnaire transcripts were read, and textual analysis was performed through the process of open coding. Open-coding as defined by Cohen et al. (2018) is the earliest form of coding in the analysis phase and is more abstract than conceptual in the labels given, and where all data fit into the given categories.

This initial coding helped to reveal emerging codes from the text and these codes were descriptive in nature. These were then analysed further using axial coding. Cohen et al. (2018) describe axial coding as a group of open codes whose meaning, or concept, is the same and can be grouped through causal conditions, a phenomenon, context, intervening conditions, actions and interactions, and consequences. Through the process of axial coding, similar themes were grouped together and resulted in the development of themes that were of a conceptual nature. Axial coding reduced the number of codes to five, these were ascertained through the selection of the most supporting quotes. Selective coding was then utilised. As defined by Strauss and Corbin (1990), selective coding is used to identify the core category or theme, into which all other categorise are integrated. Through selective coding, research culture was identified as the core category through which all other codes are linked. These themes are discussed in the following chapter where the findings are presented.

Summary

This chapter outlined the method and philosophical framework that informed and guided this study. A description of the participants, materials, procedures and analysis was given. The following chapter presents the key themes identified in this study and the findings are discussed.

CHAPTER FIVE

FINDINGS

Chapter Overview

In this chapter, the key themes identified in the data from the Phase Two questionnaire are presented. A model illustrating the key sub-themes and core theme identified in the data is provided. Following this section, chapter six presents the analysis of the data and the interpretations of these key themes is discussed.

Structuring of Themes

Issues in educational research have been examined in previous literature, predominantly with the purpose of evaluating research methods, effectiveness of interventions and evaluation of quality, with the majority originating from government assessment perspectives. However, few studies have explored issues in educational research from the perspective of educational researchers and the experiences they encounter, with regard to these issues, in their day to day work within this field. The key issues found in this study as being significant barriers to research activity were ethics processes, collaboration, value of educational research and academic freedom. The term barriers was used as these issues were found to have a negative impact on research activity and output. A model representing the key issues in educational research was developed through analysis of the data and were found to link to a core theme of research culture (see Figure 2). In the next section, each component of the model will be discussed in the order in which it appears and considered further in the interpretation section of this study.

The data indicated a hierarchy of themes. Through the process of axial coding, the themes identified from the data were research purpose, ethics processes, collaboration, value of research and academic freedom. The overarching theme connecting all themes was identified as research culture. The following model provides an illustrative representation of these themes.

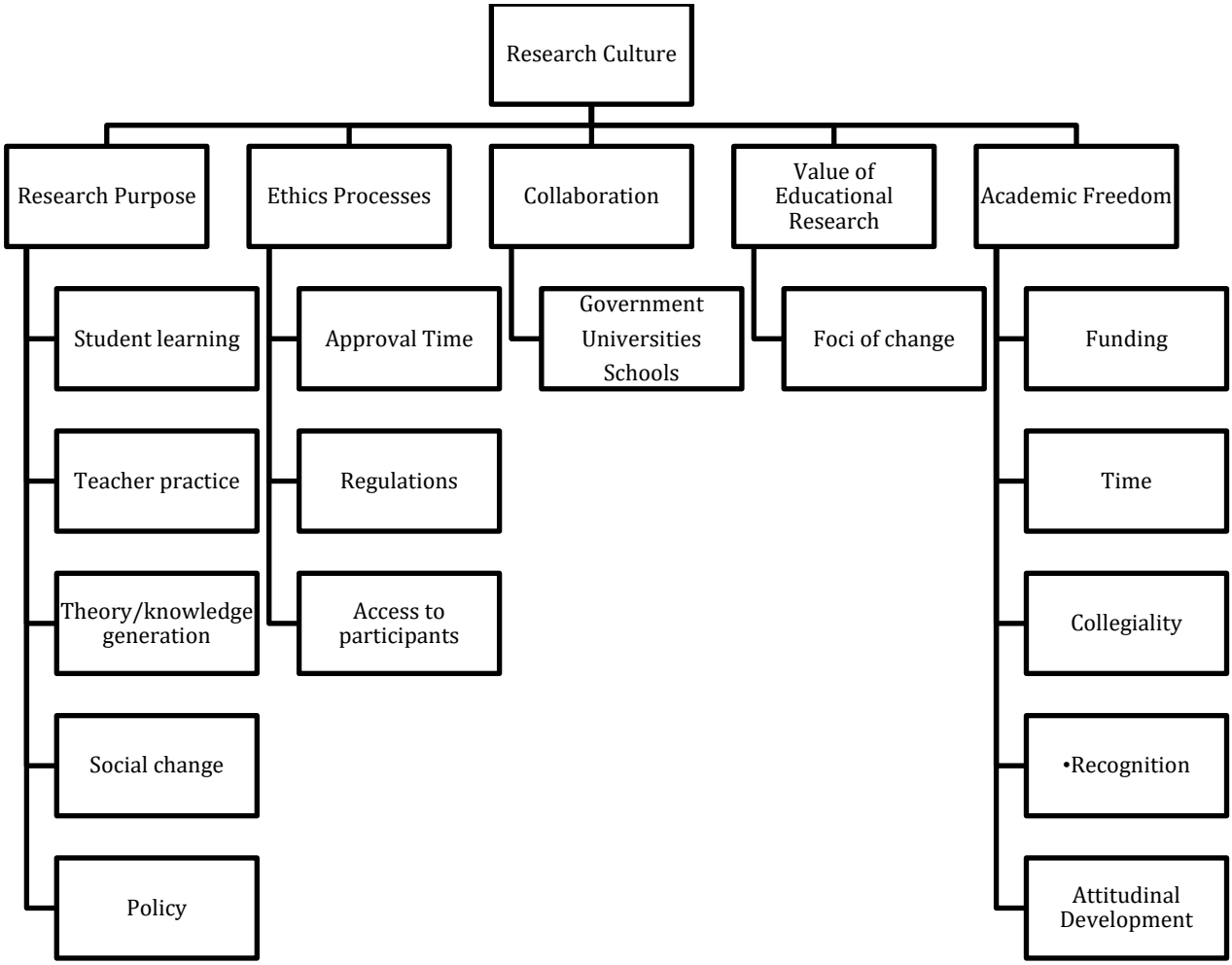

Figure 2. Model of Research Culture.

Research Purpose

One of the guiding questions of this study was to ascertain why educational researchers believe their research is important and, thus, determine what influence they perceive their research to have. Therefore, participants were asked to comment on why educational research is important. Responses revealed that participants believed that a positive influence could be made through educational research. Responses were categorised as (a) student learning, (b) teacher practice, (c) theory/knowledge generation, (d) social change, and (e) policy. Some responses indicated the importance of more than one factor.

The category of student learning included responses such as *"It can also enhance teaching practice which ultimately could lead to improved outcomes for students"* and *"to improve the education experience of students"* and *"We still understand so little about how the brain operates"*. These statements show that for some researchers the most important outcome is student learning.

In the second category of teacher practice, participants were more focused on their own outcomes through research. Participants stated that educational research was important, and responses included, *"Continue to improve practice based on what we learn about children and teaching and learning"* and *"so that practice can be based on evidence"* and *"It is vital the education initiatives be based upon evidence of best/most effective practice"*.

The category of knowledge generation included responses such as *"Research in education allows for the creation of a body of research"* and *"Essential to our building of knowledge in many areas"* and *"Research extends what is known. Research in education helps to construct and develop new knowledge"*. These statements suggest that for some researchers advancing theoretical knowledge and intellectual stimulation is an important directive for their research outcomes.

In the category of social change, responses included *"It is through education that we have the best opportunity to create a positive future for all"* and *"Equal opportunity for all students to learn"* and *"It is important because it impacts on the education of the next generation. Education is the key to breaking the cycle of social welfare issues"*. These

comments show the importance for some researchers of engaging in research for social transformation and the creation of equilibrium in society.

The category of policy included "*To construct and develop new knowledge which can lead to improved practice and policy development*" and *"Research is the only defensible basis for educational decision making".* Such comments indicate the importance, for some researchers, of the impact of educational research on government directives and national education initiatives when engaging in research.

These results indicated that researchers felt that educational research can have a positive influence on education through both practice-orientated and theory orientated research purposes. In addition, participants also believed that educational research can be utilised as a vital tool for creating social change and having an influence on society.

Barriers to research

Responses indicated that participants experienced significant barriers to their research, both in terms of quality and output. Barriers were identified as factors resulting in delays, incomplete or cancellation of projects. These barriers were categorised into ethics processes, collaboration, value of educational research, and academic freedom and are presented in the following section.

Ethics Processes

Statements from participants revealed that the process of gaining ethics approval was a significant barrier to their research. This was especially the case for research conducted in government schools. Some responses included: *"I have completed many research projects. The major stumbling block recently has been gaining approval to conduct research in [Education Department] schools", "getting the project approved by the [Education Department] is the biggest block"*, *"ethics committee, Department of Education"* and *"ethics committee, trying to get permission from Education Department compared to other school sectors".*

Participants recognised the importance of time in relation to a research project. Participants felt that the time taken to receive ethics approval greatly interfered with their research.

Time delays as a result of ethics processes were identified as contributing to incomplete data, delays or failure to complete a project and limiting the scope of the project. Responses included, *"[Education Department] approval process-timely and required many adjustments", "timeframes for ethics"* and *"time taken to receive ethics approval".*

Participants also identified ethics regulations, imposed by an education department, as greatly limiting their projects. Participants felt that the bureaucracy of an education department provided obstacles to their projects. The majority of participants felt that simpler and more efficient processes could be in place especially for less complex projects or projects not involving students. Responses included, *"a group of researchers from each uni should make up the ethics committee for the [Education Department]"* and *"quicker ethics approval – or a streamlined approach which is easily aligned"* and *"less restrictions on "simple" research that does not involve harmful outcomes for participants i.e. reduced ethics "red tape"*.

Access to participants and procedures were also identified as areas affected by ethics restrictions. Comments from participants included, *"reduced access to school students from [Education Department]" "types of questions that can be asked and to whom", "Education Department] placed limitations on who I could recruit for the study and how I was to recruit them"* and *"reduced access to cohorts of students".*

These comments from participants revealed the feelings of frustration and difficulty experienced in relation to ethics approvals. Regarding the effects on research activity, responses included, "*it's made finding participants very difficult", "slowed it down considerably", "not being able to collect the data I want"* and *"made it impossible".* While ethics is a necessary part of the research process, researcher reflexivity allows the researcher some degree of control and professional judgment in relation to the research project. Participants' comments regarding a more effective ethics process may imply a desire to gain an element of control over the ethics approval process, with the perception that researchers may have a greater understanding of educational research from a contextual point of view.

Collaboration

Collaboration was identified by participants as having a significant influence on their research activity. Comments revealed that a lack of collaboration was often a barrier to research productivity. Participants' comments indicated that research in schools could be more easily facilitated through co-operation from the [Education Department] and have more of an impact if positive relationships were to be established. In the category of collaboration, responses included, *"encourage more of a partnership model with the government sector"* and *"a more collaborative and ongoing relationship between the Department and universities to enable ongoing educational research in schools"* and *"closer ties between Universities and groups of schools"*.

Comments from participants suggested that with effective relationships and an amalgamation of efforts between educational researchers, schools and education departments, greater opportunities are created for research activity to take place. However, managing differences between collaborative partners, such as philosophies, agendas, priorities and methodologies, warrants greater levels of transparency and trust as well as shared values between parties. Key words used by participants to conceptualise collaborative relationships in research included, *"partnership" "open" "value" "reward"* and *"reciprocation"*. These concepts were used to describe what is currently needed for effective collaborative relationships. This indicates that participants view the current relationships between stakeholders and researchers as lacking in these characteristics.

Responses also revealed that a lack of collaboration made gaining access to participants in government schools difficult. Regarding access to participants, responses included*, "access to cohorts of students"* and *"[Education Department] more open to research being conducted in schools".* Responses indicated that research activity was hindered due to the difficulties in accessing participants and included *"made it impossible" and "some projects have not proceeded, others have been delayed".*

These statements show access to participants for research in government schools can often be limited and creates a barrier to research activity. Participants found that access to participants could prove difficult, including gaining access to schools as well as the number of participants. Responses from participants indicate that with a more collaborative

partnership between the researchers and the government sector, gaining access to government participants may be more easily facilitated.

Value of Educational Research

In this study the term value refers to the common beliefs, ideals and goals which help determine what is good and worthwhile in the practice of educational research. Participants perceived a lack of value for educational research existing in both the educational sector and the community. This perceived lack of value was seen as a barrier to research because it resulted in difficulties with completing data and participation in research.

Responses in the category of value of research included, *"2/9 case studies did not complete full 3 interviews"* and *"recruiting willing teachers for the study – while most seemed interested when handing out information sheets . . . not many followed through in giving up time for interviews"*. These responses may indicate that for some researchers, non-participation from others created barriers to the research project.

Participants perceived a lack of value for educational research existing in both the educational sector and the community. Responses show that for some researchers, resistance comes from those who are the beneficiaries of research as well as those working within the school community. Participants perceived a lack of value for research from parent and student school community and responses included, *"gaining parent/student consent", "specific children were not available for rounds of testing or just disappeared altogether"* and "*apathy by participants*". Participants also pointed to a perceived lack of value for research from teachers and principals, and comments included, *"parents, some teachers and principals",* "*teachers have been my main difficulty*" and "*teachers seeing the value of education [research]*". Although some of these barriers could also relate to factors such as lack of understanding of the research and lack of time due to busy schedules, an increased value for educational research could help combat these factors, creating more willingness to participate despite competing factors.

Foci of Change

Participants identified the need for ways of increasing the value of educational research. Comments revealed that participants indicated a need to create a better understanding of

research purposes. Responses included those such as, *"a broader appreciation of the value of research in the sector"* and *"perhaps a better culture in the field of Education that sees research as helpful, rather than an accountability measure"*.

Comments from participants indicated the need for a system or process whereby acknowledgement of engagement in research activity was given. Participants' comments indicated that increasing the value of educational research could be achieved through the use of rewards, incentives and recognition for practitioners who engage and participate in research activities. Some of these benefits for practitioners were conceptualised in terms of accreditations and extra DOTT time. Responses included, *"accreditation for carrying out or participating in research projects to raise awareness of its importance to change in education practices" and "an incentive from a department level to engage in research project e.g. extra DOTT allocation to attend interview".*

Statements from participants indicated that improving the value of research amongst practitioners was contingent on methods of positive reinforcement. However, despite participants of this study also noting a sense of apathy among parents and students, raising value in this community was not addressed.

Academic Freedom

Barriers to research may be related to restricted academic freedoms. This may suggest limitations are imposed due to differing agendas such as those from current political perspectives. Responses from participants revealed barriers to research that relate to academic freedom and were identified through a lack of support. Areas identified were funding, time, collegiality, recognition and attitudinal development.

Funding

Responses from participants in relation to funding indicated a definite lack of financial support. In this category responses included, "*mainly financial constraints*", *"funding improvements"* and "*funding is always an issue and impacts on the research process*". These responses show that support for research through funding, is not always available. A lack of financial support may suggest imposed limitations upon participants. This may indicate that

financial limitations are used as a way of placing restrictions on participants' academic freedoms.

Time

In the category of time, respondents felt that constraints due to competing responsibilities were a great barrier to their research activities. Participants felt that their time for research activity was limited due to other work-related responsibilities. Examples of responses included, *"not enough time to write up data"* and "*time limitations (e.g. needing teachers to test students because we don't have the time to do it but knowing that this compromises the results)".*

Time limitations may be indicative of limited academic freedom and were perceived by participants as a lack of support. Responses indicating that time restrictions were perceived as a lack of faculty support included, "*time constraints due to teaching loads make research virtually impossible*" and *"more support in terms of time available for research"* and *"competing priorities within the workload".*

Responses may indicate that high workloads are placed upon researchers as a measure of restriction to academic freedom. Demanding workloads limit the amount of time available for research activity and may serve to discourage certain research agendas or halt research activity altogether. It is important to note that a further restriction to time also comes from participants only being available during school hours and within school terms throughout the year.

For both funding and time restrictions, participants felt that their research output was affected. In relation to time restrictions comments revealed that this limitation interfered with research activity in terms of quality and output. Responses included, *"I feel my research could then be broader" and "missed chances to delve deeply into something I was working on".* Comments from participants regarding the effect of a lack of funding on their research included *"cannot undertake research"* and *"slowed it down"* and *"the research ends up only answering part of the question I was interested in".*

Collegiality

Responses indicated a lack of workplace culture and revealed that for some participants, opposition to research originated from colleagues in their workplace. Responses included, "*other researchers*", *"the ability to accept research that comes from a different philosophical perspective when it can be supported by research",* "*support; isolation; limited colleagues with similar interests*" and *"it has stalled any efforts at research, as has unethical behaviour on the part of colleagues e.g., stealing participants/collaboration partners".* Responses suggest that participants felt that some work colleagues were unsupportive and untrustworthy which presented barriers to their research activity. Responses also indicate that research efforts of some participants were not valued or respected. This type of workplace environment serves to alienate certain people from their community of practice.

Recognition

An unsupportive work environment was also identified through a lack of recognition. Responses included "*being discouraged from publishing after each chapter*", *"only got two papers out of all that hard work"* and *"we need to work more on a merit-based system"*. Responses indicate that for participants, being recognised for their research efforts was important.

Attitudinal Development

The term attitudinal development is used here to describe an individual's attitudes to work and incorporates thinking and motivation. The lack of a supportive workplace environment affected motivation, and this was seen as creating a barrier to research output. Motivation is an important factor of self-efficacy and, therefore, responses may indicate that this lack of support in the workplace has an effect on self-efficacy. Responses included, "*reduced output and motivation*" and "*made it [research] impossible*". Comments from participants identified frustrations and challenges related to external sources or factors. Some words and phrases used to describe their experiences in relation to research output, included, "*impossible*" and "*cannot*" and "*discouraged*" and "*lack of shared interests*". These negative connotations may indicate the effects on self-efficacy as well as feelings of a lack of control or autonomy over research activities.

Summary

The key themes identified in this study were: research purpose, ethics processes, collaboration, value of educational research and academic freedom. Research purpose for participants converged on a common goal of positive change. However, all other themes identified were revealed as presenting obstacles to research activity and output. Ethics processes were identified as creating obstacles through regulations and time delays. A lack of collaboration between stakeholders was revealed as negatively affecting research activity. A perceived lack of value for educational research was seen as a barrier to conducting research activity in schools. Academic freedom was seen to be a barrier to research activity and was recognised through a lack of funding, time constraints, lack of collegiality, lack of recognition and a need for attitudinal development. In the following chapter, these sub-themes are interpreted and further discussed in relation to the core theme.

CHAPTER SIX

INTERPRETATIONS

Chapter Overview

In this chapter, the results from the analysis are discussed. The sub-themes identified in the data are discussed, namely: research purpose, ethics processes, collaboration, value of educational research and academic freedom. In this study, the sub-themes were found to relate to a lack of research culture and are discussed in relation to this overarching theme.

RESEARCH CULTURE

Research culture was identified as the core theme in this study. Academic research culture is defined as "disciplinary or interdisciplinary ideas and values, particular kinds of expert knowledge and knowledge production, cultural practices and narratives (for instance how research is done, and how peer review is exercised), departmental sociability, other internal and external intellectual networks and learned societies" (Deem & Brehony, 2000, p. 158). This definition suggests that factors such as shared values, practices, knowledge management and collaborative networks are important aspects of a research culture. Factors found in this study that created barriers to research activity were found to align with the absence of the concepts noted in this definition.

Within an organisational or academic culture, there are communities of practice, such as the community of practice for education researchers. Communities of practice may expand across faculties, institutions and education sectors. This idea is supported by Greenwood and Levin (2011) who state that "all stakeholders form a community or practice, which is designed to solve issues through collaboration of thoughts, ideas and actions". These groups are subject to their own culture and are responsible for knowledge creation and knowledge sharing. Communities of practice are defined as a group whose members regularly engage in sharing and learning, based on their common interests (Lesser & Storck, 2001).

Wenger (1998) suggests that communities of practice are units of social learning, defined by competencies in three main components:

1. Members are bound by their understanding of what their community is about and are held accountable to the joint enterprise. Members must be competent in contributing to the community.
2. The community is constructed through mutual engagement: interaction, establishing norms and relationships. Members must be competent in their engagement with other community members and be a trusted member.
3. The community collectively produces a shared repertoire of communal resources and its members are competent in using the resources effectively and appropriately.

With this understanding of research culture and communities of practice, it becomes evident that it is vitally important to the research enterprise that those groups and organisations involved have a common understanding of the issues inherent in educational research. As such, a model of a community of practice in educational research (see Figure 3) is provided to illustrate this connection and the necessary common understanding of educational research issues. This model provides a simplified example of the types of organisations which may be involved in an educational research community of practice.

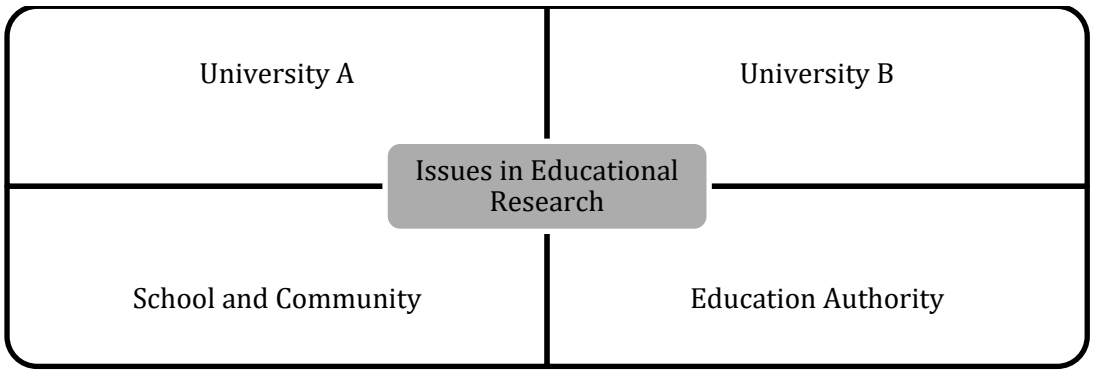

Figure 3. A Community of Practice in Educational Research.

Key themes identified in the data revealed the lack of an established community of practice culture among researchers in their workplace. Communities of practice are important elements of a research culture, as they help formulate effective knowledge management systems. Research culture impacts on knowledge management and without a well-developed research culture, effective knowledge management is difficult. Knowledge management is defined as “a planned, structured approach to manage the creation, sharing, harvesting and leveraging of knowledge” in an organisation (du Plessis, 2006, p. 5). A lack of

research culture was indicated through issues in knowledge management, and is discussed through the themes of research purpose, ethics processes, collaboration, value of research and academic freedom. These emerging themes are connected to one or more aspects of knowledge management, including knowledge production, knowledge transfer and knowledge dissemination.

Research Purpose

The data revealed a common agenda for research, that of social influence. However, although these data indicated that participants wanted to influence society, this was achieved through different research purposes including generating theory for education, influencing educational practice or creating social reform. The field of educational research is often criticised for its lack of cumulative research, and this may result from these varied purposes of research. As noted by Cumming (2010) national priorities and agendas for educational research in Australia are often difficult to identify. However, in meeting obligations to society, perhaps it is important that researchers be allowed academic freedom to address issues without restriction. Political constraints on social research may limit opportunities to gain understandings on all aspects of life (Sarantakos, 2013).

The data indicated differing preferences on knowledge production and the application of knowledge. Habermas (1972, cited in Cohen et al., 2018) suggests three cognitive interests for knowledge production: (a) prediction and control (b) understanding and interpretation and (c) emancipation and freedom. Although the end goal of the research for the participants in this study was social influence, most participants identified with research for theory generation and/or practice. Therefore, it could be argued that the majority of participants fall into the categories of: (a) technical and (b) practical interests in their purposes for educational research, including research for advancing current knowledge in the field of education and research for improving teaching and learning practices. Several participants, however, regarded educational research as moving beyond theoretical and practical knowledge generation, to a means of (c) social reform through what Mertens (2007) describes as a transformative paradigm. The implications of different research purposes will be reflected in how research is undertaken. Therefore, it is important that researchers are aware of their paradigm preference and the related philosophical

assumptions that guide their research as this will greatly influence their research purpose. Taylor and Medina (2013, p. 1) highlight the importance of understanding both existing and new educational research paradigms and how they may provide "powerful and insightful inquires that contribute to transforming the landscape of education". As academic researchers work within a cultural and global context, it is important for researchers to consider their academic duty to society when engaging in research, although this may not always align with the needs of the university in which they work. However, as stated by O'Shea et al. (2014), the increasing demands on universities to perform creates the need for universities to be reactive to the needs of society.

The data revealed that participants recognised that education exists within social and global contexts and plays a significant role in societal processes. This is significant when the concept of academic duty is considered. Participants appeared to have a sense of having to fulfil an academic duty. In doing so, research often combines personal interest with what Kennedy (1998) terms 'communitarian obligation'. This is also reflected in the study conducted by Sedden et al. (2012) which revealed that the top goals of academic researchers in education were advancing knowledge, personal intellectual stimulation and making a difference for practitioners. In addition, Taylor and Medina (2013) purport that embracing new research paradigms will enable researchers to fulfil an academic duty through being empowered to meet the ever-demanding needs of education within a rapidly globalising society. This is a relevant factor for developing a research culture, as research community members must be able to effectively contribute to developing a collective resource base in the joint enterprise of improving education and society.

Ethics Processes

The participants identified ethics processes as a major issue in educational research. Ethics and education are interconnected, as explained by Gregory (2003, p. 2), who states that ethics in education is concerned with the "moral issues arising out of the conduct of research" and that education is a moral enterprise by which we endeavour to positively transform individuals. With this moral obligation at the fore, one of the main purposes of ethics is to protect participants. However, as stated by the NAP, "These protections shape, and sometimes constrain, data collection" (2004, p. 38). This statement is reflected through

the experiences of the participants. Despite recognising the importance of ethics, participants felt that obtaining ethics approvals through the university ethics committee and to a much larger extent, education departments, provided a significant resistance to their research projects. This resistance was recognised in terms of approval time, imposed regulations and restriction of access to participants.

The key finding that ethics was perceived as a barrier, is validated by Wiles et al. (2006) who suggest that researcher reflexivity and social context are of greater importance in social science research than the increased bureaucracy and regulation of research. It may be argued that through the ethics process, control over what knowledge is produced and how this knowledge is generated, is being enforced. This argument is supported by Bassey (2007) who states that the more difficult and complex issues will not be addressed if governments alone are to determine what issues are researched and society will therefore gain no benefit, nor will it progress toward improvement. When viewed through the lens of radical interactionism, it is necessary for researchers to be aware that such power imbalances may exist as these understandings may help shape future research practices toward the aim of reducing imbalances in power. Researchers need to use this awareness to effectively establish working relationships with education departments in such a way that allows them to meet imposed obligations whilst being able to achieve their research goals and may require effective negotiation strategies. Effective relationships may also help in establishing a shared value for the output of the research, a factor that may be required in order to overcome ethics barriers.

The university ethics committee and the education departments will each be defined by, and subject to, their own organisational/departmental cultures and this will therefore influence how they operate. As du Plessis (2006) indicates, organisational culture will impact on knowledge management in either a positive or negative way. In addition, several authors offer caution against the increasing regulations of ethics, questioning whose reality we serve and what political ideologies are being reinforced (Dadds, 2005; Foskett, 2000). In this case, the data may indicate a need to question the ethics processes in relation to any bias that may exist in favour of research that supports current political agendas or other interests. Therefore, ethics committees must ensure that members do not participate in research reviews where there may be a conflict of interest (Speers & Bairy, 2013). In addition, as

certain research topics may support political ideologies, educational researchers need to be aware of these political priorities and agendas when choosing research topics for investigation.

Maintaining participant rights is of vital importance in the research process, however, this may sometimes come at the cost of making significant advancements in the field of educational research. As suggested by Wiles et al. (2006), adherence to strict rules may prevent significant and adequate data from being gathered. With government agendas often linking research to practice and policy, one main goal of educational research is to develop a greater understanding of actions in the field of education and also to be able to inform these actions, especially in relation to academic attainment or social equality. Therefore, research has the potential to greatly influence social change. Increased regulation and barriers created through ethics processes can significantly inhibit the ability to create social change through research, when those regulations move beyond protection of participants to a means of providing obstacles to who, what and how research is conducted.

Collaboration

Collaboration between key agents in the field of education was an important factor identified by participants in relation to research success. The lack of collaboration between education departments, universities and schools was perceived as a significant barrier and in great need of improvement if educational research is to be effective. In this context, it may be argued that participants are referring to 'collaborative research' when they use the term collaboration. Collaborative research is defined as research that is conducted with various contributing parties, with members being located in the same place or members who are more distant and thus, may involve cross disciplinary work, national and international institutions, end users or subjects of research, each with different levels of engagement (Easterby-Smith & Lyles, 2011).

Although the data identified collaboration as a key factor in educational research, this is a challenging task when groups involved have their own unique cultures in place: for example, departments of education may have risk management as a key policy, where issues including access, discrimination, ethics, fraud, safety, and social media may pose potential

risks which may negatively impact on their ability to meet objectives. Therefore, the priority of assessing and ascertaining the presence of such risk factors may take precedent over allowing research activities to go ahead. du Plessis (2006) suggests that culture is important for the sharing of knowledge, resources and values; however, developing and maintaining a culture (in this context a research culture) has its difficulties. These beliefs, practices and values must be shared by the majority, in order to create a strong research culture. The difficulties therefore arise not in changing an organisation's structure, but in changing the culture of individuals in order to create a united culture and must not be enforced but achieved through nurturing leadership strategies including mentoring and modelling effective behaviours and practices (Marchant, 2009).

Given that participants felt their research was restricted by outside agencies (such as education departments, ethics committees, and schools) this illustrates the difficulties inherent in establishing collaborative networks. The data revealed that outside agencies created obstacles to research activity through factors such as limiting access to participants, ethics regulations, and funding. Educational researchers often need to work closely with schools, however, the schools' research cultures are not inherently known to the researchers and might be vastly different. Therefore, collaborative networks are important in establishing common goals, in order to produce effective research that will be influential to society. The data also indicated a lack of established networks that cross faculties, institutions and geographical boundaries. This may suggest a lack of available platforms provided for researchers and therefore limited opportunities may be available that allow for such connections to occur. This is significant as networks provide opportunities for professional development and effective research production.

Although the need for increased collaboration between government, industry and university has been persistently identified as an issue in educational research, the current study indicates that the issue remains unresolved. There is often a discontinuity between knowledge generated through research and policy and practice. As found by Ferguson and Head (2015), policy makers felt there was little opportunity to develop relationships with researchers and that academic researchers made little effort to disseminate their research to policy-makers and practitioners. In addition, the authors also found that researchers felt that requirements to publish inhibited a policy and practitioner focus, that academic

systems did not adequately reward for dissemination to end users, and that there were insufficient forums and networks available to build relationships between researchers and policy-makers and practitioners. This study by Ferguson and Head shows the frustrations felt by both policy-makers and researchers with the lack of collaboration. Furthermore, it may be also be argued that this discontinuity remains due to governments and policy makers only utilising selected research outcomes. For example, policy makers may choose to focus on research outcomes that support their policies, whilst ignoring other potentially significant research. In this study, participants felt that this lack of collaboration was an obstacle to research activity, with a lack of government support for conducting research in the public- school system.

With the commercialism of knowledge production, differing priorities and agendas will influence the nature of collaboration. As stated by Chan and Fisher (2008) the 'state' is able to influence research directions through control of funding, and strategic priorities and policies and thus is a powerful external force that can greatly influence knowledge production. From a radical interactionist approach, the recognition and examination of the dominant position of the state in research activity helps shed light onto the type of collaborative relationships that currently exist. It could be argued that the ideal of creating collaborative networks meets the surmountable challenge of establishing a research culture, through the changing of values, adjusting priorities and ideologies of individuals within the related agencies. Therefore, establishing shared values for research outcomes may be a significant factor in helping to negate the need for the state to exercise control through funding and priorities.

Dadds (2005) suggests that the sharing of knowledge and creation of research communities needs to be facilitated through "professional conversation" and "learning communities", where all stakeholders are engaged and contribute to developing effective research activity. Therefore, establishing research communities may assist in restoring a balance of power. The concept of research needing to be a democratic process is supported by Greenwood and Levin (2011) who state that all stakeholders need to contribute to the thoughts, ideas and actions behind educational research. To date there has been no research that examines collaboration strategies between stakeholders in education; however, several authors (Cumming, 2010; Hanover, 2014; Marchant, 2009) point to how critical collaboration is in

educational research. This process of collaboration is critical in allowing all stakeholders a role in determining research agendas, values and relevance. Without a clear process of collaboration, educational research is missing a strong collective purpose, where research agendas may be monopolised by a single stakeholder.

Value of Educational Research

The data revealed a common perception that the value of educational research is lacking in stakeholders in education. Values are defined as important or lasting beliefs or ideals shared by the members of a culture about what is good and worthwhile and have a major influence on a person's behaviour and attitude (Chakrabarti & Lehtonen, 2015; Halstead & Taylor, 1995). The key finding that value for educational research was missing, suggests there may be varying factors affecting value for research. Such factors may include knowledge dissemination, research purpose, design and agenda, and the engagement of the school community.

Knowledge dissemination from research is a significant factor in establishing value for educational research in the school community. It is through the parents that the greatest influence toward education can be made (Fullan, 2001), therefore, communicating the value and benefits of educational research to parents and students could have a significant influence toward increasing value held for research. However, participants of this study failed to identify methods for increasing the value of educational research within the school community, including the practice of knowledge dissemination. Knowledge dissemination is an important factor in establishing community networks, participation and support for research. Through knowledge dissemination from research, a greater understanding of research may be gained as well as allow opportunities for contributions from the wider community. This may help to increase the value of educational research within the family and school community.

Research purpose, design and agenda may also affect value for educational research in the school community. As research requires a heavy time commitment from schools and participants, educational researchers must be aware of this in their research design, considering factors such as complexity, aims and time duration of the project. These are factors which may contribute to a lack of value or participation in research. It must be noted

that the lack of value for research in the school community was a perception of the participants of this study. Further investigation is needed to examine the concept of value for educational research from the perspectives of other stakeholders such as members of the school community.

Engagement of the school community in research is also a contributing factor that affects value held for educational research. Establishing strong networks between academic researchers and the educational community works to align common goals through engaging community members and helps in establishing value for research. Sorlin (2002) describes what he terms as the "social fabric" of a community and purports that a strong social fabric (social capital) comprises "social patterns and networks" that form a "dense type of cultural and communicative infrastructure" (p. 380). He suggests that it is this solidarity and strong social practice of networks and communication between academic practice, industry and community that is necessary for positive change in society. Therefore, educational research would greatly benefit from engaging community members in the process of ascertaining what problems are to be addressed through research and how research outcomes could best be utilised.

These findings suggest a shared responsibility for communicating the value of educational research. As instruments for both knowledge production and social development, universities have an academic and civic duty to integrate research into practitioner training. As stated by Cumming (2010, p. 16) generating a research culture should involve an integrated approach to teaching, learning and research where beginning teachers are supported in conducting low intensity action research. Integrating teaching and research would be a positive step in conveying the importance of educational research to beginning practitioners. However, this may be a difficult process in the current setting, as few universities in Western Australia offer research methods units in undergraduate teaching programs. Marchant (2009) also notes that research training and opportunities are missed with undergraduate education students. If teachers are not educated in research methods the valuable link they potentially provide between research and the community is lost and the potential of universities to gain researchers in education is lost, therefore limiting the capacity to increase research output and contribute to creating a cumulative knowledge base. It is indicated that graduates who have some initial exposure to research practices

have less difficulties in completing higher research degrees (Hanover, 2014). Training undergraduates who may then contribute to the educational research workforce is significant as studies found the academic education workforce to be ageing, with limited younger academics to replace those retiring and with few incentives for attracting and retaining staff (Cumming, 2010). These factors greatly affect the ability to produce high quality research, to engage effectively in collaborative efforts and therefore can be utilised to enhance the capacity to build value for educational research.

Academic researchers also have a responsibility to communicate research aims and outcomes, with the goal of instilling the value of research in the community. However, Seddon et al. (2012) found that public speaking to communicate research was not widely undertaken by educational researchers and suggested, therefore, that researchers gave priority to their research work rather than engaging with the wider communities. This suggests that researchers may conduct research for their own agendas, utilising the research findings from each project for their own purposes. This lack of dissemination is supported by Ferguson and Head (2015) who found that results from academic educational research was not easily accessible. Therefore, research conducted for purposes of gaining promotions, funding or publication may be highly valued by the researcher, but not necessarily to the wider educational community, as the research may not address their concerns or priorities. Establishing community networks and collaboration would help reach common goals for educational research, which may see a progression toward research activity that greater aligns academic research purpose with educational community needs. Through a collaborative network a process of monitoring and assessing research for value to the educational community may be established.

Academic Freedom

Participants in this study identified with a lack of faculty support for research activity, through imposed restrictions and which directly relates to academic freedom. Academic freedom is defined by one social scientist (cited in Akerlind, 2015, p. 31) as “the ability and integrity to conduct research for the public good without fear or favour. Academic freedom is the obligation to make social and political commentary”. The lack of academic freedom given to researchers may be used as a means to control knowledge production and direct

research agendas. Rather than practical limitations, reductions in active support, such as time and funding, may be regarded as indicators of reduced academic freedom even if direct interference is not present (Evans, 2007). In contrast, research productivity is facilitated through a supportive context in which goals, communication, collaboration, training and support are key instruments. As the Hanover (2014) study suggests, institutions that are research focused should provide faculty research support through leadership, training programs, recognition, collaboration, balanced teaching and research duties, and adequate pay. Academic freedom was identified through faculty support and was conceptualised by participants as funding, time, collegiality, recognition and attitudinal development. Each concept is discussed separately.

Funding

The data identified that participants experienced constraints to their research projects due to a lack of funding. Data revealed that a lack of funding created pressures on research activity through delays, progressing without funding, and reverting to action research. In building a research culture, the Hanover (2014) study revealed that one of the main institutional characteristics necessary for research productivity is access to resources, including funding. The Hanover study also recommended financial support through paid sabbaticals to be used as time for research, funded access to facilities and resources, and extra funding for beginning researchers. This is important for researchers, especially those working from a transformative paradigm, as a lack of funding may create a barrier to their primary purpose for research. Further investigation would be needed to determine the reasons for a lack of funding in the current study, but which may include, competing priorities within faculties and education departments, or researcher skills such as grant writing skills. Successful collaboration strategies may provide a means of attaining greater funding. Collaboration with stakeholders such as policy-makers and education departments, where common goals are addressed through research, may attract increased government funding. Open channels of communication between stakeholders, including schools, would allow common agendas to be prioritised, helping link research purpose to these common goals. This strategy may also work toward increasing value for educational research.

It should be noted that the Group of Eight (Go8), which is a coalition of the leading research-intensive Australian universities, receive the majority of government funding, and where a large portion is allocated to areas such as medical sciences, biological sciences and engineering (Cutter-Mackenzie & Renouf, 2017). Therefore, the research culture and knowledge management systems practiced within these disciplines and universities may be adopted by non-Go8 universities, in order to increase their allocated funding. However, recent funding policies and funding cuts to Australian universities (Conifer & McKinnon, 2018) indicate that many universities, particularly smaller and regional ones, will be further disadvantaged. In addition, within Go8 universities, male researchers receive a higher allocation of financial support (Cutter-Mackenzie & Renouf). This gender imbalance warrants further investigation and may explain why some participants in this study indicated fewer barriers to research.

Time

A theme identified in the data was a lack of support in relation to time available for research output. The data revealed that workloads and other non-research priorities were great deterrents for completing research projects. This suggests that participants are required to perform several roles and are under significant pressure to perform their non-research duties, with research perhaps reluctantly becoming a secondary priority. Similar findings were demonstrated by O'Reilly and Rendall (2007), whose study found the majority of researchers experienced time as a major obstacle to research due to workloads and administration duties. Academics in the field of education in Australia were also found to have the highest workloads as compared to other disciplines and with only four percent of staff in research only positions (Cumming, 2010).

The time constraints experienced by participants may also suggest that the participants may be working in a teaching-orientated environment and that strategies may not be in place to allow time for research activity. An increase of research only positions in the field of educational research, in conjunction with increased collaboration, may help address this barrier to research activity. Increased collaboration and the use of research teams could be of value in such circumstances, so as to increase research output. As a lack of collaboration was a theme identified in the data, research teams or partnerships would not only increase

collaborative work but may also help address the issue of time constraints as individuals move from independent work to team ventures. As Marchant (2009, para. 1) states, “unless work intensification and casualization of the Australian workforce is significantly reduced, there will still be a cohort of academics in certain institutions who do not have the time or opportunity to be research active”.

The lack of support through heavy workloads is also indicative of a lack of academic freedom. This assertion is supported by Akerlind (2015) who states that in Australian universities “more social science academics are experiencing reductions in academic freedom through indirect constraints associated with loss of time and loss of financial support for research than through direct constraints on their research” (p. 44). This is significant when viewed from the perspective of the role of universities in society and the duty of individual researchers to contribute to societal processes and developments.

Collegiality

The data indicated a desire for more collaboration between colleagues. Establishing networks, trust and research teams were identified by participants as important factors for effective research activity. However, the data revealed experiences of distrust, unethical behaviour from other colleagues and feelings of isolation. Yet, an important characteristic of research culture, is that colleagues establish a singularity of purpose (Hanover, 2014). Further to this, du Plessis (2006) states that cultivating a culture based on knowledge production and knowledge sharing is reliant upon the values of the individuals within the organisation or community of practice, with two key values being transparency and trust. The experiences of participants in this study may be indicative of the difficulties in working in a competitive market place where knowledge is capital. However, members of a community of practice must be able to engage in their community in a trustworthy manner (Wegner, 1998).

It may also be argued that where collaboration is replaced with competition, the research environment may encourage researchers to seek advantages in the workplace by methods that disrupt the community of practice. Limited funding may also contribute to researchers seeking advantages due to the need to compete for funding of research projects. Research funding under competitive grants does not cover all project costs and universities are left

with having to cover 85 cents for every dollar granted (amounting to a billion dollars in the year 2014) with further funding cuts reducing universities abilities to provide quality education and research (Universities Australia, 2017) as well as increasing competition. This may further indicate the vital need for collegiality and the adoption of research teams. Studies have shown the importance of developing collegiality and collaboration within faculties for the development of research culture (du Plessis, 2006; Hanover, 2014; Marchant, 2009) and that collaboration serves to dissolve distrust, competition, isolation and a "'knowledge is power' mindset" (du Plessis, 2006).

Recognition

The data identified a lack of recognition for research activity and that recognition was wanted for achievements made through research. Recognition is important in knowledge management and ensures members of the community of practice are valued for their contributions. du Plessis (2006) states that members of a community of practice are more willing to participate in knowledge sharing and creation if they are recognised for their intellectual capital. Interestingly, participants did not identify with the need for reward or incentives given to researchers involved in research activity, but only for practitioners (teachers) willing to engage in research. However, it is important to note that rewards given for research activity and success are seen as a highly valuable tool in creating a research culture (Cumming, 2010; Hanover, 2014). Strategies found to be successful include: institution-based journals, newsletters and emails, and faculty awards, with research also indicating that recognition strategies may also contribute to retaining productive and valuable faculty members (Xu, 2008).

Attitudinal Development

The data was indicative of a lack in attitudinal development for some researchers. Attitudinal development is defined by Evans as relating to an individual's development in their "thinking, thought processes and ideas, and their motivation" (2007, p. 4). Professional and attitudinal development are important aspects of developing a research culture. With the identification of multiple barriers to research and projects that had not reached completion, researcher capabilities become essential for coping with and adapting to changing situations within the research process. This is supported by Wegner (1998) who

suggests that members of a community of practice must be competent in contributing to the community in which they work. The data revealed the importance of adaptive strategies for overcoming stumbling blocks in their research activities. Control over action, self-regulation of thought processes, motivation, and affective and physiological states are aspects of self-efficacy as described by Bandura (1997). Self-efficacy, in addition to skill development, is important to the process of research activity. As Bandura states, “Effective functioning requires both skills and the efficacy beliefs to use them well” (p. 37). In establishing a research culture, researcher characteristics are important and the Hanover study (2014, p. 9) states that among these characteristics, “Motivation is a strong individual predictor of research productivity.” The Hanover study also indicates the importance of simultaneous projects, to prevent discouragement against projects that fail.

The results shown here indicate the importance of professional and attitudinal development and supportive networks to developing a research culture. Evans (2007) suggests a continual process of learning and professional development must be in place and asserts that situated learning is most beneficial. This type of learning may be implemented through mentor programs and small research teams where the opportunity to learn from others is provided and where an analysis of skills and capabilities may be monitored, assessed and developed.

The data may be suggestive of some researchers who possess better professional and attitudinal development. As there were a small number of participants who encountered no restrictions to their research, this may indicate that these researchers were more skilled in establishing networks, in professional and attitudinal practices or are more skilled in working in the ‘system’ of academic educational research. In addition, given that funding priorities are given to males, a gender bias may also be a factor in the lack of obstacles to their research activity. It may also be worth noting that a majority of postgraduate students in education emerge from teaching backgrounds (Cumming, 2010) and, therefore, it may prove beneficial to incorporate introductory research skills into undergraduate teaching courses. However, this was not addressed in the current study and the use of such strategies would need further investigation.

Summary

The research issues identified by the participants form part of a knowledge management system and is impacted by research culture. The issues and difficulties, as experienced by the participants in this study, were indicative of a lack of a research culture, both within the university and the wider community (including government, schools and school communities). Participants identified educational research issues common to those in previous literature, including ethics processes, collaboration between stakeholders, purposes of educational research, value in research activity, and academic freedom. These issues in educational research have been a focal point for some time, as indicated in prior literature. Therefore, the lack of change or improvement concerning these issues may indicate the difficulty inherent in developing measures to overcome obstacles in educational researcher and in advancing research activity. This may also indicate that implementing solutions has been difficult. This study indicates the importance of addressing current educational research issues from an approach focused on developing a research culture, which may provide more significant and effective changes to research activity. The following chapter presents the conclusions based on these interpretations, the theoretical and practical implications of this study, and recommendations for future practice in educational research are provided.

CHAPTER SEVEN

CONCLUSIONS

Chapter Overview

In this chapter, a summary of the research aims and questions is presented. Following this summary, the practical and theoretical implications of the current research are discussed. Recommendations are then presented based on the findings of this study. Finally, the limitations of the current study are presented and, concluding this chapter, suggestions for future research.

Phase Two Summary

This study was designed to investigate issues in academic educational research and the implications these have toward research in the related field. A second aim of this study was to determine whether the issues identified through this study aligned with those of prior and current research, and thus determine whether the issues have been of a perpetual nature throughout the history of educational research. This study also attempted to understand how these research issues impact on academic education researchers and their research practices. Through conclusions gleaned from this analysis, it may be argued that these issues result from an absence of research culture. Although these obstacles to research activity need to be addressed, the Hanover (2014) report supports the contention of this study in the suggestion that removing these obstacles is not necessarily the answer, but instead, a solution is the creation of a research culture.

The aim of this study was guided by the following questions:

1. What obstacles prevent researchers from conducting effective research projects?
2. What influencing factors contribute to the existence of certain issues in educational research?
3. To what extent do educational researchers believe they can exercise autonomy in their research?
4. Why do educational researchers believe educational research is important and therefore what influence do they have through their research?

In response to the first question, the study revealed the existence of obstacles that hindered research activity and had a significant impact on the effectiveness of research. The obstacles to research activity were identified as ethics processes; lack of collaboration and collaborative research; a lack of value for educational research in the academic, government and community sectors; no defined community of practice among researchers; and, a lack of research culture. While theoretical, practical and transformative paradigms were identified as factors or motives influencing research activity, these were not identified as obstacles to research. However, although these were not implicitly identified as obstacles to research, the paradigm choice will inevitably be prone to certain barriers. Paradigm choices provide a foundation for the intended research and therefore, will be chosen depending on the topic and purpose of the research. A paradigm choice will also determine what research design is employed, how inferences from data are made, and the methodologies utilised. Each paradigm with therefore have advantages and disadvantages to their perspectives and approaches.

In response to the second question, the dominant factor revealed as being an obstacle to effective research, from which all other obstacles emerged, was research culture. The lack of an established research culture was determined as the significant and influencing factor in the existence of educational research issues. As such, the absence of a research culture was found to impact all aspects of knowledge management, including knowledge production, knowledge transfer and knowledge dissemination.

In response to the third question, this study revealed that researchers perceived their research to be contingent on external factors including ethics, government regulations and influences, other researchers, faculty support and community support. This finding suggested that researchers felt they had limited power in exercising control over their research activity.

In relation to the fourth question, it was revealed that the purpose and motivation for research activity derived from a common desire to create positive social change. This value for positive change through research agendas came from the different perspectives of theoretical, practical and transformative paradigms. However, this study also revealed that research activity was restricted and suggested that academic freedom may be limited.

Therefore, although participants indicated the importance of having a positive influence through social change, this sense of fulfilling an academic duty and social responsibility may not always be reached.

Implications

Practical Implications for Educational Research

Based on the findings of this study, implications and recommendations are made for educational researchers, academic institutions engaged in educational research and education policy makers. Issues in academic educational research affect knowledge management, which includes production, transfer and dissemination of knowledge. As such, the discussed implications have been separated into the categories of knowledge production, knowledge transfer, and knowledge dissemination. This provides for a clearer understanding of how the recommendations may benefit each of these areas and hence contribute to the building of a research culture.

Facilitating Knowledge Production

A re-evaluation of ethics processes. One area found to significantly impact on knowledge production was ethics' processes. The current study indicated that ethics committees greatly affect what research was conducted, how it was conducted and with whom. Participants felt that the current ethics processes often provided more of a barrier than a protective element to research activity. This finding suggests significant education departmental control over research activity and hence a powerful decision maker in determining what knowledge is produced.

In an effort to create a more comprehensive model, it may be necessary to re-assess the structure of the research ethics committees, within both universities and education departments. One solution is the inclusion of notable academic researchers that may help provide flexibility within the approval process. Researchers, as contributing members to ethics committees, may provide for a more flexible process in which context and research understandings and experience become valued elements of the decision-making process. In addition, stakeholders from the school community may also contribute to the ethics process as members of the ethics committee. This would be a powerful strategy in giving a voice to

participants, as they are the central factor in research. As including others in the ethics processes would help provide greater insight and depth of information regarding elements such as context, participants and purpose, this contribution may also help to mitigate risk in the research process. As stated by Speers and Bairy (2013), there is a shared responsibility for ensuring the protection of participants, and therefore ethics committees will be most effective when they can work collaboratively with researchers and there are open channels of communication. Other strategies may include informal discussions during the ethics approval process, in order to gain further information into the research project, in an aim to avoid lengthy time delays as caused by lengthy submissions and resubmissions of applications. This is significant to developing a research culture in that a decentralised model may help facilitate research outputs through a shared responsibility for the protection of human rights, with value given to researchers' contributions to the process.

Building bridges and closing the gap. A finding of this research was that communication and collaboration between researchers, government and industry was lacking. This is significant as these factors were found to be critical to completing a research project. This suggests that developing partnership models in order to facilitate knowledge production may increase research output and quality.

Based on this finding, it may be beneficial to introduce a team to serve as 'mediator' whose purpose is to keep open channels of communication, conduct negotiations between sectors and help facilitate research activity. This strategy would comprise of one mediation group in each Australian state, to work across their state's universities, and members of these teams may include researchers (current or past), government agents and representatives from the teaching/school community. Mediation groups would be significant because they would provide a gateway into each sector, allowing closer relationships to develop. This strategy would provide more cohesion and a means of bridging the gap between research, policy and practice. In addition, such a strategy may work towards addressing any political bias in relation to research activity.

In the aim of developing a research culture, academic and industry collaboration is a significant factor in creating value and acceptance of research activity. Participants of this study perceived that a lack of value for research exists within the school community and

that this created a barrier to research and, therefore, knowledge production. As noted in the discussion section, this lack of value from the school community was a perception of participants and there may be other factors contributing to the formation of this perception. However, in the aim of increasing value held for educational research, teachers may provide a direct link between academic research and the school community. Teachers may be the catalyst needed for instigating change in values and attitudes toward research, as they are directly involved with all members of the school community including parents and students. To effectively encourage an increased value for research, it may be necessary for undergraduate teachers to complete some research units such as research methodologies and statistics, skills they should be encouraged to use through action research. Action research would help teachers bring research into classrooms as well as provide opportunities to communicate research outcomes and benefits to the school community with the aim of increasing value for research. Also, developing networks with teachers during undergraduate teaching degrees should be encouraged and would help to foster strong relationships that could be drawn upon in future research endeavours. As this study did not investigate the value of educational research from the perspectives of the school community, further research is needed to understand the perspectives of the teachers who are subject to the research process.

Collegiality. The current research indicated that educational researchers are aware of the need to increase collaboration across the research community; however, a lack of collaboration amongst researchers was identified as a barrier to research output and contributed to factors including isolation, unethical behaviour, and competitiveness. Such workplace conditions were linked to a lack of research culture. This finding was interpreted through the lens of radical interactionism theory and du Plessis' (2006) concepts of organisational culture, where both theorise that under certain conditions there exists a power play and competitiveness rather than collaboration.

The lack of collegiality may be addressed through establishing a culture where collaboration and sharing of knowledge becomes valued by researchers and rewarded by academic institutions. This may be achieved through implementing effective research models. One model preferred by Marchant (2009) is the multi-core model (multiple collaborative centralised groups within the university) over more individualised models such as star

performers (key researchers with a priority in their own interests) and the independent centralised model (a core group with some working independently). The multi-core model is based on researchers promoting their activities and encouraging others to join the community. Findings from the current study suggest it may be useful to adopt such a multi–core model.

However, a multi-core model may prove to be a challenging task where the organisational culture is a barrier to research activity and where promotion is based on star performance. These barriers may be described as systemic barriers. In support of this argument du Plessis (2006) asserts that changing the culture of an organisation is difficult and proposes that changes begin at the individual level. Therefore, there are benefits to adopting a multi-core model, where all researchers can be part of the community of practice. Faculties would need to provide platforms and opportunities for educational researchers to communicate with other researchers and form extended professional networks, both within their faculty and across institution(s). Faculties may need to support such collaborative work through establishing expected behaviours and benchmarks for research staff, as well as incentives and rewards for research success. The aim of such collaborative research would be to increase research quality and output through learned strategies, broader knowledge gains and skill development.

While several authors suggest that educational research must develop as a stand-alone discipline (Ball & Forzani, 2007; Bassey, 2007), it may be argued, however, that with education crossing all aspects of society and human development, this notion is both unfeasible and inadvisable. Therefore, collaboration across disciplines should also be encouraged. This assertion is supported by du Plessis (2006) who states that knowledge does not function in isolation from other disciplines within an organisation. Collaboration across disciplines may also be a significant factor in creating greater opportunities toward developing a cumulative knowledge base within education.

Institutional and faculty support. This study revealed a lack of support through limited funding created a barrier to research activity. This is important as funding has been identified as a significant factor in building a research culture (Hanover, 2014). In light of the funding priorities to Go8 universities, and the findings of the current research, this study

suggests the need for non-Go8 universities to form partnership models with Go8 universities. Such partnerships may help impart strategies and research skills to increase research quality. Warranted, Go8 universities may be reluctant to engage in such a partnership. However, government incentives could be utilised to encourage such collaboration, including promotion of the Go8 universities through public acknowledgement of collaborative efforts, as well as governments actively utilising the research outcomes generated from collaborative efforts. In addition, more networks between universities and outside research agencies could be established to help place postgraduate research students in educational research careers outside of the university. With limited funds available from governments and universities, research agencies and industry groups offer a viable alternative for educational researchers. This alternative allows further development of research careers, where researchers can continue to add to the knowledge base within education and where a greater opportunity exists for obtaining funding.

When considering the academic duty of universities and research for the public good, it is ethical for all universities to adopt a collaborative approach. These arguments are supported by O'Shea et al. who state that with research being increasingly used to benefit society, there should be a "valorisation of intellectual property", and that universities need to adopt collaborative approaches, have a civic duty to engage with external partners, and should be "supporting new, more flexible approaches to intellectual inquiry-methodology based on the development of strong and genuine knowledge partnerships" (2014, pp. 37-38). Collaborative models may help non-Go8 universities in building a research culture, thus increasing their research capabilities and, therefore, attract more funding. However, the continuing reduction in financial support for educational research may indeed support the notion that knowledge production is controlled through governments that want to prioritise certain agendas and policies. In addition, Go8 universities may potentially risk losing government funding allocations if such collaborations increase non-Go8 university research profiles, which then attract more research grants.

This study also revealed high workload demands and other academic duties restricted research outputs. This suggests that faculties need to support researchers through implementing strategies that create a balance between research activity and academic workloads, therefore allowing greater academic freedom. Implementations may include

allocating leave dedicated for research, reduced work/teaching duties for research-orientated staff, and the employment of full-time researchers. Full-time researchers are needed in order to attain a 'critical mass' within the field of education. This is important because critical mass allows for a cumulative knowledge base to develop. Such strategies would allow the field of education to advance along the continuum towards a research-orientated discipline, whilst still honouring its origins and commitment to producing high quality teachers. In addition, greater support through reduced workloads and research only positions increases academic freedom and the ability for researchers to fulfil what Akerlind (2015) describes as 'academic responsibility' and their duty of service to society. However, given the recent funding cuts to Australian universities (Conifer & McKinnon, 2018) such strategies will prove difficult to implement. Therefore, more dynamic or flexible workplace strategies may be needed to help reduce workloads of academic staff. One alternative is for doctoral students to work in research teams on research projects developed with their supervisors. This strategy could help academic staff deal with demanding workloads by having assistance with research projects from doctoral students. This alternative would also help to foster shared interests, values and agendas for educational research.

Developing research culture through knowledge transfer

The building of a research culture may be facilitated through the formation of communities of practice. Successful communities of practice require members to be able to make valuable contributions and for members to be valued by others (du Plessis, 2006; Evans, 2007; Marchant, 2009). Results of this study suggested a clear absence of a community of practice. This may be addressed through faculty leadership providing increased opportunities for researchers to engage as community members, to develop research capabilities and increase motivation through the process of knowledge transfer. With the increasing lack of time and funding, other incentives and rewards may need to be offered for mentoring researchers and other strategies for skills transfer. In the context of this study, the term 'knowledge transfer' refers to the transfer of academic research skills from one researcher to another.

With this study revealing that participants perceived research output and, therefore, research success as being contingent mainly on external factors, this draws attention to the

importance of individual researcher characteristics. Whilst these obstacles to research exist, results indicate the necessity for assisting researchers in overcoming obstacles, through the development of skills and capabilities, including encouraging and supporting innovation and adaptability, and through generating capabilities for self-efficacy.

Therefore, provisions need to be in place for the professional development of researchers. As this increases the demand for time and money, it may be worthwhile to consider professional development as an investment toward creating a productive research workforce. An important part of professional development is ascertaining strengths and weaknesses of community members. du Plessis (2006) supports this contention, stating that skills of community members must be developed as well as utilised as a resource where experts may be available to others. Skill development may be achieved through strategies of meta-analysis and self-reflection, as well as a skills assessment system, which allows for cross checking by peers, mentors or faculty leaders. Similar systems may currently exist for student researchers however, an adapted model would be a valuable tool for academic research staff.

Professional learning may also be encouraged through scheduled discussion forums (including online forums), research teams and mentor systems. Research teams are often used in other disciplines such as medicine and science, however, such practices are not standard in educational research. This provides a disadvantage for researchers, as there is no opportunity for the transfer of skills from more experienced researchers to others. This assertion is supported by Sorlin (2002, p. 379) who discusses the importance of habitus, where “a way of doing things” or learned behaviours are a stronger factor in learning than simply knowing the facts. This allows greater opportunity for success and therefore may increase motivational behaviour.

International collaborations also may be of value in knowledge transfer. Often utilised in other disciplines, types of exchange programs may be considered for undergraduate and research degrees in the field of education. Implementation of such programs run in conjunction with counties where high standards of education and proven research quality are attained, may be highly beneficial in professional development.

Recognition is also an important part of research culture (du Plessis, 2006). This study revealed recognition for success was lacking in the workplace. Faculty support may be provided through a system of recognition and acknowledgement for research achievements and would be an effective motivational tool. Recognition may be in the form of financial incentives, internal publications of work, or other forms of merits and rewards. Strategies for enhancing communities of practice would help facilitate the development of a research culture as they work towards influencing individual values, attitudes and beliefs in the practice of research.

Facilitating research culture through knowledge dissemination

As this study revealed a perceived lack of value for educational research as a significant barrier to research output, knowledge dissemination to the public domain is an important area to address. Communicating research purposes, outcomes and future benefits would help generate deeper, more informed understandings of educational research. In addition, conducting manageable research projects in terms of complexity, time, aims and size, may be beneficial in making the research more adoptable by the school community. In order to instigate changes in attitudes, values and beliefs amongst school and public communities, open communication through discussion forums could be utilised. Strategies such as mediation groups, as previously mentioned, could facilitate this process. Open discussions would also allow for all stakeholders such as researchers, policy-makers, practitioners and parents to jointly identify educational concerns that may be investigated through future research. Mediation groups and open discussions between stakeholders would also allow opportunities for co-creation of research. This would see the formulations of research problems, the defining of important research questions, and developing the most effective pathways for utilisation of research outcomes as a joint venture. In other words, all stakeholders would be involved in co-design, co-production and co-dissemination of educational research.

The media are another valuable dissemination tool that are possibly not being utilised to their full potential. Faculties and researchers should look to a wider use of media for disseminating theoretical and practical research implications in the aim of creating public awareness and increased value of educational research. Benefits of research especially in

relation to areas such as student learning, emotional and social wellbeing, and civics and citizenship for example, should be highlighted so that long-term benefits of research to students may be envisaged.

Whilst the idea of utilising media may not be new, translating this into practice may be more difficult especially for beginner researchers. Support from the university communications and media departments could be provided in accessing or establishing media networks.

Theoretical Implications

Building a research culture. The results of this study contribute to the building of a research culture within the field of educational research. These contributions include developing a culture of research through utilisation and adjustment of knowledge management processes involving knowledge production, knowledge transfer and knowledge dissemination. Research culture is defined as, "shared values, assumptions, beliefs, rituals and other forms of behaviour whose central focus is the acceptance and recognition of research practice and output as valued, worthwhile and pre-eminent activity" (Evans, 2007). The concepts identified through this definition were also recognised in this current study as important to educational research, however, were found to be lacking. Therefore, it is necessary to address the building of a research culture around the concepts of value, recognition and acceptance of research activity. This study reveals insights into the current university environment of the participants and offers recommendations toward building a research culture, the main aim of which is to increase the quality of research output, with intended gains to theory, practice, policy and social development within education.

This study proposes several models of research culture based on the concept of interaction. The models were constructed using the emerging concepts from this study. The model illustrating the communities of practice (see figure 3) embodies characteristics of du Plessis' (2006) concepts of knowledge management.

Paradigm choice. This study revealed the participants' awareness of the effects of educational research for creating positive social change. However, few identified with issues of social equality. In the argument that universities and academic researchers have an

academic duty and responsibility to society, education can be a powerful tool in the social fabric of communities. Therefore, society may benefit from a greater number of educational researchers adopting a transformative paradigm more often in research projects, the application of which is well suited to the mixed methods approach (Mertens, 2007). As many educational researchers currently utilise a mixed methods approach, due to the increased validity it may provide to research (Johnson, Onwuegbuzie, & Turner, 2007), this approach can therefore be utilised as a valuable platform for the application of a transformative paradigm where issues of power and privilege may be reliable assessed in a research context.

Recommendations

Based on the conclusions in the previous section that outline the implications for educational research, the following recommendations have been made.

Given the key issues found pertinent to academic educational research in this study, it is necessary to understand the relationships, collaborations and skills necessary for developing a research culture which may provide a solution to addressing these issues. Therefore, the following recommendation is made:

1. Utilise the model of research culture as a guide for developing the relationships, interactions and skills necessary for building a research culture.

Ethics was found to be a major barrier to research output. Therefore, the following recommendation is made:

2. Re-evaluate the current ethics processes and adopt a more flexible approach that involves researchers and stakeholders from the school communities as contributing members in the ethics committees. In addition, adopting a more flexible approach that involves informal discussions with researchers throughout the research process to help avoid lengthy time delays caused by re-submissions for approvals.

A lack of collaboration between government departments, schools and academic researchers was a key obstacle to research activity. With this finding, the following recommendation is made:

3. Develop strong and effective collaborations between government, industry and academic institutions through use of a mediator.

A key finding in this study was a lack of collegiality among researchers. Therefore, the following recommendation is made:

4. Foster national and international networks and partnerships by providing opportunities for collaborative research, including the utilisation of research teams, developing connections with Go8 universities and implementing exchange programs.

Another finding of this study was a need to enhance professional development such as develop researchers' skills including adaptive strategies for effective research output. Therefore, the following recommendations are made:

5. Provide opportunities for the development of research skills in undergraduate teaching degrees, where these skills may be also be utilised in developing close connections between schools and research communities.
6. Provide opportunities for professional development in research, including discussion forums and skills mastery through assessment, training and mentor strategies.

This study found academic freedom to be limited due to a lack of organisational support. Therefore, the following recommendations are made:

7. Support research by providing financial resources where possible and through a re-assessment of academic duties for research-orientated staff. This may include a dynamic and flexible workforce where collaboration with outside agencies enables academic researchers to utilise their skills in careers outside of the university setting.
8. Facilitate attitudinal changes such as increasing motivation for research through professional development opportunities and systems of recognition for research success.

Another key finding of this study was a perceived lack of value for educational research from within the schools and wider community, as well as within the research industry. Therefore, the following recommendation is made:

9. Generate value and understandings of educational research by effectively utilising strategies for engaging the community and media in disseminating research initiatives and outcomes.
10. Faculties to create opportunities for awareness and deeper understandings of philosophical assumptions that inform researchers investigative actions, including the value of the transformative paradigm in social research.

The development of a research culture and the implementation of these recommendations may be challenging, especially when up against existing organisational cultures. Although as suggested, establishing communities of practice that are aware of and acknowledge the pertinent educational research issues is a significant starting point in overcoming these obstacles. However, with governments continuing to issue significant funding cuts to universities, it will become increasingly difficult to address these important issues in educational research and consequently, the challenges faced within this field will only worsen.

Limitations

Phase One of this study was subject to significant limitations. Despite making several adaptations to the research design, which included changes in data collection methods, significant difficulties were experienced in obtaining and retaining participants for the study. After finally gaining participants, the study was caught in the midst of an organisational conflict within the school and, as a result, participation ceased part way through data collection. However, experiencing this major limitation to Phase One prompted an investigation into issues in academic educational research, which became Phase Two of this study.

The main aim of this second phase was to investigate the issues in academic educational research and to determine whether these issues were enduring and if so, the reasons for this occurrence. This study was informed by the theoretical paradigms of radical interactionism and critical theory. However, there were limitations to this second phase. In order to protect the anonymity of participants, questionnaires method was employed to investigate the aims of this study. However, despite the use of open-ended questions, this method did not allow for further investigation into responses generated from participants.

The use of sit down interviews may have been conducted in order to increase the richness of data, however, the participants would have no longer remained anonymous to the researcher. Given that participants were employees of the university and, therefore, the possible sensitivity of the subject under investigation, anonymity remained an important part of the research design. Consequently, further research would be needed to delve more deeply into the issues uncovered through this research.

Future research

This study offers valuable opportunities for future directions into the investigation of research cultures. Findings from this study revealed that issues in educational research are relevant to research culture and that research cultures effect knowledge management. Knowledge structures and strategies within research-intensive universities may be further investigated in relation to research activity and research cultures. An evaluation of ethics committees may be warranted to further investigate issues of effectiveness, enforcement of ethical standards, and to critically examine issues such as political or financial conflicts of interest.

This study also revealed insights into researcher characteristics as being an important factor for research success and, therefore, investigation into motivation and motivational strategies may prove beneficial in developing successful researchers. Finally, findings from this study revealed limitations to academic freedom. One such limitation to academic freedom was recognised through a lack of funding. This may be further investigated. In addition, with prior research findings indicating the majority of funding being awarded to male researchers, this raises the issue of gender inequality in educational research and warrants investigation.

Concluding Comments

In highlighting the issues inherent in educational research, it is apparent that progression of the field is reliant upon the ability of researchers to be professionally critical and self-reflective. These actions allow the researcher to question the legitimacy of research practices (theirs and others'), the power relationships within the relevant social interactions and within the relevant institutions. This questioning of the status quo paves the way for advances to be made through a constant desire for improvement, a necessary factor in the challenging task of increasing academic educational research standards. Competing in a global market, educational researchers are not only required to promote the accumulation of knowledge, but to do so with the responsibility bestowed upon them to fulfil an academic duty to benefit society. As Shulman (1999, p. 165) states, "the challenges to accomplishing a significant body of education research lie at the intersection of the intellectual, the practical, and the moral". Steps toward building a research culture promotes the embrace of all vested parties in research, from researcher, to policy-maker, to those who are studied. Despite differing research agendas, developing a research culture creates a more united effort where all stakeholders have an opportunity to be co-creators in research and where research may be provided the opportunities to advance in new directions.

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APPENDIX A: Excerpts from Phase One Literature Review

The broad purpose of this study was to investigate the effects of a cognitive training program on the working memory ability, motivation and academic achievement of primary school students. Working memory is a cognitive construct that provides us with an important connection to our environment (Dehn, 2008). As a cognitive structure, working memory enables us to interact with and interpret the information in our world; to encode, retrieve, and simultaneously store and manipulate information, all functions that are essential for learning (Dehn, 2008). Baddeley (1996) a pioneer in the study of working memory, has defined the concept as a "limited capacity system that is capable of storing and manipulating information and that is assumed to be an integral part of the human memory system" (p. 13468).

The proficiency of working memory therefore contributes towards the effectiveness of learning, a belief supported by Kirschner (2002) who states that, "Learning, reflected by performance change, requires working memory capacity" (p. 4). Kyllonen (1996) states that working memory capacity is more closely linked to both short and long-term learning than any other factor.

Background and Rationale

There had been extensive investigation into the causes of poor academic performance. A vast majority of this research within the cognitive science field strongly indicated that academic achievement is closely linked to working memory ability (Pickering, 2006). Results showed that individuals who have poor working memory ability are likely to experience problems such as poor academic performance, and both behavioural and emotional issues (Alloway, Gathercole, Kirkwood, & Elliott, 2009). Studies also indicated that children with low working memory ability not only lack concentration and struggle academically, but also exhibit low self-esteem, emotional fragility, and inattentiveness (Morris, 2002; Alloway et al., 2009). Problems associated with learning difficulties continue into secondary and even tertiary education. Studies indicated that in Australian universities there was a growing number of students with learning difficulties and these students comprised the largest group requiring student support services within universities (Payne & Irons, 2003).

The consequences for these individuals are far reaching and extend well into adult life. Dehn purported that poor working memory ability can result in systemic and lifelong problems (2008, p. xiii) such as poor literacy skills and social problems (Graham & Bailey, 2007; Westwood, 2008). A person who is functionally literate, is defined by Viswanathan and Gau (2005) as having adequate literacy and numeracy skills to function in everyday life. Individuals without these skills will have difficulties coping with real world situations. Functionally illiterate individuals tend to have low self-esteem, be dependent on others, and often develop coping strategies such as social deception (Viswanathan & Gau). The ramifications of allowing students with learning difficulties to progress through the education system undetected and without intervention were too concerning to ignore and therefore were the basis for my research project.

APPENDIX B: Working Memory Scale

The copy of the Working Memory Rating Scale is not included in this version of the thesis.

The scale is available from:

Alloway, T. P., Gathercole, S. E., & Kirkwood, H. J. (2008). *Working Memory Rating Scale Manual.* London: Pearson Education, Ltd.

APPENDIX C: Motivated Strategies for Learning Questionnaire*

Please rate the following items based on your behavior in this class. Your rating should be on a 7- point scale where **1= not at all true of me** to **7=very true of me** .

1. I prefer class work that is challenging so I can learn new things.
2. Compared with other students in this class I expect to do well
3. I am so nervous during a test that I cannot remember facts I have learned
4. It is important for me to learn what is being taught in this class
5. I like what I am learning in this class
6. I'm certain I can understand the ideas taught in this course
7. I think I will be able to use what I learn in this class in other classes
8. I expect to do very well in this class
9. Compared with others in this class, I think I'm a good student
10. I often choose paper topics I will learn something from even if they require more work
11. I am sure I can do an excellent job on the problems and tasks assigned for this class
12. I have an uneasy, upset feeling when I take a test
13. I think I will receive a good grade in this class
14. Even when I do poorly on a test I try to learn from my mistakes
15. I think that what I am learning in this class is useful for me to know
16. My study skills are excellent compared with others in this class
17. I think that what we are learning in this class is interesting
18. Compared with other students in this class I think I know a great deal about the subject
19. I know that I will be able to learn the material for this class
20. I worry a great deal about tests
21. Understanding this subject is important to me
22. When I take a test I think about how poorly I am doing
23. When I study for a test, I try to put together the information from class and from the book
24. When I do homework, I try to remember what the teacher said in class so I can answer the questions correctly
25. I ask myself questions to make sure I know the material I have been studying
26. It is hard for me to decide what the main ideas are in what I read
27. When work is hard I either give up or study only the easy parts
28. When I study I put important ideas into my own words
29. I always try to understand what the teacher is saying even if it doesn't make sense.
30. When I study for a test I try to remember as many facts as I can
31. When studying, I copy my notes over to help me remember material
32. I work on practice exercises and answer end of chapter questions even when I don't have to
33. Even when study materials are dull and uninteresting, I keep working until I finish
34. When I study for a test I practice saying the important facts over and over to myself
35. Before I begin studying I think about the things I will need to do to learn

36. I use what I have learned from old homework assignments and the textbook to do new assignments
37. I often find that I have been reading for class but don't know what it is all about.
38. I find that when the teacher is talking I think of other things and don't really listen to what is being said
39. When I am studying a topic, I try to make everything fit together
40. When I'm reading I stop once in a while and go over what I have read
41. When I read materials for this class, I say the words over and over to myself to help me remember
42. I outline the chapters in my book to help me study
43. I work hard to get a good grade even when I don't like a class
44. When reading I try to connect the things I am reading about with what I already know.

Pintrich, R. R., & DeGroot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance, Journal of Educational Psychology, 82*, 33-40.

APPENDIX D: Working Memory Test Scores

Working memory test scores are shown here with T scores and percentiles as provided in the Working Memory Rating Scale Manual (Alloway, Gathercole & Kirkwood, 2008). T scores are provided as a comparison against other children in the same age group. The percentiles represent the percentage of individuals in the same age band who obtained this score or less. The boxes shown in red are indicative of individuals that very likely have a working memory impairment.

	Age 9			Ages 10-11		
Respondent	Total Score	T score	Percentile	Total score	T score	Percentile
One				4	43	36
Two	14	51	65			
Three	9	48	55			
Four	0	41	12			
Five	9	48	55			
Six				24	56	77
Seven				23	56	77
Eight	54	79	99			
Nine	60	80	99.9			
Ten	60	80	99.9			

APPENDIX E: Motivated Strategies for Learning Questionnaire Test Scores

Respondent	Age	Intrinsic Goal Orientation	Self-efficacy	Test Anxiety	Strategy Use
One	11	5.77	6.88	1	5.05
Two	9	4.55	6.44	3.25	2.86
Three	9	6.11	6.22	1.25	4.36
Four	9	6.88	6.88	4	5.72
Five	9	5.44	5.55	3.75	3.95
Six	10	5.77	6.55	1.25	3.32
Seven	10	2.55	3.33	2.5	3.05
Eight	9	4.11	3.77	4	3.5
Nine	9	3.66	4.66	3	4.18
Ten	9	5.77	5.44	3.75	2.91
	MEAN	5.06	5.57	2.77	3.89

Results for the Motivated Strategies for Learning Questionnaire, with respondents likely to have a working memory impairment shown in red.

APPENDIX F: Issues in Academic Educational Research Questionnaire

1. Briefly describe why you believe research in education is important?
2. In which sector of the education industry have you/will you be conducting your research?
3. What have been the major stumbling blocks you have encountered in trying to conduct your research?
4. What limitations have been imposed upon you through your research process?
5. How have these limitations affected your research?
6. In your experience, where would you say the greatest resistance to conducting research arises? Examples include, but are not limited to, parents, teachers, school principals, ethics committee, education departments.
7. What changes would you like to see take place in order to facilitate the implementation of effective research in education?

APPENDIX G: Information Letter to Participants

Issues in Academic Education Research

My name is Natalie Brown and I am a postgraduate student in a Master by Research degree at Edith Cowan University in Perth, Western Australia. You are invited to take part in this research, which I am conducting as part of the requirements of my degree. The research has ethics approval from the Human Research Ethics Committee at ECU.

This research constitutes the second phase of my project and aims to identify issues that researchers within education face, when conducting research projects. This phase of the project will involve a set of survey questions that will be issued to researchers within the School of Education at Edith Cowan University.

All information collected during the research will be treated confidentially and thereafter will be coded so that you will remain anonymous. All data collected will be stored securely on ECU premises for five years after the research has concluded and will then be confidentially destroyed and/or deleted. The information gathered during this research will be presented in a written report, in which your identity will not be revealed. You may be sent a summary of the final report on request.

Participation in this research is voluntary and you are free to withdraw at any time.

If you have any questions about the research or require further information you may contact the following:

Student Researcher: Natalie Brown

Telephone number: [redacted]

Email: [redacted]

Supervisor: Dr. Mandie Shean

Telephone: 08) 6304 6888

Email: m.shean@ecu.edu.au

If you have any concerns or complaints and wish to contact an independent person about this research, you may contact:

Research Ethics Officer

Edith Cowan University

Phone: (+61 8) 6304 2170

Email: research.ethics@ecu.edu.au

Thank you for your time.

Yours sincerely,

Natalie Brown

APPENDIX H: Participant Consent form

Issues in Academic Education Research

- I have read the above information and I understand the research.
- I have been given the opportunity to ask questions and my questions have been answered satisfactorily.
- I am aware that I can contact Dr Mandie Shean or the Research Ethics officer if I have any further queries, concerns or complaints.
- I understand that participation in this research will involve answering questions in a short survey.
- I understand that my identity will remain anonymous and that I may withdraw at any time.

I agree to participate in this research.

Please circle:

Yes **No**