

## Growing a learning community for research

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**Abstract:** *This case study gives an account of work in progress to grow a learning community of graduate research students that explicitly addresses the systemic complexity of a contemporary university, and provides strategies to overcome some limitations of traditional individual supervision, while retaining its main strengths. Faced with the experience of a shift in organisational culture away from a community of scholars towards the corporate university, and increasing demand for graduate research supervision, some members of a school in a health sciences faculty drew on systems thinking and action learning principles to find ways of supporting graduate research students to complete their theses well and on time. The group devised a research learning circle which started to meet monthly during 2002, with five graduate research students and an academic facilitator. The learning circle was rich in theory and practice of action learning, action research and facilitation. Having surpassed expectations during its first year, the research learning circle has continued and grown.*

*Research learning circles and individual supervision are the two main sub-systems at school level in a graduate research education system. Research learning circles focus on the process of doing research, rather than the knowledge content of individual projects. Mutual help, dialogue, interpersonal support, and trust are key elements in the learning circle process. Currently, three research learning circles support 17 graduate research students. Informal evaluation indicates that students find research learning circles a valuable part of their learning experience.*

**Keywords:** *research supervision, learning circles, learning community*

### Introduction

‘I am sure that a day with good things – full of friendship, mutual respect and helping each other – will come’ (Dalai Lama)

This case study gives an account of work in progress to grow a learning community of graduate research students that explicitly addresses the systemic complexity of a contemporary university, and provides strategies to overcome some limitations of traditional individual supervision, while retaining its main strengths.

The dominant model for education and development of graduate research students remains individual supervision in a one-to-one relationship. ‘The transformation of the student ... into an independent researcher is effected through an individualised working relationship between the student and an

“expert” researcher (or two)’ (Grant, 2003: 175). While other approaches have been used (for example, Checkland & Holwell, 1998; Levin, 2003) individual supervision is commonly used in research led universities. This ‘apprentice’ educational model would not have continued for as long as it has if it did not work. It is supported in the literature, and by a range of resources (Gurr, 2001; Kandlbinder & Peseta, 2001; The University of Sydney, 2003, 2004).

Recent years have seen rapid increase in demand for research education, ‘an increased emphasis on efficiency and quality, and on the wider context’ (Pearson & Brew, 2002). Like many departments, the School of Behavioural and Community Health Sciences at The University of Sydney has experienced a surge in demand for graduate research supervision since 2000, accompanied by decline in available resources, fewer staff, more emphasis on accountability procedures, increasing workloads, and pressure to increase income. As Jan Currie points out, these pressures have been experienced by many academics as a shift in the organisational culture of universities away from the community of scholars towards the university as corporation (Currie, 2005).

In this context, like many other academics I found a lack of team support, cooperation and generosity that affected my supervision practice. I searched for a research community to belong to, and after several years, when an opportunity presented I decided to grow one.

### **Complexity and knowledge**

The apparent simplicity of individual supervision, in which one experienced researcher transmits knowledge, attitudes and skills to one research student, masks problems (Grant, 2003) and complexities (Pearson & Brew, 2002). The traditional model of supervision is grounded in assumptions about the nature of knowledge, rational inquiry and project management. Among these are, I think, assumptions that knowledge about a specific topic can be known by an individual supervisor and acquired by an individual student; that an individual can generate knowledge by rational empirical inquiry, and that a research project can be designed and planned, then carried out following this plan. Knowledge gained is an outcome of the plan, through known cause-effect chains. There is a great deal of theory, empirical evidence, and practical experience to support the validity of these assumptions. They work, and this has been abundantly demonstrated.

It is also true that these assumptions do not work, and that science and research do not operate this way. New knowledge is never produced by individual researchers. New ideas, discoveries, meanings and confirmations always build on the work of previous researchers, professionals or others, and the process of creating meaning is always social. It is not possible for humans to make new knowledge without interaction and communication. We know that many major scientific discoveries are the outcome of chance, serendipity or profound insight. This is true in the physical sciences, and more so in the health and social sciences (Gleick, 1987; Hawking, 1988). My experience is that many supervisors and students take a strategic approach to tasks like preparing a proposal, applying for ethics committee approval, writing up data collection and analysis and presenting the story of the research project in the final thesis. Research is often written up as an ordered sequence of events with logical deduction based on empirical observation, when events on the ground and the actual construction of knowledge was much more messy, complex and disorganised.

The traditional student supervisor model can work well in meeting students’ needs, but it places heavy demands on individual supervisors, the model is not open to formal or informal evaluation or peer review, and the quality of research education depends largely on the goodwill, interest and skills of individuals. The closed and intimate relationship makes the system susceptible to various abuses (Grant,

2003) including corruption, sexual harassment, exploitation of students, and supervisors doing student's work for them. Gossip around the University indicates that minor abuses may not be uncommon, and because it is usually not in anybody's interest to make serious abuses known, the incidence of these may be underestimated.

Research education is increasingly complex, calling on a range of skills in information management, research design, education and administration, as well as knowledge and skills in a specialist content area. The 'Cynefin model' developed by David Snowden (2002, 2003; Khurtz & Snowden, 2003) identifies four domains of knowledge which he calls 'known', 'knowable', 'complex' and 'chaos'. Rational planning is effective and appropriate in the domains of what is known and what is knowable, but in the domain of complex knowledge, cause and effect relationships can be known only in retrospect and never repeat themselves exactly (Khurtz & Snowden, 2003). The process of gaining a degree through research involves making something known that was not known before. Working on complex problems with unknown outcomes in a complex organisation (Axelrod & Cohen, 1999) always involves uncertainty and unpredictability. Graduate research students in health (Plsek & Greenhalgh, 2001) and other fields work with complex knowledge in complex situations. One individual supervisor can not be expected to possess all the knowledge and skills (let alone the time) required to both lead research and educate researchers, through a one-to-one relationship. While individual supervision has much to offer, students need the support of a learning community, so they can draw on a range of knowledge, skills, capabilities and resources.

### **Research learning circles**

Engaged and enthusiastic supervisors bring the whole of their experience, knowledge and skill to supervision. In my case, this includes a professional background in community development, practice in participatory action research and related approaches, and a theoretical interest in systems thinking and complex adaptive systems. Systems practice (Checkland, 1981; Senge, Kleiner, Roberts, Ross, & Smith, 1994) and the pragmatics of human communication (Watzlawick, Beavin, & Jackson, 1967) lead me to conclude that current systemic factors are significant for my practice as an educator of graduate research students. As a supervisor and facilitator I adapt to and help to shape context in which I work. In this School and Faculty there are pressures to work smarter with increasing demand and shrinking resources; I am encouraged to use information technology, especially to support research students working off-campus or overseas; and I am able to work with colleagues and research students to provide support and facilitation to small groups of research students based on action learning principles.

Around the year 2000, research students in the School complained about loneliness, poor supervision and lack of resources. Simultaneously, the University and Faculty asked the School to increase the amount and quality of research education in the face of shrinking resources. The School wanted to generate income from overseas fee paying research students, and this increased the demand made on research supervision capability in the School. To do more with less, we needed systems to enable the students to complete good theses on time. A small action inquiry group was formed during 2000, consisting of two academic staff (myself and another) and two graduate research students employed as part-time research assistants. We determined to find ways to work smarter, not harder, to improve graduate research education. This group put forward a proposal to provide support and facilitation to groups of students, based on action learning principles, combined with effective use of information technology, especially for students working off-campus or overseas. In effect, this small group determined to develop an improved system for education of graduate research students.

One origin of this graduate research education system was a visit to a research learning circle (called a 'learning set') conducted by Southern Cross University in Singapore during 2000. Local facilitators conducted learning circles, and students communicated with supervisors in Australia by e-mail and telephone. At least once a year each principal supervisor would visit Singapore for face-to-face individual supervision and to participate in the learning circle.

The learning circle was founded on action learning principles (McGill & Beaty, 1992; Weinstein, 1995) which draw on the Kolb experiential learning cycle (Kolb, 1984), principles of action research (Reason & Bradbury, 2001b), naturalistic inquiry (Lincoln & Guba, 1985) and other sources. In an approach building on Paulo Friere's (1972) work, that I have called 'Problem Posing Education' (Hughes, 1991) the educator's primary role is not to transmit information or knowledge from a supposedly full vessel to a relatively empty one, but to facilitate processes (Reason & Marshall, 2001) through which students learn by working on problems that emerge in context and are relevant to their individual learning needs.

The first research learning circle in the School of Behavioural and Community Health Sciences met monthly during 2002, with five graduate research students and a facilitator, with the aim of enabling research students to complete their theses well and on time. Learning circles are additional to traditional individual research supervision arrangements, which remain in place. We hoped that the learning circle would provide peer support, ensure some progress was made each month, support the generic processes associated with postgraduate research education, and ease pressure from the individual supervision relationship, allowing individual supervisors to focus more on the content of individual projects. Meetings were held each month, with the last meeting of the year in a restaurant, as a review of the year's work. One learning circle participant graduated with PhD early in 2003. Outcomes of this learning circle exceeded our expectations (Hughes et al., 2003), and we were encouraged to continue.

Participants attributed the success of the 2002 research learning circle to a number of factors. The learning circle was rich in theory and practice of action inquiry (action learning and action research) (Reason & Bradbury, 2001b) and facilitation (Hunter, Bailey & Taylor, 1994). One of the research student participants had professional background in action learning and facilitation, and a second had exposure to the theory and knowledge base. All the participants brought their interpersonal skills and their motivation to succeed in their projects. In addition to providing support and pacing progress, the learning circle was a rich opportunity for sharing tacit knowledge. Bits of information about managing the institution of the University, tips on library use and a variety of other knowledge were exchanged. Students commented on how, previously, as individuals they had spent large amounts of time chasing information that they could access quickly with the combined resources of the learning circle.

Research learning circles have continued to meet. By the end of 2004, two learning circles met each month with a total of 14 active participants. In the first half of 2005, 17 participants met in two on-campus and one off-campus learning circles. The 17 participants included two facilitators, 11 PhD students, three Doctor of Health Science students and one independent researcher. This represents less than fewer than half of the research students in the School of Behavioural and Community Health Sciences, and includes two participants enrolled in other Schools or Faculties. Reasons for not joining include the dominance of the traditional model of individual supervision, in which supervisors are expected to provide for all the needs of their students, and the limited availability of skilled and capable facilitators.

We use the Internet and information technology to make the most effective use of valuable human resources. From the start of 2002 we have used a web site (<http://www2.fhs.usyd.edu.au/arow/o/m07/m07.htm>) and an e-mail discussion list to communicate with participants both on and off-campus. With

a colleague I am developing systems to provide off-campus research students with effective participation in an on-line research community through use of e-mail and Microsoft SharePoint Team Services (see Microsoft, 2004).

### The graduate research education system

This graduate research education system has two main sub-systems: individual supervision and research learning circles. Graduate research administration in the School, Faculty and University are important super-systems, making a nested hierarchy of systems for research education (see Figure 1). The University Library is one of several university-wide systems providing input.

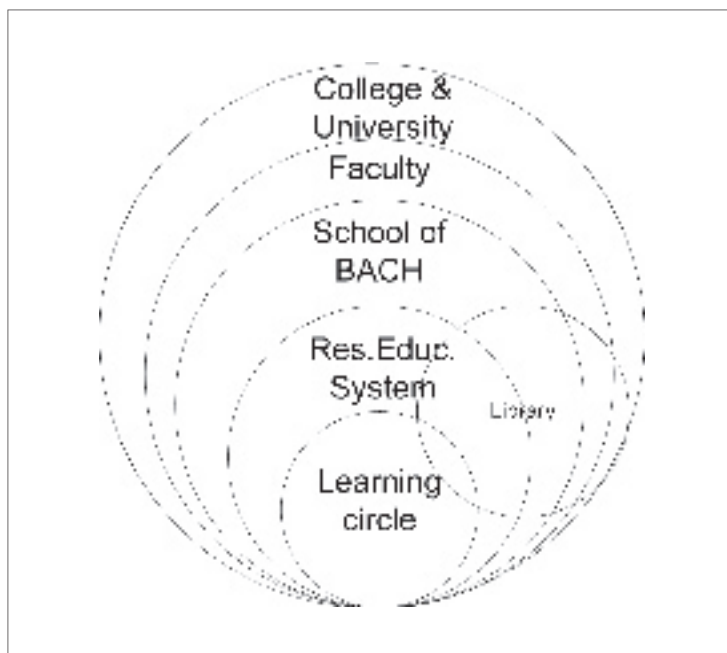


Figure 1. Nested Systems for Research Education

Figure 2 represents the research education system in early 2005. One representative research learning circle is shown. In Semester 1, 2005, with a colleague Andrew Campbell, I coordinate three research learning circles which provide support to 17 graduate research students. Each learning circle is facilitated by an academic who provides formal individual supervision to some student participants, while others receive individual supervision from academics who are not part of the circle. Participants in one circle are located overseas or at a distance, and communicate by e-mail and through a SharePoint team services web site.

Inputs to the system include library resources, information from the Internet, and administrative and policy services provided from super-systems in the School, Faculty, College and University. Outputs of this system include research theses, shared tacit knowledge, and useful contacts.

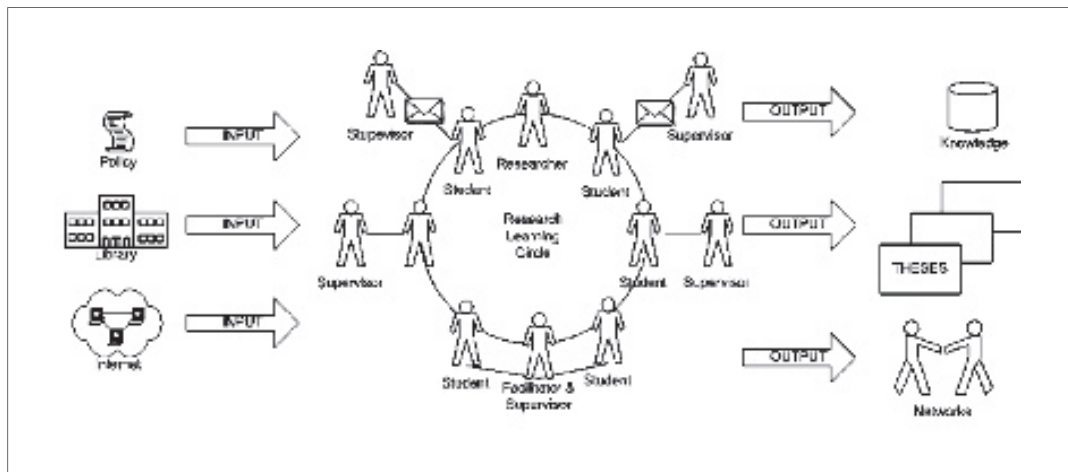


Figure 2: Graduate research education system

The heart of this research learning system (Senge, 1990; Senge et al., 2000) is the learning circle, a small research community meeting once each month for three hours for reflective learning, information sharing and mutual support, and to achieve milestones towards completing good theses on-time. Research learning circles are about the process of learning how to do research (Reason & Marshall, 2001), rather than the knowledge content of individual projects. Mutual help, dialogue, interpersonal support, and trust are key elements in the learning circle process. All participants share the responsibility for the success of everybody's project. The contribution of each member is valued and appreciated. We believe that active research communities will produce high quality, early completion and fewer dropouts in research degrees. Research learning circles support these processes. They are also fun (Hughes, 2003).

### Feedback and evaluation

Regular monthly feedback cycles, structured through four reflective questions, are a feature of the research learning circles. Each participant presents answers to four questions to the monthly meeting. These are collected, but for various reasons it has not been practical to capture the full set of data each month. We hoped a new technology (threaded web discussion) introduced into the system in 2005 would overcome this limitation, and provide each participant with a complete record of monthly progress, but this has not worked out. At the end of each year participants are asked to respond to a quick evaluation survey. As this is not confidential, results may be biased towards favourable opinions. Nevertheless, some comments are worth noting.

A very capable overseas student commented that the research learning circle “*is a great support to someone from a distance. It is a genuine link to the university, and you feel like the research experience is more than just ‘getting it done’ over cyberspace. Even though, in my case, there are no real faces to relate to, there is a sense of the person in what you read and interact with. To see projects evolving over time, and to see your own progress, as well as the agonies each experiences at some point in the process makes it all much more meaningful*” (email dated 31 October 2004). An off-campus student in Australia finds the best thing about participating in a research learning circle is “*the sense of belonging to a group of peers, even though I’ll never meet some of them. Knowing there’s others encountering similar problems and doubts helps me conquer mine*” (email dated 30 October 2004). A different overseas student, who often fails to meet targets thinks that it is a disadvantage that “*your progress becomes very transparent. This may feel uncomfortable at times when your progress is slow and may cause stress*” (email dated 30 October 2004).

Monthly discussion in a trusting environment provides a strong safeguard against abuses of supervisory relationships because students can raise and discuss issues at meetings with peers and academic staff, and relationships of trust established with students and staff provide opportunities for discussion on sensitive issues should any arise. Many potential problems in research are managed by sharing tacit knowledge leading to solutions while problems are small.

## Conclusion

In this graduate research education system, learning circles complement individual supervision, which remains a hallmark of research education at The University of Sydney. Each member of a research learning circle receives individual supervision from one or more research supervisors. Learning circles provide peer support, problem solving, reflection, milestones and other process support. This allows more time in individual supervision to focus on content, including theoretical frame, design and research method (Hughes, 2003). Research learning circles require skilful small group facilitation. To be used widely, staff development is needed, such as academics working as co-facilitators with an experienced colleague until they gain confidence. Although it is too early for rigorous outcome evaluation, early indicators are that this system has much to offer to research students and the wider academic community.

The value of small group learning is widely recognised. Research learning circles are one of several group learning opportunities which could be offered to research students, including coursework classes, workshops and seminars, or group supervision. The trust, validation and exchange of tacit knowledge among peers generated in skilfully facilitated research learning circles can be applied across all disciplines and approaches to research. Multi-disciplinary groups using differing research approaches provide a rich variety of input. Research learning circles should be seen as part of a larger system, not as a single solution to all problems faced by research students. Many authors recommend that participation must be voluntary to ensure commitment, and it may be that research learning circles do not suit all learning styles. Each research learning circle takes on its own character and style, and the model is adaptable to meet differing needs.

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