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Enhancing the postgraduate research culture and community

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During the last two decades, there have been significant changes within the New Zealand tertiary sector due to Government, stakeholder and community demands. The result has been an altered context for learning and a need for continual reassessment of the learning environment. This paper discusses a case study that used survey and focus group data to uncover the concerns and issues faced by postgraduate research students in relation to developing and enhancing a research culture. Moreover, since a student will engage with tertiary study both cognitively and emotionally, the focus was on how the students identified their own needs within their research experience. As a university's particular context frames and supports the development of its research culture, student voices were deemed to best represent the student experience of the research community. Our study identifies that the student research experience is shaped by the support and interactions that they encounter. Coded and thematically analysed qualitative data was combined with the quantitative data to ascertain those characteristics of a research context which students identify as significant. This paper focuses on the qualitative results. Findings indicate that student engagement is enhanced when they feel part of a wider research community and have a sense of belonging. We claim that where synergies exist between student aspirations and the institutional culture in which they study, subcultures develop and there is a greater likelihood that positive outcomes will ensue. These findings have implications for the strategic development of the university's research culture and the ongoing development of supportive initiatives for research students in relation to higher degree research and enhancing teaching and learning.

Keywords: postgraduate research student experience, research culture, community of practice

Introduction

In the contemporary university when postgraduate research student numbers are increasing and the student profile is changing, there is growing awareness that both the research environment and supervision as a collaborative practice have a strong influence on successful degree completions. Within this nexus, the learning context in which research is undertaken becomes critical for enhancing these students' capabilities and independence. Previous studies have

shown that the student research experience is not solely about how students undertake their scholarship; it is shaped by the support and research interactions that are nested within a larger institutional context (Wright & Cochrane, 2000). Cheetham (2007) points to and emphasises the importance of developing a research culture, since research is essential for university work, is fundamental to teaching and learning and universities always need to maintain and strengthen the research context. He also stresses that mentoring is a key element and starts with the supervisor-student relationship. Consequently, since learning is supported by how well a student integrates both socially and academically, the strength of the research culture in which the student studies and the supervisory support are crucial

Our research addresses the concern expressed by Morris, Pitt & Manathunga (2011) that postgraduate research can occur as isolated experiences. We examine how the interweaving of a resourced organisational infrastructure, in combination with a quality supervision experience can provide an effective and supportive learning environment for postgraduate students. The research findings, while identifying practical strategies for implementation in a particular New Zealand university, also contribute to the extant literature in the supporting theoretical space. They provide the direction for developing further the research culture which has as its basis a process of shared meaning, beliefs and attitudes about research.

In this paper the focus for the study and its relevance in a changing higher education context is explained, the supporting literature identified and the research approach and design described. Since a research culture reflects the values, ideals and beliefs about research within any organization, we acknowledge the complexity of the concept. Subcultures will develop within and across disciplines and faculties contributing to a mosaic of research settings. Therefore it is essential to examine what researchers do and why and how they do it (Hill, 1999) and align their interconnections towards developing a conducive *institutional* research environment. The significance for the institution is what is shared in relation to those beliefs, values, attitudes and behaviour in relation to research. While the combined data collection methods used in the study are outlined, the focus is on the qualitative data and results in this paper, as an indication of the early study findings. In particular, we stress that our interpretation of a research culture rests on how students see it. Student feedback indicates that positive outcomes are more likely when there is strong mutual engagement through the existence of a 'community of practice' (Wenger, 1998). This project therefore serves to exemplify our commitment for developing an interactive learning community through context-specific research.

Background and theoretical context

Research in higher education has previously concentrated on undergraduate study, but more recently, with growing numbers of postgraduate students, there has been a focus on identifying what influences successful postgraduate study (Manathunga, 2005). While some research has examined supervisory capabilities and student entry criteria, other research has explored the student experience and the context in which their learning and study is embedded (see for example, Kiley, 2009). Since student and supervisory relationships are contextualised within a changing national and international environment, the more recent and focused government interventions in research higher degree policies have caused providers to further emphasise the student experience and timely completions (Manathunga, 2005). This has led to a greater focus being placed on studies of student cultures in higher education, particularly those that focus on research students. As the student-supervisor relationship is seen as core to the development of a

research culture, the student experience is highlighted in this research. It is critical to understand and acknowledge the effects of their environment and the contribution to be made by workshops, media and other initiatives.

The research environment within an organisation comprises multiple components, each contributing to the postgraduate experience. The physical environment plays a crucial role, for student academic and social interactions are positioned within the university space and encourage or inhibit place-based engagement. The supervision relationship and how the institution supports and resources students also affect student connections with and within the learning milieu, while opportunities for discussion, debate, skill development and networking all provide extensions to that engagement. Thus an inclusive and supportive *research* culture incorporates a meaningful sense of place (as against space) where students recognise a bond between their context and themselves and where "human values and principles" are acknowledged as significant (Najafi & Shariff, 2011, p. 1100).

So, while supervision as a collaborative practice is a major element of the student research experience, the context in which the supervision is enacted and the student experience are significant factors. The manner in which these components are inter-related affects both individual and academic outcomes. Lovitts (2001) has claimed that in order to successfully complete their research, postgraduate students need to integrate socially and academically within their environment. Fletcher, Gies and Hodge (2011) endorse this contention adding that doctoral persistence and motivation are improved when there is a greater sense of belonging to a wider community. While she recognised the challenges inherent in her recommendation, Lovitts (2001) emphasised that improved rates of success are clearly tied to how cultural and structural changes within a department or organisation enhance student engagement.

For a research student, the supervisor has a primary role to play in supporting the student to completion and develop both research and postgraduate skills that can be applied on completion of their degree (Wisker, Robinson & Shacham, 2007). However Wisker et al. (2007) identify that both student and supervisor can feel isolated unless they are positioned within a research culture that supports their research work. Since "research is dialogue with other experts" (Wisker at al., 2007, p. 304) opportunities for that dialogue need to be provided through varied interactions and learning conversations. Students also benefit from experiencing mentoring to greater autonomy (Manathunga, 2007). Engaging in problem-solving dialogue with supervisors as well as peers provides a vehicle for such learning. Mechanisms for facilitating such interactions are core to the provision of an effective and supportive research environment.

These contentions suggest that relationships that are located within an inclusive environment of research development programmes, face-to-face and online interactions, conversations and the provision of research activities are more likely to produce positive outcomes. Such features combine to provide a "fertile ground for learning" (Wenger, 1998, p. 214) in which mutual engagement occurs in a context for gaining and constructing knowledge. Wenger (1998) suggests that such "mutual engagement will give rise to a *community of practice* over time" (p. 174). For postgraduate research, this could comprise a community that is organized around engagement in learning through sharing, which can support and empower both students and supervisors (op cit) since "participation in the cultural practice in which knowledge exists is an epistemological principle of learning" (Lave & Wenger, 2002, p. 98).

More recently, Shacham and Od-Cohen (2009) have reported that little has been written about postgraduate learning within communities of practice, identifying that 'collective' research programmes can improve student support, while also enhancing student interaction that reduces isolation. Therefore, university-based research programmes that integrate support and interactive opportunities can work in cooperation with faculty and discipline based initiatives. We claim that leadership plays a critical role in facilitating collaborative practices across the institution and encouraging mentoring, role modelling and supportive processes.

Developing a postgraduate programme requires an awareness of the needs of a diverse student population. When student understandings of what comprises research differs to that of the institution in which they study, supervision relationships and project success can be compromised. This can result when students arrive from different cultures, commence postgraduate study minimally prepared or even meet a changed learning environment with different expectations (Wisker et al., 2007). If a research programme incorporates the development of a 'community of practice' for postgraduate research, then students can be supported through the varied stages of their research study. This involves not only supporting the one-to-one relationships of student and supervisor, supervisor and student communities (informal and formal) within a wider research community (Wisker et al., 2007), but also an online provision that links in distance students. de Beer and Mason (2009) and Crossouard (2008) advocate for such an online environment for students, with a facility to access resources and engage in discussion with their peers. Since supervisors can also engage with the same resources and provide feedback to students, this enhances the interactive learning community. Effectively then, a community of practice can provide a vehicle for "socially-based generative learning" (Wisker et al., 2007, p. 307).

To summarise, organisational features, structures, practices, policies, staff behaviours (Grant, 1997, 2005; Kiley, 2009), institutional values, cultures and environments (Deem & Brehony, 2000; Shacham & Od-Cohen, 2009), all have significant effects on students' engagement with postgraduate study. A positive postgraduate learning experience is conceived as one in which synergies exist between students' visions and the institutional culture that influences systems and processes within postgraduate education (e.g., Cornforth & Clairborne, 2008). We believe that quality leadership is needed to foster how all parties can work together to develop a positive research culture. Moreover, students' level of engagement with tertiary learning also operates on a cognitive and emotional plane (Robson, 2008). Consequently, assessing the characteristics of a research context that supports successful postgraduate research goes some way to meeting the call by Martinsuo and Turkulainen (2010) for further research on how different student groups can be best supported.

Research design

The methodology for the project was positioned within an interpretive approach, in which a case study (see Cohen, Manion & Morrison, 2007; Merriam, 2009; Yin, 2009) of postgraduate research at an Auckland University was examined. A mixed method approach was used for data collection, because the use of both quantitative and qualitative data collection provided the facility to obtain a more complete understanding of postgraduate study (Creswell & Piano Clark 2011; Merriam, 2009). A four-stage design was used to answer the research questions. Focus groups of postgraduate students were held to gain input for the preparation of a survey (Cohen, et al., 2007; de Vaus, 1995) which contained questions that sought Likert-type scale

responses and also elicited open-ended responses (Lewin, 2005). A sample of sixteen students was selected for the focus groups from the whole population of postgraduate research students; the latter were also invited to participate in the subsequent online survey. The survey questions were developed from analysis of the focus group discussions and integrated into the biennial institutional survey of postgraduate research students. Documentary analysis of relevant institutional documents provided the contextual background for the data analysis.

The defining characteristic of this study is its commitment to an integrative approach (McAlpine & Norton, 2006) which appropriately addresses the complexity that characterises effective postgraduate research. The integrated analysis took into account the student's assessment of their own needs, as well as the conditions and interactions that support those needs. Coding of the qualitative data (focus group transcripts) was undertaken by the full research team; the survey data was qualitatively and quantitatively analysed and then collated.

Findings and discussion

Qualitative data from the survey was coded and interpreted, falling into six categories that represent how students view the different components of the institutional research context, namely: physical resources; supervision experience; skill development; career preparation; supportive services; and research culture. We then grouped these components into three interrelated themes that emerge from the data and which contribute to a research culture, namely: the physical environment, the student-supervisor relationship and developmental opportunities. Each of these will be discussed and illustrated with participant quotes.

Students held **physical resources** as important for a positive research environment. Study and social spaces, facilities and services were all identified as critical for an environment conducive to learning. One student comment resonated with others: *'Each PhD student needs their own designated space and locker for books',* while others claimed that *'it is important for postgraduates to have quiet space and resources to study and meet'*. While it was apparent that individual spaces were desired, to avoid isolation, students commented on the desirability to share space with other research students since doing research can be *'lonely'* and one can *'feel isolated'*. Such shared social spaces provide opportunities to feel part of the wider community when *[we] 'can learn a lot from other people's experience'*. This perception was endorsed by a further comment that there is a need for students to *'develop a sense of intellectual exchange as a central part of their stay'*. As well as the request for individual and shared spaces, the library services were named as a significant physical and learning resource, although it remains important that *'library staff need to be well oriented towards the diversity of [the University's] students so that they are able to offer services that are geared towards their needs.'*

The well-documented issues of isolation and integration of distance students into the institutional culture (Anderson, 2005; DiRamio & Wolverton, 2006; Lee & McLoughlin, 2010; Wisker et al., 2007) were mentioned by respondents. These issues are even more imperative for postgraduate research students, where the very nature of the research journey exacerbates these problems. Their inability to meet with fellow student researchers or to participate in workshops, group activities and social events identifies an area for the university to focus on. One student explained that it would help if there was some *'acknowledgement that some of us are at a distance'*. Suggestions made by students to

alleviate problems of being a 'distance student' included: *'more regular programmes that support postgrad interaction within faculty and between faculties'*. Although postgraduate researchers can complete their study off campus, they still wish to access and feel part of the university community.

While supervisors have illustrated efforts to alleviate such isolation, the university can underpin this with a focus on developing effective support dialogue and mutual trust in distance supervisory relationships (Andrew, 2012) along with the enhancement of social connectedness (van Tryon & Bishop, 2012). Similar concerns to those who study at a distance were also identified by students across different campuses, indicating that campus integration and interaction are also important elements of an institutional shared community. These students suggested *'having more opportunities to meet and collaborate with other researchers'; 'research sharing, discussion groups and forums'; and 'more central activities to celebrate researchers'*.

For all research students, advice, support and workshop assistance are high on their lists of provision and this also needs to be personalized as well as online: *'A confidential chat [for] ..... guidance would have been valuable. I have basically operated alone and felt too shy to go to events etc alone'*. One student claims that *'having a personal tutor who checked in from time to time or was available and could rectify issues and assist would be ideal. I felt like a lone canoe ship on a vast ocean, paddling alone for dear life, hoping to reach the shore'*. Students identified that the research context needs to be user-friendly, so initiatives that involve workshops, discussion forum, social events and online communication networks, such as a research blog, can all facilitate increased peer interaction, collegiality and support. Cheetham (2007) emphasises that:

> We are concerned about a research culture, because research is the basis of how a university education works; it is the intellectual life blood of our staff; it should be the fundamental support of our teaching; and it is the basis of our support for our community. (p. 3)

Therefore it is critical that we not only provide the resources for the students but also for the staff keeping in mind the interplay of research, teaching and knowledge development and transfer (Cheetham, 2007). While the sense of place is important in relation to personal and professional space, it can also create isolation in itself and the research context needs to be user friendly. Workshops, forums, discussion groups, social activities and the thesis blog are all ways to help this and recognise the interplay of multiple strategies. All of these aspects and concerns contribute to a research culture and an interactive learning community.

The **student-supervisor relationship** plays a key role in the research experience and is an integral and central part of a research culture. The relationship which is both informal and formal (Nulty, Kiley & Meyers, 2009) is supported by institutional processes, one of which is the supervision agreement - a staff/student created document that provides an opportunity for negotiation around relevant issues and sets the scene for the collaborative research journey. Some responses indicate the usefulness of this process:
'Establishing the ground rules was useful, but what was more beneficial was renegotiating these further on. The dynamics of three people working together required a period of time to settle'.

'It has been useful in that it was good to set out expectations like how often we would meet, what they would read and when, etc.'
'It helped avoid conflicts as each of us was prepared for meetings and what was expected of the meetings. Our objectives were clearly outlined'.

While the agreement is intended as a dynamic document (one that is revised over time), this does not always happen as this comment illustrates '[it was] v*ery useful in defining what we expect of each other at the outset but we have not needed to fall back on the agreement due to not fulfilling requirements'*. Another student expressed a lack of confidence as to its ongoing value although it was useful for *'establishing steps in case issues arise, but seems more of a formality than anything real'*.

The supervision relationship itself was viewed as essential for student progress. Martinsuo, and Turkulainen, (2011) comment on how availability and time commitment from a supervisor can promote the research process. One student framed it in this way: '*My supervisors have been doing what I always thought supervisors do: guidance and encouragement combined with independence'. 'My supervisor was the best part of my post grad experience. Her help and guidance were invaluable to me and made my study very fulfilling and engaging'*. Manathunga (2007) noted that students need to feel supported at a time which can appear to be a "daunting process of becoming knowledgeable scholars" (p. 219). However for some students their supervisor did not meet expectations and such feedback provides food for thought for supervisors who do not fully engage in the role or work with others to address individual student issues. *'The original supervisor seemed to hold an array of assumptions about what I knew or should have known, did not acknowledge or work with my learning style and did not work collaboratively with the other supervisor'*. This problem and other issues that seem problematic to students are frequently not dealt with directly. Manathunga (2005) has previously identified that students find it a challenge to address supervision relationship issues with their supervisor. This problem is particularly noted with respect to unrealistic or unclear expectations, low supervisory interest and engagement and a "lack of consistency and trust in the relationship" (p. 225). Such reluctance on the part of the student can only point to the need for supervisors to be proactive and attentive to student needs.

Suggestions for improvement in supervision included: being aware of student external commitments, providing appropriate feedback in a timely manner, being accessible, facilitate positive relationships with student and other supervisor and most significantly, engage with the research and the student's progress. One comment sums up these preferences: *'Focus on the student and research and remain research focused.'* Suggestions were also made for institutions to enact: *'Supervise the supervisors. Give better information [for example] about how to change supervisors'*. Such suggestions provide insight into the need for institutional processes that maintain and enhance supervisory competence and quality.

The third element of a research culture as identified by the students comprises **developmental opportunities**. Since students have differing needs and preferences, research support should have the capacity to address individualized requests. Opportunities that are offered to research students need to be varied and yet targeted, so that they can be accessed according to an individual's specific requirements. It is the integration of these opportunities that contribute to research students feeling part of a community of practice in which they learn through sharing. Such perspectives confirm Wenger's (1998) contention that sharing an identity with other

researchers acts to facilitate the doctoral journey as a shared enterprise. The student voices in this study remind us that students feel a need to have *'more opportunities to meet and collaborate with other researchers'* such as *'research sharing, discussion groups and forums'* as well as *'acknowledgement that some of us are at a distance'*. Implementing this interaction within an organization that has multiple campuses requires a strategy that brings together the different faculties through *'more central activities to celebrate researchers'*. One other student identified that *'there is a great need for [the University] to develop an intellectual culture. It will make it appear that [the University] and New Zealand is not isolated from the larger academic community in the larger world'*.

In effect, the data, as described in these three main themes, provide us with a greater understanding of how students interpret *their* place in *their* university research community. The physical environment provides a context in which they interact both academically and socially; the relationship with their supervisor is the way in which they are personally and academically supported through their research journey; and, opportunities to link up with other researchers help extend their understandings of the research environment, develop their skills, abilities and networks within a university community. These themes demonstrate how students wish to feel supported and have a sense of belonging to a wider academic/research community.

Conclusion

Each university has a unique and specific context, so enhancing its research culture should reflect that context and those who study within it. Our research was based on the premise that it is important to listen to the voices of postgraduate research students. In a way, the study was designed to address student critique (identified anecdotally within the study) that they do not always feel 'heard'. Since inclusion is integral to ensuring equity (author, 2007), involving students in identifying solutions and strategies to enhance their research environment, should contribute positively to a more cohesive community of practice.

Our findings suggest that in order to improve the postgraduate research experience, all "players" including the student, supervisors and the institution should be considered (Morris et al., 2011, p. 633). The study data provide input into strategies for improving the research culture, as identified by students, in which all schools and faculties contribute. Early initiatives to address issues raised, have involved students and supervisors in workshops, forums and opportunities to meet and debate, as well as online support and interaction through a research blog.

Cheetham (2007) reminds us that "we will know when we have arrived when the research culture is effectively invisible.........it will simply be part of what we do as academics, as intellectuals". (p. 7). So, while there may be a way to go in the journey of our university, we have opened up the space to declare our intentions, expose the gaps, and then address them. We will be better informed for new initiatives for improvement and there are signs that we are well on the way towards our objective of supporting quality and fulfilling postgraduate research.

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