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# Toward the building of a cross-disciplinary doctoral research and writing culture

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**Abstract**

Within the New Zealand university context, there has been a dramatic shift in the demographics of doctoral programs. Moving from an elitist educational environment to one that includes a variety of students from different cultures and educational and linguistic backgrounds has meant that "traditional" doctoral study, in which a student works largely alone under the supervision of just one or two more senior research scholars has become increasingly inadequate. This paper describes a qualitative research study of a cross-disciplinary, cohort-based doctoral writing initiative. Findings from the study have changed how doctoral support is conceptualised within our context and have led to the adoption of a student-focused "talk to think: think to write" peer learning environment.

## Background and introduction

Within the New Zealand university context, there has been a dramatic shift over the past five years in the demographics of doctoral programs. Gerritsen (2010) states that in 2008 (the last year for which published data is available), there were 6,397 doctoral students enrolled in the country's eight universities. Of those, 1,839, or 28%, were from overseas, with approximately half of the international students coming from Asia. The remaining 4,558 doctoral candidates were domestic students. Both numbers represent significant changes from 2001 enrolments, when doctoral candidature was just 310 international and 3,000 domestic students.

Government and university policies are the major factors behind the increase in enrolments and changes to the composition and nature of the doctoral cohort. In 2006 the government introduced a policy of charging domestic enrolment fees to international students, with the result that the annual doctoral tuition for foreign students declined approximately five-fold. At the same time there was a drive within New Zealand universities toward increasing research excellence, exemplified by a shift in the balance from undergraduate to postgraduate enrolments. In addition, increased government requirements for measurable outcomes now linked funding to completions, not enrolments – and within a maximum of four years. Moreover, overseas doctoral scholarships require candidates to produce an acceptable thesis within even tighter time limits (often a maximum of three years). This combination of constraints has placed enormous pressure on students not only to complete their doctorates, but to do so relatively quickly. Such changes are not unique to the New Zealand tertiary context; they have been mirrored in both Australia and the UK (Aitchison 2009; Aitchison & Lee 2006).

This new "face" of doctoral study has introduced a variety of challenges. Moving from an elitist educational environment to one that now includes a far wider variety of students from different cultures and educational and linguistic backgrounds has meant that the so-called "traditional" approach to doctoral study, in which a student works largely alone under the supervision of just one or two more senior research scholars, has become increasingly inadequate (Aitchison et al. 2012; Aitchison & Lee 2006; Boud & Lee 2005; Johnson, Lee & Green 2000). Also, many overseas candidates for whom English is not their first language have been sent from home institutions that *require* them to complete a doctorate. Often they arrive with scant understanding of the hurdles they will face, culturally, linguistically, or educationally (Cadman 2000). Finally, the research doctorate itself is characterised by the production of just one large piece of independent writing – the thesis, which typically is read by only two or possibly three external examiners. There is no other form of assessment, which would characterise the doctoral endeavour as very high stakes indeed.

Given the profound changes to the nature of the doctoral environment, coupled with the critical importance of a single written outcome within a tight time frame, it is curious as to why there has been so little research into doctoral writing, the doctoral experience during thesis writing or even supervisor and candidate understanding of what constitutes a good doctoral thesis (Cotterall 2011a; Hopwood 2010). The scholarship into teaching and learning that does exist has focused

predominantly on undergraduate students, and has largely ignored the more complex, personal and individual nature of doctoral supervision (Pryor & Crossouard 2010; Wisker, Robinson & Shacham 2007).

The University of Waikato, Hamilton, New Zealand was no exception in the difficulties its doctoral candidates faced. Moreover, there was no systematic investigation into doctoral supervisory practices or candidates' perceptions of how the university was performing in relation to their higher-degree study. However, what anecdotal student feedback there was indicated that there was room for improvement. Students had informally, but consistently, spoken of the need for regular, targeted ways they could improve their research and writing skills. For our part, we were interested in how a scholarly research and writing culture could be developed amongst doctoral candidates.

## Conceptual framework

Kiley (2009) argues in her insightful discussion of threshold concepts in doctoral study that candidates face a number of challenges during their doctorates, and that surmounting them both requires and facilitates profound personal transformation. The development of deep understanding of such concepts as theoretical or conceptual frameworks, knowledge of how to shape complex arguments and mastery of doctoral writing conventions all require candidates to cross intellectual thresholds. During such times students can become "stuck", unable to make any progress in their study, which can lead to a sense of failure, isolation or hopelessness (p294). Kiley (2009) discusses various strategies through which students can become "unstuck" so that they can successfully cross the particular threshold that limits their progress. These include a mix of supervisor-student focused learning activities and peer-learning opportunities, including cohort-based conversations, writing tasks and peer feedback.

Similarly, Ali and Kohun (2007) in their discussion of doctoral student attrition developed a framework that explicitly included a range of peer-support writing initiatives as a means of addressing students' social isolation. They argue that it is not students' backgrounds that contribute the most to non-completion, but rather that doctoral attrition is predominantly a "function of the distribution of structures and opportunities for integration and cognitive map development" (Ali & Kohun 2007, p35). Many capable students abandon their study prior to completion as a result of feeling socially isolated. Jazvac-Martek (2009) enriches the conversation about doctoral pedagogy through discussion of the profound identity changes required of students while they become academic scholars. She offers clear suggestions for ways in which such transformation can be facilitated, including the "creation of better supports for student informal venues to share and verbalise their work in deep and meaningful ways" (p262). She also advocates the development of specialised workshops that can help students explicitly examine their own agency as emerging scholars.

What is clear about research (including doctoral) is that it is not a linear process. Research problems are formed and must be articulated in increasingly clear ways. Data is collected and

analysed, and meanings are pondered. Representation of research findings occurs through cycling through the data while possible interpretations are consolidated, honed, refined, linked back to published literature and finally transformed into new understanding. However, the final product of research – the thesis or report – is presented and reads in a linear fashion. It is essential to communicate to students that the process of research, with its inherent ambiguities and cyclical nature, can seem antithetical to the process of writing and producing a linearly structured final document. We would argue that such insights can and should be made explicit during the doctoral journey, an idea that contributed to the development of a doctoral-writing initiative.

In 2009 the Student Learning unit at the University of Waikato trialled a programme called Thesis Writing Circles (TWC) – a name adopted from successful doctoral writing programs elsewhere (Aitchison 2003; Aitchison & Lee 2006; Larcombe, McCosker & O'Loughlin 2007). Although we were experienced as doctoral supervisors and learning developers, we had not worked across disciplines, with students who were not "ours". The aim of the TWC initiative was to develop a cross-disciplinary, collaborative, cohort-based writing culture among doctoral candidates at the university, as no such program existed. There is evidence that collaborative writing programs can have considerable benefit for participants, not only during the doctoral thesis-writing process itself, but also throughout their future careers (Cotterall 2011b; Burnett 1999; Boud & Lee 2005; Caffarella & Barnett 2000; Maher et al. 2008). TWCs can provide an active, supportive and student-led environment in which writing is shared, strategies and skills to enhance the doctoral-writing process are developed and interpersonal networking skills are enhanced. TWCs can also complement supervision.

The original idea for the TWC was that students would bring focused pieces of their own writing to share, and on which they would provide peer feedback, but this was not what most students wanted; during these sessions attendance was extremely small (three to five students). As a result we introduced workshop (information presentation) sessions, organised around general themes such as giving and receiving feedback or writing abstracts. These sessions were much more popular (attendance of up to 30 students). Although the aim of the TWC was to nurture and enhance a collaborative writing and discussion culture amongst doctoral students across the university, it was clear that they had to perceive its usefulness and direct relevance to them or they would not attend.

Thus, to gain better insight into doctoral processes in general and the TWC initiative in particular, we undertook a systematic, qualitative evaluation of student and staff perceptions of both. Our aim was to develop a deeper understanding of how the TWC could be organised and sustained within our context so as to best meet both students' and the institution's writing and research needs at the doctoral level.

## Methodology and research goals

This qualitative research project was framed within a socio-cultural theoretic perspective, and examined the mediating roles of collaborative talk both for the research writing process and for the

nurturing and shaping of an identity as a research scholar. Hopwood, in his exploration of the explanatory role of socio-cultural theory, argues for an "agentic view of doctoral students" (2010, p104) that moves beyond the student-supervisor dyadic relationship to acknowledge the powerful role that others, including peers, play in shaping scholarly identity. Further, he postulates that doctoral students are not powerless recipients of knowledge from supervisors; rather, "language, concepts, material artefacts and relationships with others mediate such processes. Mediation occurs as individuals incorporate signs, meanings or tools from the external environment and change their thoughts or actions as a result" (2010, p106).

Similarly, activity theory, with its focus on the concepts of mediation and affordances (Bakhurst 2009; Cole & Engeström 1993), has shaped this study. Research that is grounded in activity theory focuses on the interactions of people, tasks and mediating tools, rather than on individual behaviours, performance or mental models. This paradigm is particularly suited to the activity of complex organisations, or, as in this project, to developing an understanding of how a doctoral research and writing culture can be shaped within a tertiary environment. A key concept of activity theory is that cultural mediation shapes not only an activity's outcome, but importantly, the subject using the artifact. Mediation has a "…recursive, bidirectional effect; mediated activity simultaneously modifies both the environment and the subject" (Cole & Engeström 1993, p9). The concept of mediation also acknowledges that human behaviour is far more complex than a simple reaction to a stimulus, but that all human activity is shaped by "artifacts that are created to prompt or modulate action" (Bakhurst 2009, p199). In short, mediation is not neutral, and we sought to uncover how the TWC initiative both shaped and was shaped by its participants through the use of linguistic and cultural tools, and how it contributed to the shaping of students' emerging academic scholarly identity.

The research had four main goals. The first was to investigate and describe participants' understanding of the main feature of the doctoral-degree process (procedural understanding). Second, we were interested in how participants imagined and understood both the purpose and form of a written research thesis (research and writing processes). We also sought to investigate and describe the range of ways in which doctoral students are supported across the university, specifically in terms of their research and writing development needs. Finally, we wanted to gain a deeper understanding of the strengths and weaknesses of the TWC initiative as it had been implemented at the University of Waikato.

The project received formal, university-level human research ethics approval before it commenced, and all people who participated did so on a strictly voluntary basis.

## Data collection

### *The participants and interview questions*

There were two types of participants: doctoral candidates (who included PhD or EdD students) and key informants (who had responsibility for the administration or supervision – or both – of

doctoral students). As for doctoral candidates, we were interested in obtaining different TWC participants' and non-participants' opinions, and developed three pre-defined categories from which we sought students' views. These included students who were regular TWC attendees during 2009 or 2010; students who were sporadic TWC attendees during 2009 or 2010; and students whom Student Learning staff knew were familiar with the TWC initiative, but had never attended. Participants from both doctoral and key informant groups were contacted on the basis of a convenience sample and invited to participate.

Face-to-face interviews were conducted with 13 doctoral candidates and 11 key informants, using two structured interview question forms (tailored to each group), but with some overlapping types of information being sought. All interview data were voice-recorded. Students were asked 10 questions about their understanding and experience of the doctoral process, including, for example, what (in the student's opinion) constituted "the thesis", the level of writing support that they received from their Faculty and their experiences or impressions of the TWC initiative. In particular, we sought evaluative feedback on its strengths and weaknesses.

Key informants were asked eight questions about their understanding and experience of the doctoral process (as administrators or supervisors), their opinions about the preparedness of doctoral candidates to undertake postgraduate study, the writing support available within their Faculty and their experiences or impressions of the TWC initiative. As with the doctoral candidates, we sought evaluative feedback on the TWC's strengths and weaknesses.

## Analysis and synthesis of the data

Consistent with qualitative research, a "constant comparison" approach to analysing the data (Lincoln & Guba 1985) was followed in this study. As data was collected and transcribed, the notes were read and reread to identify emergent themes (Braun & Clarke 2006; Goetz & LeCompte 1984). Consistent themes were then integrated into categories, and new themes were organised into existing or new categories. Eventually, all the categories were synthesised into more-global descriptive perspectives.

To increase research validity, two people – both facilitators of the TWC initiative – reviewed the emergent findings at multiple points in the data-collection and analysis processes. Although there was general agreement about the ongoing interpretation of the data, the two readers contributed additional insights and possible interpretations.

Finally, all themes were synthesised into an overall discussion of the issues affecting doctoral candidates and their research and thesis-writing development needs, as exemplified within the University of Waikato context.

## Limitations of the study

The participants in this study represent a convenience sample of doctoral candidates and key informants (supervisors and administrative staff) in one tertiary institution. The sample size was relatively small (24 respondents overall), and  thus does not represent all possible participants across different university settings. We have also assumed that participants were being honest in their statements during the interviews, and while we have no reason to believe that they were not, it is possible that some of the views expressed were inaccurate or less than candid. In spite of these limitations, a textured view of supervisory and administrative practices and insights into and perceptions of doctoral research and writing needs were obtained. Importantly, the findings are highly consistent with those reported elsewhere (Cuthbert, Spark & Burke 2009; Ferguson 2009; Kamler & Thomson 2004; Larcombe, McCosker & O'Loughlin 2007; Lee & Boud 2003). Thus, while the findings cannot be generalised to a wider population, they could be related to similar postgraduate research and writing contexts elsewhere. The findings provide nuanced insights into doctoral research and development processes and needs, and explore how these can be mediated through structured cohort programs, such as the TWC. However, a key limitation of this study is the possible omission of relevant ideas and perspectives from people who were not included.

## Findings

We have focused on the three key themes that both participant groups mentioned the most often and discussed in the greatest detail during the interviews. These are participants' perceptions of the nature of the doctorate and students' preparedness to undertake it; the value of cross-disciplinary conversations and their contribution to thinking; and the value of cross-disciplinary conversations for the development of doctoral writing and academic scholarly identity. Findings from the themes have led to discussion of the affordances provided through collaborative, multidisciplinary doctoral research and writing initiatives, but have also contributed to discussion of the constraints inherent in establishing such environments in effective and resource-efficient ways. We have concluded with some reflections on how the TWC initiative mediated our tertiary environment and how participants' experiences were mediated through participation in the TWC.

### *The doctorate and students' preparedness to undertake it*

In response to the question about their prior expectations for doing a doctorate, all domestic and international students stated that their preconceptions were at odds with the lived doctoral experience. While they had all expected doctoral study to be lengthy, none of the interviewees were prepared for the degree of loneliness, isolation and difficulty they would face (although one student did not find the loneliness problematic). All students could articulate clearly the overall process involved in undertaking a doctorate, even if they were not necessarily confident about their ability to write a thesis. It is noteworthy that the respondent who was most confident as a writer was completing a Doctor of Education degree, which had included course work (before beginning the thesis) and some collaboration with other course participants.

### *Students' perceptions of the doctoral process – a lonely journey*

> *S1: "Well, I imagined that first and foremost the doctorate would be a very collegial journey. I had no idea it would be as isolating and isolated experience. I expected the supervisors to be more emotionally involved – walking the journey with me. I didn't expect to be cast out to find my own way."*

> *S2: "I had an idea it would be kind of hard and demanding. I was sure it was not an easy task. I would need self-determination/self-motivation. But I'm finding it a very lonely process – just you."*

### *Students' perceptions of the doctoral process – its overall purpose and goal*

> *S9: "A thesis is two things. Although it's a physical document of 100,000 words plus annotations and references, it's the process of becoming a better academic and scholar, which involves organizing my thoughts towards making an original contribution to knowledge."*

> *S11: "It [the doctoral thesis] involves learning to do the things that my supervisors do. I'm in training to become an academic and show that I can apply my knowledge and skills autonomously."*

### *Students' perceptions of their preparedness for the doctoral process*

> *S6: "I had no idea what the PhD would be like, and thought would be maybe the same as a PGDip or Masters. I understood the structural process, that it would be intense, but had a naïve and unrealistic idea how to do the research."*

> *S7: "I was surprised that I only got a room, a computer and key to the room and then was left to my own devices. I talked to other students and looked at previous theses, but the problem is that I can't really tell a good thesis model from a bad one."*

All key informants, on the other hand, described the doctoral process in terms of procedural requirements, and only one commented on the "aloneness" of the journey. The comment of KI_11 exemplifies the briefness of most key informants' feedback about doctoral requirements, and focuses entirely on procedures. In addition, only one key informant specifically mentioned the idea that a key function of the doctorate is to contribute to the development of students' academic scholarly identity, although everyone was aware of the rigours of academic research and writing. Key informants did have considerably more to say, however, about students' lack of preparedness to undertake doctoral study.

### *Key informants' perceptions of the doctoral process*

> KI_11: *"The process is clear and well documented in the postgrad handbook. Processes are robust and user-friendly."*

### *Key informants' perceptions of students' preparedness for doctoral study*

> KI_1: *"Students come with major misunderstandings. In [subject discipline] it is a huge step getting them to understand what a PhD is about. They start over-idealistically. This is less of an issue if they have been through the Masters program, but their background creates different expectations, especially regarding publishing, which is an area where they receive mixed messages from the department. They are expected to be part of the discourse community, but [the] reality is they are not consistently encouraged to be part of this international research community (lack of funding, inconsistent approach to students publishing)."*

> KI_5: *"Students' understanding varies. Some are well prepared and have good understanding, are confident in their understanding of the steps, processes, and timeframes. Some others are floating in the ether, with little idea, to the point where I wonder how they got accepted for the program with so little appreciation of what's involved."*

> KI_8: *"There is more government pressure on students for completion and timing of theses and more people know what they are [doctorates] and are wanting to do them and there are many who do not know what it actually entails. Some have no engagement with literature and have a grand idea that they want to study by themselves and the PhD is a way to do that."*

### *Cross-disciplinary conversations and their contribution to thinking*

Among the regular and sporadic attendees at the TWC meetings, all students had positive feedback about the value of a cross-disciplinary approach to discussing research ideas. They reported that this forced them to reexamine their assumptions and clarify their thinking when communicating with people outside their discipline. Two students did acknowledge that others' comments might not always be useful; however, it could be argued that one might equally receive irrelevant feedback from same-discipline participants. One student who had never attended the TWC stated that writing was a private and idiosyncratic experience to which a cross-disciplinary discussion could not contribute. However, she also stated that she valued discussions with fellow students who had self-organised into a research discussion group in her own department. Another non-attendee expressed confidence in being able to find assistance from his department or the university library on his own without regular interaction with others.

### Cross-disciplinary conversations and their contribution to research thinking (students)

> *S2: "I have an opportunity at the TWC to exchange ideas with others from various disciplines – it challenges my own ideas and assumptions and encourages me to explain my ideas or find better proof for my ideas. The TWC has helped me focus and narrow down my ideas in my writing."*

> *S13: "Strengths in this approach in general are that it's important to look outside the square and a cross-discipline approach encourages us to think more widely, to think laterally, to bring in theory from other disciplines. Some of the strongest texts I've read have done just that."*

While seven of the 11 key informants appreciated that cross-disciplinary conversations could be valuable, one key informant believed that it was solely the supervisors' responsibility to help students develop discipline-specific academic skills. Even among key informants who appreciated the value of cross-disciplinary conversations, only one had specific ideas about how such conversations could be developed and sustained. She believed that the TWC approach should be expanded to include a wider range of postgraduate students. The remaining three key informants commented on the value of same-discipline conversations. In other words, they perceived focused conversations with "like others" to be of more value for doctoral students than more general cross-disciplinary research and writing discussions. Community was important, but one's own community would be a more effective learning environment.

### Key informants' perceptions of the value of cross-disciplinary conversations

> *KI_1: "The TWC is institution-wide and cross-disciplinary. It can build capacity amongst students as regards their writing competence. The skills that are part of the postgraduate education are not always taught and yet supervisors might assume that students have these skills. I'm disappointed that there's no TWC for Masters students – possibly with a flow-on affect for PhD students. I'm aware that very few PhD students are aware of their place in the academic world."*

> *KI_2: "One of the things we could do is to find ways of getting students to share their ideas and share practices around research. Most students are isolated in their offices rather than communicating with each other. Students need more opportunities to interact and collaborate."*

> *KI_6: "We need to build community and talk to each other more. Some of the students feel that the community-building stuff will pull them away from their work, but you get stale by just being by yourself."*

### *Cross-disciplinary conversations and their contribution to research and writing*

All regular and sporadic TWC attendees (both groups) appreciated how cross-disciplinary conversations helped them clarify their thinking, which then led to better-articulated writing. We would argue that this insight – which can be summarised as "talking to think; thinking to write" is probably the most important of our findings related to the development of academic scholarly identity.

> *S1: "The TWC has definitely helped my writing by clarifying my thinking and helping me be concise in my analysis. This has happened through someone in the group challenging my assumptions and that's helped me refocus my thinking."*

> *S3: "I've realized that just getting started is important. The TWC has helped me talk through issues on how to frame my writing and that is a process in itself – that writing is a developing process and that it is important to reflect."*

> *S4: "I enjoy the sessions and the discipline of attending. I don't write much but the chatting (usually on topic) is useful as is the feeling of support from others – seeing what others are doing and the tools they are using."*

Ten of the 11 key informants were certainly aware of issues associated with scholarly research writing, including the idea that it involves extended, regular, disciplined practice. All key informants also appreciated that discussions could provide a bridge between research thinking and research. However, one supervisor related that one of her students (who had attended a TWC session, but was not interviewed in this project) stated that "their way of thinking about things is not our way of thinking about things", and therefore the cross-disciplinary approach in the TWC was "nonsense". The supervisor herself did not agree with this comment, as she often worked in cross-disciplinary research teams.

> *KI_3: "I assume that the TWC is a time where people talked over ideas, but I'm sceptical that it would be a good environment for actually writing. But I think the exchange of ideas would stimulate writing."*

> *KI_7: "Writing at the doctoral level involves further development to move beyond the 'list' approach to life; we want the student voice that has narrative and author in control of material, signalling, signposting and summarising. Students need to grasp this to do decent work and typically students are too passive in their writing."*

Overall, these findings are similar to those discussed in other tertiary settings. For example, support for doctoral students often assumes a deficit model because there is poor institutional understanding of the strengths of cohort-based, peer-learning initiatives (Aitchison & Lee 2006), even though they clearly contribute to the development of students' research-writing competence (Cuthbert, Spark & Burke 2009). Moreover, the discursive and collegial components of cohort-

based writing groups foster positive attitudes and higher levels of self-confidence, which can lead to improved completion rates for doctoral students (Ferguson 2009; Kamler & Thomson 2004; Larcombe, McCosker & O'Loughlin 2007). In other words, collaborative cross-disciplinary conversations have enormous potential to mediate thought and writing processes, but developing appropriate structures to afford positive outcomes is essential (Kiley 2009).

## Discussion

Activity theory as a framework for the research helped us to appreciate the mediating affects of shared cross-disciplinary academic discourse as a powerful tool for helping students make explicit their complex ideas about research. Within our tertiary context, the findings from the project helped us refine our views of appropriate structures for doctoral research discussion and writing programs. This, in turn, contributed to changes in how the program is now organised, and how it functions.

Our original idea for a writing program, in which students would bring focused pieces of their own work to share and on which they would provide peer feedback, was not what most students wanted. Instead, they requested a mix of three main activities: structured input from knowledgeable others (from any discipline), opportunities to talk and share ideas and time for sharing writing and obtaining peer feedback. No single activity was preferred over any other (in the data), but a blend of opportunities to interact with students at different stages of their doctoral research was. Students were also very clear that they did not want their supervisors involved in the TWC on a regular basis; rather, they wanted to retain a student-focused environment where they felt comfortable sharing ideas without having to self-monitor their conversations. In spite of what students said, however, we knew from attendance figures that they were far more likely to be present at information-distribution sessions than peer-writing sessions.

All key informants, on the other hand, believed that student cohort groups could be valuable for alleviating social isolation, but two were unsure as to whether or not a "Thesis Writing Circle" would provide an appropriate environment for shared discourse and writing development. Upon deeper reflection, we realised that the program's very name was problematic and had led to various misunderstandings about its intention and activities. Many key informants, and indeed non-participating doctoral candidates, imagined people sitting around in circles editing each other's work, which they felt would be time-consuming and not particularly valuable. As a result we changed the initiative's name to Doctoral Writing Conversations (DWC), which we believe more closely reflects the perspective and functions of a collaborative, peer-learning doctoral environment.

Both doctoral candidates and the key informants believed that the level of students' background preparedness to undertake doctoral research was often inadequate, although it is worth noting that key informants did not offer many suggestions about how such issues could be addressed. One key informant did recommend that students attend formal (fee-paying) courses on thesis writing, and seemed sceptical about the value of collaborative, peer-support initiatives. Interestingly, key

informants seldom referred to the solitude that students would face during the doctorate in spite of the fact that most key informants had successfully completed their own doctoral journeys. Johnson, Lee and Green (2000, p136), drawing on oral histories of doctoral experiences, found that many supervisors adopt the supervisory model with which they are most familiar – their own – which in many cases had been "fraught and unsatisfactory – as much marked by neglect, abandonment and indifference as it is by careful instruction of the positive and proactive exercise of pastoral power". Moreover, Johnson, Lee and Green (2000, p138) state that supervisors often assume that students are "always-already" – able to function as independent scholars from the outset of their doctorate, rather than assuming that students will *become* independent scholars through the process of completing the doctorate.

As regards the "talking to think; thinking to write" finding, it was clear that discussion of writing amongst peers was perceived as useful by both regular and even sporadic TWC student attendees. The cross-disciplinary conversations not only provided opportunities to reflect with educated others, but also helped mediate the transition from thinking to clear communication of ideas, to being able to write. From the students' perspectives, the cross-disciplinary conversations made a valuable contribution to their overall emerging research and writing skills, and thus mediated the formation of an academic research identity. Maher et al. (2008) reported similar reflections on their own experiences in an Australian doctoral writing group; it was the shared conversations, as well as disciplined practice, that contributed to a sense of wellbeing and to academic success.

On the other hand, seven of the key informants believed that the idea of cross-disciplinary conversations had merit in principle, but only one was able to state why such practice could mediate thinking and the subsequent practice of writing. Johnson (2008), in her study of the academic literacy needs of second-language undergraduate students, found that although a wide body of research discusses tertiary literacy practices, most academics outside of specialist departments were unaware of it. It would probably be fair to say that tertiary research and writing are activities that academics perform, but the mechanics of which they no longer contemplate. Through the process of completing a doctorate, academics internalise the complexities of research writing, but cannot necessarily make them explicit. This does not mean, however, that research-writing processes should not be taught, nor does it lessen the need to find the most appropriate methods for doing so (Kamler & Thomson 2004).

### *Changing doctoral-writing culture*

We began the TWC initiative; we examined the existing doctoral research and writing conditions at our university; and we sought to understand the strengths and weaknesses of doctoral pedagogy within our context. The findings from our research mediated our approaches to working across disciplines with doctoral students. The format for the (new) Doctoral Writing Conversations was shaped by what students said they wanted and by what supervisors believed could be valuable. From an initial "hit and miss" endeavour, we now meet weekly for two hours throughout the year and follow the same general format in each calendar month.

During the first week of the month, two or three invited academic staff from across university disciplines participate in informal conversations with doctoral students about a specific research or writing theme. Student Learning academic staff plan the topics in advance, but are influenced by student feedback and specific topic requests. Past themes have included, for example, shaping a research proposal, academic voice within written texts and cross-disciplinary expectations for research writing. Invited speakers are advised that no advance preparation for the session is required and that presentation aids such as PowerPoint are definitely not needed. The goal is for the conversation to emerge from the topic, from students' questions and from group responses. They are scholarly discussions amongst peers, not lectures; thus the invited-speaker conversations reflect an interesting levelling of power relations between supervisors and students (Cotterall 2011a). Conversations are always stimulating and lively, and regularly attract around 25-30 students from across all university faculties. The invited-speaker sessions are also extremely valuable in making explicit the variation across students' approaches to learning (Meyer 2012) – something that can benefit supervisors who normally interact only with their own students. Thus the sessions not only benefit students, but also widen supervisors' opportunities to meet and converse with doctoral students from a variety of disciplines outside their own.

Weeks 2 and 4 are peer-discussion and editing sessions to which students bring small samples of their own writing on which they would like feedback. Conversation focuses on peer sharing of ideas about how to clarify the meaning and structure of texts. As stated earlier, these sessions have lower attendance than the invited-speaker or workshop sessions, but participation has grown since the beginning of the programme and now remains steady at around a dozen students each meeting. We believe that this emerging culture of peer writing has been stimulated by supervisors' increased awareness of the DWC and through the examples presented in the workshops (described below) of how to tackle troublesome writing tasks. We speculate that students have become more aware and convinced of the effectiveness of writing with peers, an outcome that we have sought from the beginning of the doctoral-writing initiative. We are also aware that there have been at least three "spin-off", self-organised peer-writing groups within two different faculties at the university.

In Week 3, Student Learning, the library or academic staff offer interactive workshops about specific themes relating to writing, digital literacy or research methods (for example). The most popular workshop topics (during which we regularly run out of chairs for participants) concern data-analysis software and techniques.

Finally, we organise two full-day off-campus writing retreats (mid- and end of year) during which students write independently, form "break-out" groups for discussion of research ideas or receive peer feedback on their writing. Participants also share lunch, which creates a pleasant social and working context for the day.

## Conclusion

This small-scale research study found that students considered social isolation, coupled with their lack of clear understanding of what the doctoral journey entailed, to be serious limitations to their enjoyment – and possible completion – of a doctorate. Supervisors believed that students were often inadequately prepared for doctoral study. The findings from the research have mediated both the structure and format of our writing programme, which has now evolved into a range of cross-disciplinary research and writing sessions. Our initial attempt to supplement what was available to doctoral students has evolved from a trial and error peer-editing exercise into a programme that has become systematised within the university. Interestingly, the DWC has also stimulated other university-wide workshops and opportunities for students to meet and reflect on their doctoral journey.

We are aware that this research was exploratory and small-scale and cannot be generalised to a wider context. The findings do reflect, however, what is being researched and discussed elsewhere. We would encourage academics at other universities to explore nuanced and contextualised programmes that can contribute to improvements at their own institutions, as well as contributing to a wider conversation about doctoral pedagogy within the new internationalised higher-degree context.

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