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The coordination role in research education: emerging understandings and dilemmas for leadership

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Abstract

Changes in expectations of research education worldwide have seen the rise of new demands beyond supervision, and have highlighted the need for academic leadership in research education at a local level. Based on an interview study of those who have taken up local leadership roles in four Australian universities, this paper maps and analyses different dimensions of the emerging leadership role of research education coordination. It argues that while there is increasing clarity of what is required, there are considerable tensions in the nature of the coordination role and how coordination is to be executed. In particular, what leadership roles are appropriate, and how can they be positioned effectively within universities? The paper draws on the Integrated Competing Values Framework to focus on the activities of coordination, and on ideas of distributed leadership to discuss the leadership that characterises coordination. It is argued that without acknowledgement of the influences that coordinators need to exert and the positioning and support needed to achieve this, the contemporary agenda for research education will not be realised.

Introduction

Significant challenges and changes occurring in research education are having a direct impact on the nature of research degrees, on the requirements for supervision and its leadership (Boud & Lee, 2009). The central units responsible for the conduct of research education (typically, university graduate schools) have become well established and their strategic and procedural leadership roles are accepted in many institutions. Research supervisors provide leadership to students and this has been a growing area of study (Pearson & Brew, 2002; Lee, 2008). The third important area of leadership, and one that is less well recognised and understood, Such local-level positions are variously called 'HDR coordinator', 'student research coordinator', 'graduate convenor', 'graduate studies coordinator' and similar. We have chosen to call all such positions 'research education coordinators' (RECs). There is considerable variation between universities, and indeed faculties, in how these positions are conceived**.** It is also clear that the roles and practices of those responsible for local-level research education are evolving as research education itself changes. However, relatively little is known about these roles and how they might vary across disciplines and institutional contexts.

The aim of this paper is to examine this hitherto undocumented, unresearched and emergent leadership role in research education coordination. What do those who undertake such roles do? How do they characterise their work? What expectations are placed on them? While

coordination appears to be framed in different ways in different countries, the relatively institutionally devolved nature of decision-making about research education in Australia enables consideration of a range of issues within one national system. It introduces a conceptual framework we use to discuss features of coordination and leadership and locates the role of local coordination within the wider evolution of research education. It then draws on an empirical study of what coordinators do and how they see their role to argue that the considerable variation and ambiguities in relationships provide a challenge to seeing these roles clearly as leadership positions which further the new agendas for research education expected by universities.

Conceptual framework

To explore the potential leadership features of these emerging research education coordination roles, the research reported in this paper drew on the growing body of work on course coordinators, who are at similar middle academic levels and face similar challenges (Lefoe et al, 2011). Central to this work is the Integrated Competing Values Framework (ICVF) (Vilkinas & Cartan, 2006; Vilkinas, Leask, & Ladyshewsky, 2009) that was adapted from an organisational management model (Quinn 1984, 1988; Quinn, Faerman, Thompson & McGrath, 2003;Quinn & Rohrbaugh 1983) for such roles (see Figure 1). The ICVF provides a tool for analysing leadership features in any organisational role and has been used for analyses of other kinds of coordination roles in higher education. Indeed this framework has already been used in the context of research education. Vilkinas (2002) used an early version to describe the roles of research supervisors. We have used this framework to map the various activities of research education coordinators in order to understand coordination roles in a broader context of notions of leadership.

The ICVF includes the roles of Innovator, Broker, Deliverer/Monitor, Developer (of people) and Integrator (a role which includes selection and integration of the other roles and reflective learning). Vilkinas (2002) described these roles in relation to internal-external and task-people oriented dimensions of leadership. Previous work on course coordinator leadership (Vilkinas, Leask, & Ladyshewsky, 2009) has assumed that each individual coordinator will need to take on all of these roles, although with varying emphases. However, this assumption may not hold for research education coordination roles. A version of the model was therefore used to provide a heuristic device for examining the activities involved in research education coordination at the collective level, rather than at the level of each individual coordinator. This provided a useful way of conceptualising the range and focus of current REC activities, and the competing values and priorities that inform them, while pointing to possible futures for these roles.

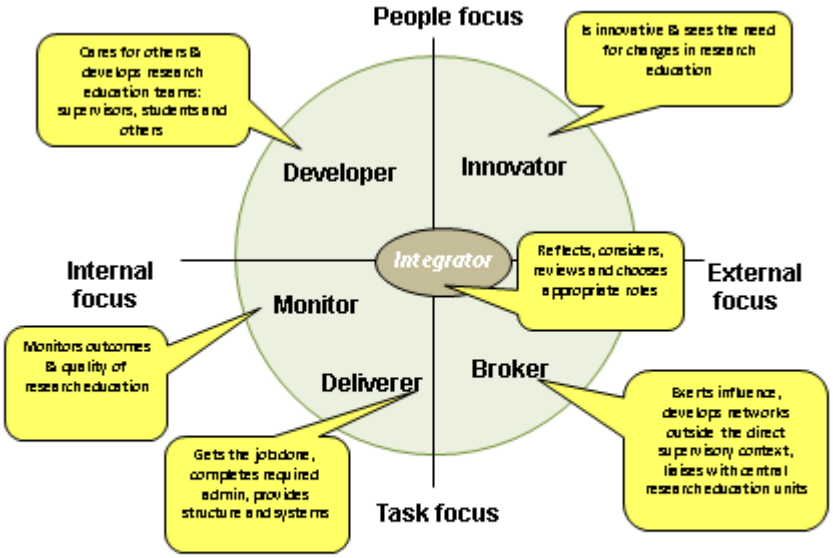

Figure1. A research education coordination role framework (based on the ICVF (Vilkinas & Cartan, 2006)

In addition to the ICVF focus on Research Education Coordinator roles and activities, and consistent with the notion of research education coordination as a collective rather than individual activity, we drew on the notion of distributed leadership to provide a theoretical framework for the setting of the role. The characteristic of distributed leadership that sets it apart from positional leadership is that it focuses on the context and culture of the organisation rather than the traits and behaviours of individuals (Gosling, Bolden and Petrov, 2009; Lumby, 2009). It provides a way of seeing leadership not in formal structural terms, but as a dimension of the responsibilities of all roles which seek to influence others (Gronn, 2000). Distributed leadership has been seen as an approach that produces the most effective outcomes within the ethos of higher education (Bolden, Petrov, & Gosling, 2009; Gosling, Bolden, & Petrov, 2009; Gronn, 2000). As Jones, Lefoe, Harvey and Ryland (2012, p. 67) describe it 'while multiple theories of leadership exist, the higher education sector requires a less hierarchical approach that takes account of its specialised and professional context'. It has been argued (Bolden, Petrov, & Gosling, 2008) that distributed leadership already occurs in many places in the sector but it may be either chaotic and/or not recognised as such.

Relationships are central to the effective use of distributed leadership as it is based upon the idea of influence rather than direction. While the importance of mid-level leadership in institutional change is recognised (de Boer & Goedegebuure, 2009), it is often under-acknowledged in institutional settings, particularly where there is no obvious structure linking different levels of leadership (Gronn, 2009) and where it is not acknowledged through mechanisms such as salary allowances. It is recognised that middle-level leadership can be a source of change within an institution (de Boer & Goedegebuure, 2009). Indeed, middle level leadership is critical as it can aid or obstruct the introduction of institutional change.

Any participant in any situation can exercise distribututed leadership through influencing others. While Corrigan (2013) questions whether distributed leadership is rhetoric or reality, we suggest that the idea does have heuristic utility in exploring the ways in which research education coordinators exert influence in their institutions.

In this paper we next outline changes taking place in research education internationally to provide a context for the discussion. We draw then on an interview study of those occupying coordination positions in four Australian universities. We identify the particular emphases and map the scope of these roles and how they are located and exercise leadership within their institutions. The paper then discusses the differences and dilemma manifest in present conceptions of coordination and the desirability of focusing greater organisational attention on local leadership to more fully realise the policies for research education that have already been adopted in principle.

The changing face of research education

Changes in doctoral education are partly the result of its growth and diversity away from the 'traditional' PhD, together with a growing understanding of the importance of a relationship between research education and innovation and economic development. A key challenge confronting government, professions, industry and the higher education sector is various governments' visions for advanced value-adding economies and the need for highly skilled researchers to realise these visions (Austin & Wulff, 2004; National Science Board, 2003; Kehm, 2007; Park, 2007). In Australia, like many other countries, this has also been accompanied by policies and strategies that focus on increasing the number of higher degree by research graduates and broadening their capabilities (eg. DIISR, 2010).

The diversity of professional and educational backgrounds of higher degree by research students and the career trajectories of such graduates have increased. In terms of the latter, for many they now include, but go beyond, employment in university positions (Pearson et al, 2011). An earlier project 'Building research supervision training across Australian universities' (Hammond, Ryland, Tennant, & Boud, 2010) found that there were on-going challenges as a consequence of higher expectations from government to increase research degree completions and make doctoral graduates more employable outside academe, which flowed through both to supervisors and those who manage them.

These challenges have led to three foci in research education today. Firstly, research degree study is about advancing knowledge in a field and making a contribution to research outputs. Secondly, research education is about the development of the work-related skills and capabilities of the candidate as researcher beyond particular research outcomes (Cumming and Kiley 2009, Cumming, 2010). Thirdly, there is government pressure to improve completion rates for research students (Bourke, Holbrook, Lovat & Farley, 2004).

As a consequence of the recognition that research education must form researchers rather than just produce research, there has been a trend to increase the formalisation and professionalization of research higher degrees (Halse & Malfroy, 2010). These include the extra-faculty establishment of university graduate schools or equivalent. The supervision of research students is becoming more visible, transparent and accountable (Manathunga, 2005). In addition, the notion that students can effectively learn research through a singular approach based on individual supervision, through an apprenticeship model, is no longer regarded as viable (Cumming, 2010). Rather, a new range of learning and teaching approaches is required extending research education practices and involving a number of other individuals (Boud & Lee, 2009).

Low levels of student satisfaction with the intellectual climate of their faculties or research centres (PREQ, 2011; Trigwell & Dunbar-Goddet, 2005) has also prompted a renewed focus on building more supportive research communities for research students. Thus, there are

growing demands on and beyond the role of supervision. New roles in the local management and leadership of research education are therefore emerging. One such role is what we have come to term research education coordination.

Methodology

This paper draws on data collected in the first stage of a 2-year national project to develop resources for RECs. The objective of this stage was to identify the role and needs of RECs. This was pursued through conducting a series of eighteen interviews with people engaged in the coordinator role in four partner universities between December 2011 and February 2012. These institutions comprise a range of types of university with well-developed research education practices.

Interviewees were selected through peer nomination to maximise the variety of types of research education coordination role within each institution. An attempt was made to maximise the variation amongst interviewees so that a broad range of roles could be covered. As this is the first study to address the nature of the research education coordinator role, information was sought from coordinators themselves rather than from those with whom coordinators are likely to come into contact, e.g. supervisors, students or directors of graduate schools. Members of the research team from the same institution as the interviewees conducted the interviews in order to enable institutional references to be fully explicated. The interviews were transcribed and then subjected to analysis by an independent person not involved in interviewing. The focus of the analysis (using NVivo) was to identify the types and range of roles undertaken by the interviewees and how they saw them. This was done firstly by application of the ICVF as mentioned above, and then through ideas of distributed leadership.

In reviewing the initial outcomes of the NVivo analysis, it became evident that while there was much individual variation, there were also two consistent dimensions. The first was the scope of the role, whether defined formally or informally. The second was its organisational focus. These dimensions became important for further analysis of the ICVF and distributed leadership themes, and are used as organising categories for the findings described in this paper.

Findings

A major interest of the study was what the coordinators saw as their role, how they learnt the role, what work allocation they got for such work and what changes they have seen in such work. It became apparent that there are considerable differences in the range of formal responsibilities taken by those occupying research education coordination roles. In some universities, these roles are viewed as primarily administrative, for example, in organising the allocation of students to supervisors and overseeing examination arrangements. However in others they are seen as having an academic focus with responsibilities for running structured doctoral programs, developing supervisory capacity and developing a culture for research students. However, few institutions explicitly see those occupying these as leadership roles. Similarly, many staff who find themselves in this kind of leadership role, like others in mid-level informal leadership positions may not see themselves as leaders but rather as administrators or managers (de Boer & Goedegebuure, 2009).

When asked to describe their role many spoke about day-to-day activities of administration and dealing with students. They indicated that while to some degree they all learnt as they went along, one or two were given ‘folders’ from the previous occupant of the role. No

mention of training or systematic introduction to the role was made. Many of their responses indicated that time allocated for their role, either formally through workload plans or informally through discussion with their managers, was not enough. Several of the interviewees discussed how their roles had changed since they took on their position including the effects of the growing number of students, compliance and other regulatory issues. Indeed, it very soon became apparent to the project team that there was a need to establish new ways of viewing the activities and influence of research education coordinators. Therefore we next map the scope of activities and functions that coordinators said that they were engaged in. We then look at how these are organisationally focused.

Scope of coordination

Some coordinators saw their role as primarily working with students, others tend to work more with supervisors, whereas others work mainly at the institutional level as implementers of policies and practices. Commonly, many of these functions overlap as it becomes necessary, for example, to influence the institution or supervisors in order to work effectively with students. See Figure 2.

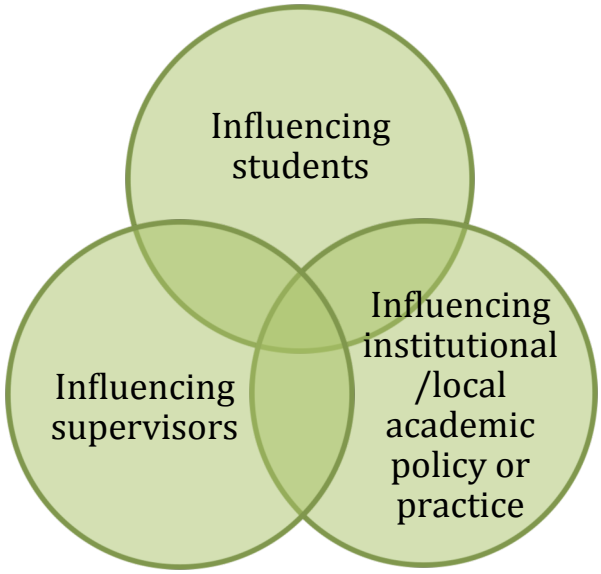

Figure 2. Scope of research education coordination

Focus on influencing students

Those with this focus were commonly involved as the first contact point for admitting potential research students and putting them in touch with potential supervisors. Interviewees commented on their involvement in all aspects of the application process. The different aspects included: the ranking and strategic use of scholarships and the allocation of supervisors to new candidates. The Student Coordinator may oversee this process and signoff on the paperwork. In terms of the ICVF they are acting as a Deliverer and Monitor.

> *I am the contact person for future students and I help find them a supervisor. I may put them in touch with someone who I think would be suitable or I encourage them to look at the website and see what different groups are doing. When the student finds a supervisor who says 'yes I am interested' then I can sign the paper* (Biomedical sciences, University 1)

Many coordinators were involved in the examination process either from an administrative perspective or guiding the process. These activities also tend to fall in the Monitor and the Deliverer segment of the ICVF.

Coordinators may also be involved in organising student-related activities and programs whether formal or informal. These may range from induction and orientation sessions, to organising a yearly student conference. A number commented on induction processes and programs they provided, or not, for new students. While they mentioned formal coursework, many coordinators were involved in programs or workshops for research education students outside such coursework as well as organising other events such as social events or visiting speakers. In terms of the ICVF these activities exemplify the Developer role in relation to students.

> *I try to organise two gatherings a year with all the students; one at the beginning so they can to get to know each other and one towards the end of the year. We also have a yearly student conference for our PhD students. It's a student organised one so we are not organising it but certainly we are in the background as a sort of fall-back and to answer questions.'* (Science, University 1)

Interviewees' involvement with research students either in a pastoral sense, confirmation processes, reviewing yearly reports on students and signing them off or where the students have problems with their studies was a large part of most, but not all, roles. Those coordinators who dealt with larger number of students raised involvement with supervisors in terms of supporting and providing professional development. In other cases they often recognised what was required but they did not have the resources to do it at the local level. Many interviewees specifically addressed how they were involved with solving problems between supervisors and students.

> *When students have their milestones and reports then I read the reports and I sign them off. Sometimes students come to me with their problems and I see if I can do anything about them. One student came with a big problem about the graduate field on the testamur because it didn't match the area of research he had undertaken so we sorted that out for him.* (Biomedical sciences, University 1)

In this way, in terms of the ICVF they were carrying out the Broker role.

Focus on influencing supervisors

Coordinators with this focus were commonly involved in working primarily with supervisors. The Research Coordinator's work with this focus may include:

1. Supporting and mentoring new supervisors
2. Dealing with problem supervisors
3. Organising activities for supervisors
4. Maintaining the supervisor register
5. Ensuring cover when supervisors are absent
6. Liaising with central academic development unit and/or the graduate school for supervisor development

> *'I am interested in supporting new supervisors but also getting more experienced supervisors to embrace new ways of doing things and I think that is part of our plans.*

I am also interested in some sort of mode of communal mentoring opportunities for new research supervisors to get together and discuss the kinds of issues that they find and looking for ways of sharing their experiences as well.' (Education, University 1)

This is quite a different emphasis than that of those focused on students although those that see their role in this way often work with both students and supervisors. It includes considerable aspects of the Developer role in the ICVF but here the focus is on supervisor, not student development.

Focus on influencing the institution
Those with this focus were commonly involved in the development of policies or practices and linking with other faculties, the university graduate school or equivalent. They exemplify the Innovator role in the ICVF, but also often the Monitor, where the focus is on assuring quality in practice, or the Developer where the focus is on improving the experience of students or supervisors..

Typically this focus may be that of a person with a designated role such as head of research degrees in the faculty. It may be a senior staff position charged with oversight of research degrees in all the different areas of the faculty. The person with this focus may work primarily with the directors/coordinators of research areas, as well as staff in the research office. They are likely to work at the macro level, by developing the vision for what research degrees should look like in the faculty, the processes that are used, and standardisation and quality assurance of those processes. This role may not have a lot of direct contact with students, except in cases that need particular support eg. where an issue that has arisen with a supervisor, or the work progress of a student. There is likely to be active engagement with supervisors but the main focus is the institution, faculty or school. It may include:

1. Convening a committee such as a research degrees committee within the faculty.
2. Having the authority of the faculty to make decisions and sign off on paperwork
3. Working to improve the practice of supervision, by supporting new supervisors, and helping more experienced supervisors embrace new practices
4. Working with the directors/coordinators from research groups to help them organise structured activities for students.
5. Contributing to student seminars, or organising student workshops
6. Membership of the board of the university graduate school.

Most of what I do is at the macro level: it's the vision for what research degrees should look like in the faculty, the processes that we use, standardisation and quality assurance of those processes. I convene a committee called the Research Degrees Committee (which I initiated) which consists of the support staff for [research students], the nominees from the research strengths, a post doctoral Fellow, and an early career researcher. We meet to decide on policy that we're going to implement, generally policy that I bring to the group and negotiate with the group and modify as required by the members of the group and then it's really up to the group members to sell that vision to the people in their … [area] (Education, University 2)

Organisational focus of research degree coordination
We now turn more specifically to the question of the aims of such coordination; what it is intended to achieve and how coordinators exercise influence in their role. While, research coordination emerged from the processes of admitting research students and allocating them

to supervisors at school or departmental level, in an expanded conception of the role, it is increasingly located in one of two ways: either focused on building research strengths or on managing and improving practice (see Figure 3). In many instances, actual roles are a hybrid of the two emphases, particularly in contexts where a university has a large number of research strengths.

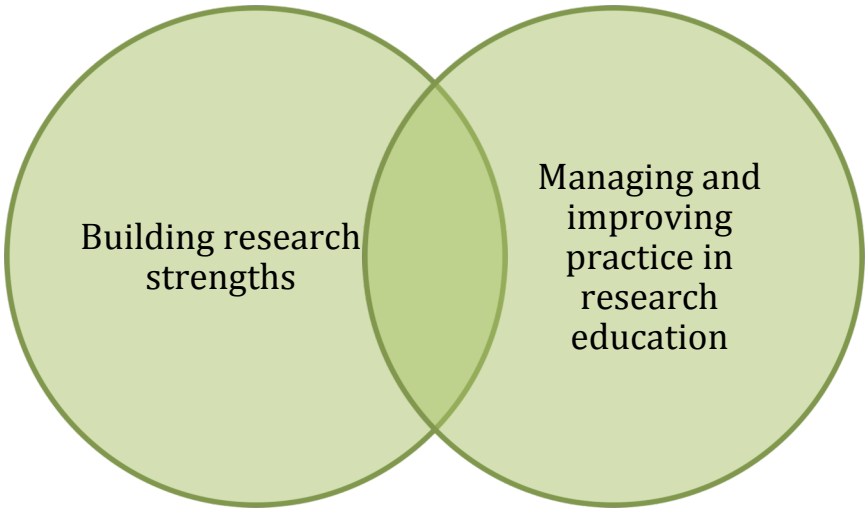

Figure 2. Organisational focus of research education coordination

Related to building research strengths

The emphasis of the roles in some institutions is on recruiting and developing students to support research centres designated as institutional research strengths. Development of students is framed within the needs and future directions of an established program of research. Quality is seen in terms of contributing to building the overall capacity of the research strength as well as developing the student. In this sense the coordinator role exemplifies the Broker and/or Innovator and Developer roles.

> *… The idea is to enrich the research experience of post graduates but it's slightly unique in that it's not just for post graduates. It's actually for all the members of research community and that includes academics and post docs as well. It's to develop a community so everyone looks after each other and gives support: … students can see how academics do things and also get the support they need.* (Geosciences, University 3)

Often coordinators have a wider role than for a given research strength. Indeed, there can be a tension between allocating students equitably across supervisors in a school and the strategic role of building particular research capacity in a priority area.

Related to managing and improving practice in research education

In some instances the emphasis is not so much on building research strengths in a particular area but on providing high quality experiences for students no matter where or with whom they are supervised. A focus on good programs, linking students with the wider resources of the institution and in developing supervision to meet contemporary standards of quality is typical. The Broker role becomes particularly important, as the coordinator may need to liaise with others in many roles. Coordination may be located within a wider group than a designated research strength: a school or faculty, for example.

My role is Head of Research Degrees in the Faculty. It's a senior staff position charged with oversight of research degrees in all the different areas of the Faculty. We have about 300 research students, and my role takes up about 0.4 of my time. As students are assigned to research strength areas, I work primarily with the directors/coordinators of those areas, as well as staff in the research office. …I don't have a lot of direct contact with students: most of the interaction I have with students is because there is some kind of issue that has arisen either with the supervisor or because they're running behind in their work and they need support or they need to do things in a different way or a supervisors concerned about them. (Education, University 2)

Choice of which organisational focus coordinators take is of considerable strategic importance and should reflect overall research policy of the institution and the university graduate school if there is one. Ambiguity can create tensions in the coordination role that are difficulty to manage, with tensions between a strategic Innovator role and time-poor Deliverer being common. For RECs, the roles and the values associated with those roles are often distributed, so the notion of 'competing values' inherent in the ICVF can be reflected in competing demands for the RECs' priorities and time.

I was doing a hundred other things, the teaching and others and then I got that, I have no problem with it but if I have help, if I understand what I need to do then I can plan and I'm not learning along the way and saying 'oh I have to fix this and I have to fix this' and 'oh by the way XXX goes to XXX and I'm thinking so should I now start a total revamp of the system and then in six months time I won't be here and someone else is taking over and they might want a totally different system or don't want to do anything with it apart from signing and then it looks really bad. (Biomedical Sciences, University 1).

the biggest part is actually paper pushing as I found out just a huge amount of paper, constant surveillance and monitoring and just a huge amount of signing bits of paper…. So far I haven't had a huge amount of sense of strategy and I think that's partly because the larger strategy is set by the university and the larger strategy at the moment I think is the introduction of the new Graduate Program … but I also think it's because it's hard to think strategically because there's just not enough time in terms of the day to day stuff. So I was thinking about this the other day, 'am I thinking strategically' and I think probably not that much because of the day to day stuff. (Science, University 3)

The coordination role and the issue of leadership

As seen above, most of the interviewees made remarks that could be categorised within the Broker role of the IVCF model, that is, about bringing either students or colleagues or both together to accomplish a task or resolve problems. Along with the role of Broker many coordinator activities could be seen within the Innovator role as they wished to make or had made changes in their areas. In terms of changes they had introduced where they were active in ensuring that the changes were implemented this sat well with the Deliver role of the model. Only a very few comments by coordinators were categorised as falling in the Developer role which includes caring for others and building teams. The roles that were least evidenced in the interviews were the Developer and Monitor roles.

The ICVF has been useful in identifying the particular kinds of activities that coordinators are engaged in. However, it does not explain the ways in which coordinators work within their institutional context in the exercise of leadership.

While the main focus of respondents' comments was their functional responsibilities and how they saw them, leadership was directly discussed or was touched on in all the interviews. In many cases when the interviewer suggested to the interviewee that leadership may have occurred but not necessarily been recognised by the coordinators themselves, a role as a leader was specifically denied. This raises the issue of what respondents were taking leadership to be and what they saw as not being leadership. There were statements that clearly positioned leadership as synonymous with having a managerial or influential role and having formal academic responsibility for others, as is the case with heads of departments. When leadership was acknowledged, it was done so in terms of what the individual brings to cope with the tasks they face.

> *It is leadership because I did formulate the idea, there was a need and I filled the gap and I understand that that can be seen as leadership clearly* (Indigenous Studies, University 3)

> *'So leadership is broader though is really difficult because … no one has the role to be a leader … but on the other hand the non-role base leadership requires support by the people who are in the role as leadership positions* (Education and Computing, University 1)

Many coordinators commented upon how changes in doctoral education practice impacted on them and their leadership activities.

> *I think it's very much about selling the vision and negotiating and consulting with people rather than saying 'this is how it's going to be* (Education, University 2)

> *I think that's a really important aspect of this role given that I'm trying to convince people to do things over and above what they are actually required to do with no real benefits* (Geoscience, University 3)

> *You need to lead up and down, you need to be totally pivotal to find out your stakeholders, see who've got the most urgency legitimacy and power, sort out what happens because really I'm a nobody in the College* (Business, University 4)

These leadership enactments exemplify the position of coordinators who are rarely identified as leaders and indeed, do not see themselves as such but who occupy a liminal space between those who have a defined leadership or management role such as deans and directors of graduate studies on the one hand, and students and supervisors carrying out particular tasks on the other.

Distributed leadership

This notion of informal leaders occupying roles of influence and with the ability to introduce change is brought to the fore in the concept of distributed leadership (Gosling, et al., 2009; Lumby, 2009). The settings for building leadership capacity using distributed leadership go beyond the development of positional leaders to focus on ensuring the context and culture of an institution are appropriate (Bolden, et al., 2008). It also foregrounds opportunities for informal leaders to develop their skills which, as we have seen, is a role played by coordinators. The culture in which such leadership occurs is important and a culture of autonomy and respect rather than control is one of the markers of where distributed

leadership can be effective. This kind of culture is typical of research education coordination and is therefore very useful in understanding the role in relation to the institutional context.

The distributed leadership dimension overlaps with the broker role of the ICVF which, as we saw above, helps to explain a considerable part of the activities of the coordinator. Most coordinators felt that they operated best by influencing others as they often had no direct authority over things they wish to change. Thus, while the ICVF framework describes the activities of the research education coordinator, a distributed leadership view fits more readily with how coordinators see themselves. They eschew positional leadership because they do not see themselves as having positional authority, but they do see themselves as exercising influence.

> *If someone said 'oh explain a situation where you're a leader in your role' well I'd have to think about it because I think of myself more as a facilitator* (Geoscience, University 3)

> *Influencing colleagues about supervision (whether that be in the department or the university) is a form of leadership, even if it is just convincing them of something the university wants them to do!* (Social Science, University 3)

> *So the personal connections of your personal network is what makes it successful and not processes enforced by the university or any kind of formalized bureaucratic system, everything is based upon a personal relationship* (Business, University 4)

As exemplified in the quotations, leadership in research education has many of the characteristics of distributed leadership. For example, it is common for the dean of the graduate school, academic developers working with research supervisors, the faculty or departmental co-ordinators and supervisors not to sit within a single institutional structure: reporting relationships often exist outside the group with a common interest in research education. Therefore, changes often have to occur through informal networks by means of persuasion and advice rather than by formal authority. Within faculties this structure is also replicated in the associate dean of research portfolio, research education coordinators, leaders of research groups and supervisors. They may not be connected through a single formal structure but rather through informal networks without a unitary hierarchy present. These situations are typical of where a distributed leadership approach can be effective in enabling change (Gosling, et al., 2009).

Discussion

It is evident from this analysis, which has been reinforced by subsequent meetings with a wider range of those involved in coordination, that regardless of the mapping of the possibilities of this function, there is not a de facto single role of research education coordinator or even acceptance of what the necessary range of activities within a role should be. Despite the clear shifts in policy regarding research education that create a demand for the coordination function, locally, nationally and internationally, the features associated with coordination do not appear to be implemented in a coordinated manner in many contexts. In many cases, the roles described in the ICVF are distributed across staff in several different roles, or some roles, such as Developer, may be performed only to a limited extent. Even within the same university there appears to be different types of position in different faculties with different emphases in each. This suggests that development is ad hoc and in many cases there is no overall institutional strategy defining the research education coordination role and resolving the sometimes conflicting reporting paths.

Furthermore, coordination is in many cases curiously unrelated to supervisor training which may be organised centrally without significant input and engagement from faculty and departmental practices. The role of coordinators in relation to the development of supervisors is yet to be fully recognised. Where institutions provide for central development so that supervisors become aware of institutional policies and procedures; (work which might reasonably be conducted by a graduate school or an academic development centre), there is also a need for development at the departmental and/or faculty level and within research centres. This is an important function that sits with no one unless there is a local coordination role. Those occupying such roles can be exemplars of good practice and can raise important issues to be addressed at the local level, for example, how to encourage students to participate in the research culture of the department. Coordinators can also arrange disciplinary supervisor mentoring and, as the first port of call when things go wrong, are in a good position to take steps to ameliorate unacceptable supervision practice.

It is clear that research education roles are emerging at different rates in different places; with one of our partner institutions currently limiting the role to little more than the traditional one of assessing applicants and allocating students. It is also clear from our data, however, that these roles have developed much more extensively in some universities and that these developments are not necessarily related to the institution's standing in research. We have shown in our analysis that in some institutions and departments the research education coordinator role is focused specifically on building the institution's research strengths and in others the focus is weighted more towards managing and improving practice. As demands on research education continue to grow, both of these foci are likely to be needed. It is therefore important that institutional research strategies take into account the ways in which these functions might be performed or enhanced through strengthening the role of the research education coordinator.

Some coordination positions are formally recognised with job descriptions, allocation of workload and a defined position in relation to academic management. Other coordinators operate informally with fuzzy boundaries on what they do, with no clear sense of what is expected of them and with little accountability. This ambiguity does little to foster research education. Our analysis does not suggest that one person should necessarily undertake these different roles. Institutions will find different ways to address these issues.

While it is apparent to the external observer that those with coordination roles are already exercising leadership and will need to do so more as their positions are strengthened, coordinators showed a disturbing lack of acknowledgement of their role as influencers among a minority of institutions. This lack of acknowledgement occurs mainly when there is lack of clarity within the institution about what the role involves. There is thus a need for institutional development with regard to this if the new requirements of research education are to be fulfilled.

Our data suggest that institutions will need to examine suitable and sustainable coordination positions, whether they are stand alone or in conjunction with other responsibilities, and take steps to ensure that the personnel appointed to take on these roles are given the appropriate resources and support to exercise the leadership necessary in carrying them out. Most importantly, ambiguities in what the position does and does not include will need to be addressed. We should not be sanguine however that the local leadership dimension of these positions will be embraced with enthusiasm. There is enough evidence in our data to suggest

that, in the context of growing resistance to work intensification and expectations that more is done with less, investment in making these roles attractive within the context of an academic career will be needed if they are to develop successfully.

Conclusion

Changes in the landscape of research higher degrees suggest that strengthening coordination of research education is important because even though the role of supervisors is likely to develop further in the future, there is also a need for people within academic units that have a broader perspective on research education than supervisors. If any of the developments occurring in research education are to be effectively realised, there is a need for more disciplinarily grounded perspectives than the centralised units and functions such as those embodied in university graduate schools allow for. There is also a need for a more nuanced understanding of the needs of students that goes beyond formal degree requirements and can focus on inducting them into research communities. The relationship between research students and research strengths and the need for research students to be seen as central to the research priorities of the institution is becoming more significant across universities as research intensification rapidly proceeds. This article has provided an overview of the activities of the research education coordinator and mapped their various functions. We have argued that the role is a leadership one in the sense articulated in distributed leadership. This suggests that it is therefore important that all of the issues mentioned in this article are addressed centrally as well as at departmental and faculty levels. Changes in research education will not be fully realised unless there is both willingness at the institutional levels and local champions to foster the new connections needed.

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References

Austin, A. E., and Wulff, D. H. (2004). The challenge to prepare the next generation of faculty. In D. H. Wulff & A. E. Austin (eds.), *Paths to the Professoriate: Strategies for Enriching the Preparation of Future Faculty* (pp. 46-73). San Francisco, CA: Jossey-Bass.

Bolden, R., Petrov, G., & Gosling, J. (2008). Tensions in Higher Education Leadership: Towards a multi-level model of leadership practice. *Higher Education Quarterly, 62*(4), 19.

Bolden, R., Petrov, G., & Gosling, J. (2009). Distributed Leadership in Higher Education: Rhetoric and Reality. *Educational Management Administration Leadership, 37*(2), 257-277.

Boud, D., & Lee, A. (Eds.). (2009). *Changing Practices of Doctoral Education*. London: Routledge.

Bourke, S, Holbrook, A. Lovat, T. and Farley, P. (2004) Completion and Completion times of PhD candidates. Paper presented at the AARE Annual Conference Melbourne, 28 Nov –-2 Dec 2004

Corrigan, J. (2013): Distributed leadership: rhetoric or reality?, *Journal of Higher Education Policy and Management*, 35:1, 66-71

Cumming, J. (2010). Doctoral enterprise: A holistic conception of evolving practices and arrangements. *Studies in Higher Education*, 35(1), 25-39.

Cumming, J. and Kiley, M. (2009) *Research Graduate Skills Project*. Sydney: Australian Learning and Teaching Council.
de Boer, H., & Goedegebuure, L. (2009). The Changing Nature of the Academic Deanship. *Leadership, 5*(3), 347-364.
DIISR (2010). *Australia's future research workforce: supply, demand and influence factors. Canberra:* Department of Industry, Innovation, Science and Research
Gosling, J., Bolden, R., & Petrov, G. (2009). Distributed Leadership in Higher Education: What Does It Accomplish? *Leadership, 5*(3), 299-310.
Gronn, P. (2000). Distributed Properties: A New Architecture for Leadership. *Educational Management Administration Leadership, 28*(3), 317-338.
Gronn, P. (2009). Leadership Configurations. *Leadership, 5*(3), 381-394.
Halse, C., & Malfroy, J. (2010). Retheorizing doctoral supervision as professional work. *Studies in Higher Education, 35*(1), 79 - 92.
Hammond, J., Ryland, K., Tennant, M., & Boud, D. (2010). *Building research supervision training across Australian universities*. Sydney: Australian Learning and Teaching Council.
Jones, S., Lefoe, G., Harvey, M. & Ryland, K. (2012): Distributed leadership: a collaborative framework for academics, executives and professionals in higher education, *Journal of Higher Education Policy and Management*, 34:1, 67-78
Kehm, B.M. (2007) Quo vadis doctoral education? New European approaches in the context of global changes. *European Journal of Education* 42, 3, 307-19.
Lee, A. (2008). How are doctoral students supervised? Concepts of doctoral research supervision. *Studies in Higher Education*, 33 (3) 267-281.
Lefoe, G., Parrish, D., McKenzie, J., Malfroy, J. and Ryan, Y. (2011) *Subject coordinators: Leading professional development for sessional staff*. Sydney: Australian Learning and Teaching Council.
Lumby, J. (2009). Collective Leadership of Local School Systems: Power, Autonomy and Ethics. *Educational Management Administration Leadership, 37*(3), 310-328.
Manathunga, C. (2005). The Development of Research Supervision: 'Turning the light on a private space'. *International Journal for Academic Development, 10*(1).
National Science Board. (2003). *The Science and Engineering Workforce: Realizing America's Potential*. (NSB 03-69). Washington, DC: National Science Foundation.
Park, C. (2007) *Redefining the Doctorate*, London, Higher Education Academy,
Pearson, M., & Brew, A. (2002). Research Training and supervision development. *Studies in Higher Education, 27*(2), 135 - 150.
Pearson, M., Cumming, J., Evans, T., Macauley, P., & , K. (2011). How shall we know them? Capturing the diversity of differences in Australian doctoral candidates and their experiences. *Studies in Higher Education*, 36(5), 527-542.
PREQ (2011) *Postgraduate Research Experience 2010*. Graduate Careers Australia http://www.graduatecareers.com.au/Research/ResearchReports/PostgraduateResearchExperience (viewed 27 January 2013)
Quinn, RE 1984, 'Applying the competing values approach to leadership: toward an integrative framework', in *Leaders and managers: international perspectives on managerial behaviour and leadership*, eds JG Hunt, DM Hosking, CA Schriesheim & R Stewart, Pergamon Press, New York, pp10–27.
Quinn, RE 1988, *Beyond rational management: mastering the paradoxes and competing demands of high performance,* Jossey-Bass, San Francisco, CA.
Quinn, RE, Faerman, SR, Thompson, MP & McGrath, MR 2003, *Becoming a master manager:a competency framework*, 3rd edn, New York, Wiley.

Quinn, RE & Rohrbaugh, J 1983, 'A spatial model of effectiveness criteria: toward a competing values approach to organizational analysis', *Management Science*, vol. 29, no. 3, pp363–77.

Trigwell, K. and Dunbar-Goddet, H. (2005) The Research Experience of Postgraduate Research Students at the University of Oxford. Oxford: Institute for the Advancement of University Learning, University of Oxford. http://www.learning.ox.ac.uk/media/global/wwwadminoxacuk/localsites/oxfordlearninginstitute/documents/overview/rsv/PGRreport.pdf (viewed 27 January, 2013)

Vilkinas, T. (2002). The PhD process: The supervisor as manager. *Education and Training,* 44(3), 129-137.

Vilkinas, T., & Cartan, G. (2006). The integrated competing values framework: its spatial configuration. *Journal of Management Development, 25*(6), 505-521.

Vilkinas, T., Leask, B., & Ladyshewsky, R. (2009). Academic leadership: Fundamental building blocks. Sydney: ALTC, Available online at http://www.altc.edu.au/resource-academic-leadership-development-within-unisa-2009