

**Research Bank**

Journal article

**Student reflections on doctoral learning : Challenges and breakthroughs**

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# **Student Reflections on Doctoral Learning: Challenges and Breakthroughs**

Alison Owens, Elizabeth Ellison, Craig Batty and Donna Lee Brien

## **Abstract**

There has been sustained interest in how to support doctoral students through the often-gruelling journey they undertake from enrolment to graduation. Although doctoral numbers and successful completions have been steadily increasing globally as well as in Australia, the quality of student progression and outcomes has been widely interrogated and criticised in the literature that is reported in this article. Our interest as experienced research higher degree supervisors and research leaders in the creative arts and humanities prompted a research project that aimed to better understand the challenges and breakthroughs involved in completing a doctorate from the perspective of students themselves. This was implemented through an action learning collaboration with eighteen students from three Australian universities facilitated by four research supervisors. The relatively small number of research participants in this study and the discipline-specific focus prohibits generalisability of findings, however, the collaborative, action learning method adopted represents an approach that is both productive and transferable to other contexts and disciplines. The main findings presented in this article include: the necessity for maintaining, brokering and supporting a range of relationships; understanding expectations of research study and embracing the need for agility in managing these; and finally, using techniques to improve personal agency and ownership of the transformative journey of research higher degree candidature. The importance of establishing an understanding of the multidimensional human experience of doing a doctorate and providing appropriate support through enhanced forms of research training, emerged as a core finding from this research project. Further research might investigate the relevance of the findings from this research to doctoral students in other disciplines and/or institutions as well as apply the collaborative action learning approach to doctoral training presented here to a range of contexts and cohorts.

## **Keywords**

Higher education; research higher degree; research training; doctoral journey; transformation; human experience

## **Introduction**

Continuing growth in the number of students studying for a doctorate (Walker et al., 2016) is contemporaneous with, and also complicit in, escalating workload stress for academic research higher degree (RHD) supervisors (Krause, 2018). This stress is amplified by increasingly challenging graduate completion standards and benchmarking, as well as uncertain career outcomes for graduates (Allmer, 2017, Malesic, 2016). How to best support doctoral students for success is an ongoing and crucial focus for universities and supervisors and, as a result, continues to be an area of active research (Brien, 2006, Evans, 2011, Golovushkina and Milligan, 2012, Kroll and Brien, 2006, McAllister and Rowe, 2003). While universities offer RHD student training in varied formats, there is little specific research on training provision for either students or supervisors that targets the multidimensional, and what McAlpine and Amundsen (2011) characterise as the often ‘invisible’, components of the doctoral experience. The ‘invisible experience’ of research higher degree study recognises the emotional, affective and intellectual components of an individual’s lived experience of undertaking a doctoral degree. Despite many supervisors and others having long been aware of these issues, it is conventional for universities and academic supervisors to focus on the intellectual development of students.

Recent studies have, however, identified signs of poor mental health among doctoral students (Barry et al., 2018), anxiety over uncertain career pathways (Daniel and Daniel, 2013, Australia Council for the Arts, 2010), decreasing student satisfaction rates in Australian universities (Quality Indicators for Learning & Teaching, 2018) and stubbornly high attrition rates (Patterson, 2016), all of which identify an opportunity to revise and enhance doctoral training options. While many of the ongoing and systemic issues facing academia require

structural, top-down consideration, the action learning research reported herein indicates that it is possible for doctoral students and supervisors to address the invisible, human experience of research higher degree study collaboratively. This article reports on research involving eighteen students and four supervisors working in creative arts and humanities disciplines, where students are particularly likely to work in isolation on research projects of personal interest and experience little certainty in potential career outcomes resulting from their research.

### **Background and context**

The last two decades have seen dramatic and sustained growth in the number of students attempting a PhD or other degree at doctoral level (OECD, 2012, OECD, 2014, Walker et al., 2016). Further to this, the growing numbers of RHD students have been attended by fewer progressing through the traditional pathway of undergraduate Honours degree followed by research or coursework Masters programs. These students may, instead, enrol with industry backgrounds and/or from offshore universities, with little formal research training (Hamilton et al., 2014b), and thus requiring more support from their supervisors and university research offices. In Australia, research training is currently delivered at an institutional level, and on occasion within a faculty, school or discipline. Usually, this type of training may take the form of events and workshops, mentoring schemes, peer-to-peer groups (for example, writing groups or journal clubs), or industry internships. This training can be expensive and often generic, with little capacity to ensure quality and consistency across the country (Batty et al., 2019). Although some sector-wide training consultancy programs exist<sup>1</sup>, most research

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<sup>1</sup> See, for instance, the popularity of training programs offered by *The Thesis Whisperer* and *iThinkWell*, or the success of nation-wide competitions such as the Three Minute Thesis (3MT).

training is delivered by the Graduate Research divisions with little specific input from supervisory teams<sup>2</sup>.

A decade ago, Gardner (2009) observed that there were comparatively few studies published about the doctoral experience and proposed that this may be because doctoral students are so heterogeneous coming from all walks and stages of life. The former Australian Government's Office for Learning and Teaching has supported many projects over the last decade that have examined research training and support, including the following: RHD supervision and its pedagogy (Bruce et al., 2009, Hammond et al., 2010, Harrison, 2014); supervision standards/quality (Baker et al., 2009) and supervision support (Blass et al., 2014, Hamilton et al., 2014a, Homewood et al., 2010, Maor and Fraser, 2015, Yarlagadda et al., 2013); doctoral students' academic history and experience (Kiley et al., 2013, Kiley, 2013, Kiley, 2011, Boud et al., 2014); specific discipline support for RHD students (Colbran and Tynan, 2008, Webb and Brien, 2008); support appropriate to cross cultural contexts (Homewood et al., 2010); and thesis standards and examination (Phillips et al., 2009, Webb et al., 2012). Such studies point to problems with generic doctoral training (Boud et al., 2014, Kiley et al., 2013), recommend enhanced provision of such training (Homewood et al., 2010), and have set up support mechanisms for those responsible for such training (Boud et al., 2014). With the closure of this federally funded scheme, it is important to ensure investigation continues to support effective and supportive research training for both improved student and supervisor experience. An important part of this is recognising the human transformation that occurs during doctoral study, and acknowledging that this

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<sup>2</sup> In Australia, students in research degrees are expected to work with at least two supervisors (a Principal and Associate). The exact nature of this workflow has little formal guidance attached, and anecdotally, students may experience a supervisor who is almost absent, supervisors who disagree, or – ideally – a functional working team. As noted on page 5, much has been previously written about supervision in the creative arts and humanities (e.g. Hamilton et al., 2014a), and a number of OLT projects have expressed the need to improve supervision across all disciplines (e.g. Homewood et al., 2010; Blass et al., 2014).

transformation is multidimensional and challenging, sometimes insurmountably so, due to factors outside of students' control.

The Australian Council of Learned Academies (ACOLA) released their *Review of Australia's Research Training System* report in 2016, which noted a number of recommendations to be implemented sector-wide to improve the quality of research training for students. While there was awareness in the report that there can be no one-size-fits-all approach to RHD development and supervisor training, there remains a significant focus on international benchmarking and alignment of outcomes for graduates. For instance, the development of a 'skills portfolio' (ACOLA, 2016, p. x) is considered as part of a revised assessment/examination process; although we note that emotional/affective skills, which have been found to promote academic self-efficacy and achievement (Adeyemo, 2007), are not included. These emotional/affective aspects of the doctoral experience have been identified and defined as target outcomes for doctoral graduates within the "personal effectiveness" domain in the UK Researcher Development Framework (RDF) ((RHDF) Careers Research and Advisory Centre, 2010), but *how* universities might support the development of the six "personal qualities" listed is not addressed. The research reported in this article presents a possible model for RHD training that can identify and address some of the emotional/affective challenges of doctoral study, particularly applying to 'enthusiasm' and 'perseverance' as expressed in the RDF.

The collaborative, action research training model implemented can also contribute to the "networking, community building and personalised support" identified as important training needs by participants in this research, as well as help to develop students' professional identity through scholarly output. Many studies have identified the challenges encountered by doctoral students (see, for example, Hyun et al., 2006; Patterson, 2016; Batty and Brien, 2017; Barry, 2018), and doctoral training models that include considerations of

emotional and affective aspects of the doctoral *experience* exist (Aitchison and Mowbray, 2013; Cotterall, 2013; Hunter and Devine, 2016). The problems that are the focus of this article are not unique to this research; however, the approach to training described in the article sought to implement a method that moves beyond *consideration* and *discussion* of emotional/affective challenges in doctoral research study, to *providing opportunities* for the development of a number of personal qualities as well as the professional profile of the students through publication. It is therefore the training model, in combination with the findings, that contributes new knowledge (and practice) in the domain.

The strongly emotional aspects of adult learning have been identified in the work of William Perry (1981) and Jack Mezirow (Mezirow and Taylor, 2009) who both acknowledge that effective learning involves the questioning of assumptions (often deeply held). Their work identifies disorientation and other possible responses such as temporising, delay and retreat, as common and unsettling experiences for learners, particularly common perhaps for students working in the cognitively complex and contested knowledge spaces where doctoral study is performed. Recent studies have identified problematic mental health outcomes for doctoral students (Hyun et al., 2006, Barry et al., 2018) and have advocated for formal support such as counselling, informal support such as informing students about self-care strategies, and team-based support especially in doctoral writing, as beneficial (Skakni, 2018, Barry et al., 2018).

An important challenge in doctoral education has been noted by Grealy and Laurie (2017) as the capacity to measure the intangible outcomes of doctoral study, suggesting performance indicators for academic employment are not always linked to the skills required to complete a thesis, and many institutional metrics are ultimately distorted towards “infinite growth and expansion” (2017, p. 461). While administrators use milestones, progress measures and enrolment numbers to measure success, there remains a lack of national

transparency around doctoral milestones and these can differ significantly from university to university (Carey et al., 2008; Hamilton et al., 2014, p. 52). The ACOLA report identified generally accepted milestones but observed that there is “little clarity around the timeliness of these milestones, nor an evaluation of their effectiveness” (2016, p. 83).

The ACOLA report, and the climate of higher education research training more broadly, appears to be prioritising applied outcomes for research students. In the marketised context of higher education, tangible outcomes are a necessary priority, but Grealy and Laurie argue for a further focus on “the quality of living for those who labour” (2017, p. 463). It was an assumption of our study that important milestones may also exist in the form of intangible outcomes, including personal, emotional and creative achievements, or may be set individually by students themselves during doctoral study. Recognising this and supporting students as they develop both tangible and intangible outcomes from their research, can enhance the doctoral experience and constitutes an important component to a positive research culture.

Definitions of research culture shift, but it is possible to consider research culture as having two broad definitions: one that speaks to “shared values, beliefs and practices of a community engaged in research”, and another that speaks more to targeted research skills and indicating “a critical mass of researchers in a given area” (Brew et al., 2017). If universities acknowledge that doctoral learning is both transformational and emotional, a positive research culture should arguably prioritise the emotional and mental wellbeing of students and their supervisors, as well as strategically support and promote their intellectual growth and research outputs. As such, this article reports on research that sought to contribute to a positive university research culture by collegially exploring and proposing solutions to a range of multidimensional challenges encountered by doctoral students.

## **Methodology**

This study comprised a two-day training workshop held with eighteen RHD students from the creative arts and humanities disciplines at various points in their candidacies and four supervisors/researchers (two of whom were not supervising any of the students participating in the training workshop). The objective of the workshop was to bring together students to identify challenges that they had encountered and also share the breakthroughs that they experienced in their RHD journey. The topics identified and described by students in relation to challenges and breakthroughs were expected to inform chaptered accounts to be ultimately published in book form and authored by the individual students themselves with ongoing feedback, guidance and editorial support from participating supervisors. Due to these aspects, the training workshop was developed as an action learning event. Action learning is one form of action research, and entails “real people resolving and taking action on real problems in real time, and learning through questioning and reflection while doing so” (Marquardt and Waddill, 2010, p.2). The workshop was designed to: support students to develop a collaborative capacity to identify, recognise and negotiate problems that are frequently encountered in the RHD journey; address these through collaborative problem solving; propose a themed chapter per student to be authored for an academic textbook; and, generate research outcomes and reporting that may be of assistance to other RHD students and supervisors.

The design of this workshop was developed to align with Marquardt’s (2004) approach to action learning, which is built around six components and can be seen in Table 1.

[Table 1 near here]

Articulating a crucial and shared problem (or problems) is at the centre of an action learning process which then encourages the questioning of commonly-held assumptions about the problem, a process that may be described as a ‘disorienting dilemma’; a necessary precursor to transformative learning (Mezirow and Taylor, 2009). In Mezirow’s terms, transformative learning involves a changed perspective that is “a more fully developed (more functional) frame of reference ... one that is more (a) inclusive, (b) differentiating, (c) permeable, (d) critically reflective, and (e) integrative of experience” (Mezirow, 1996, p.163). The central role of experience as a resource is emphasised by theories of adult learning (Knowles, 1984, Kolb, 1981) and, where collaborative learning is involved, the sharing of experiences pertinent to a focus problem or set of problems can promote critical self-reflection and a re-framing of the issue, as well as improved self-confidence (Mezirow and Taylor, 2009).

This article presents and discusses results summarised from a series of three research questions presented in the workshop as topics for group discussion. These questions were:

1. What are/were the main challenges encountered in your doctoral study?
2. What are/were the breakthroughs you experienced in your doctoral study?
3. If you could start again, what questions would you ask yourself, your supervisor, your university?

Participants were randomly formed into four groups to consider each question, taking notes and then presenting a summary to the remaining participants. The four facilitating academic supervisors performed a range of roles across the two days: leading/guiding the discussions, taking notes from presented information, and collecting/photographing evidence on the room’s whiteboards.

The majority of the research participants for this study were currently enrolled (with three being recently completed) RHD students. They were predominantly female and of an older

demographic (aged forty-plus years), with only one younger male participant (in addition to one male researcher-facilitator). This is unsurprising, considering the demographics represented in the broad Australian Field of Education areas of Society and Culture and Creative Arts (Department of Education and Training, 2018) which indicates significant numbers of female students. The group also included a significant proportion of part-time and mid- or post-career students. There was also limited cultural and linguistic diversity in the group: all students in this project were enrolled domestically, which requires Australian or New Zealand citizenship or permanent residency and all participants were speakers of English as their primary language. Participants were drawn from three institutions, although predominantly they were enrolled in research degrees at Central Queensland University, the host organisation for this research. Central Queensland University (known as ‘CQUniversity’) is a regional university in Australia, and one with a widely distributed campus footprint across the country. This makes it less surprising that the student cohort in this study included a high proportion of regional students, especially when compared to a metropolitan university. There was also a mixture of on-campus and distance, and full-time and part-time students. While acknowledging this group is not (anecdotally) dissimilar to the national ‘average’ demographic of such a cohort, we also provide this context for transparency as these factors may influence the findings. The identity of participants has been coded for reporting purposes.

This article reports on data that was generated during the first day of a two-day workshop through discussion groups who summarised their responses to the three questions (above) on whiteboards and by group oral report. The data was noted by transcription by one of the authors/facilitators and digital photographs were taken of the whiteboard records of discussions in order to aid the summary and analysis of findings. A thematic analysis of patterns evident in the data (available through transcript notes taken of group oral reports and

photographs of group whiteboard notes) was conducted by the researchers. The data indicated that challenges (problems) and breakthroughs were described by participants most consistently in terms of relationships and expectations. These key themes were identified through an iterative and collaborative process as students spoke of their challenges and breakthroughs throughout the workshop and the facilitator-researchers recorded summary comments on large whiteboards throughout the session<sup>3</sup>. These qualitative themes of relationships and expectations were derived through an in-situ analysis approach starting with the facilitators' impressions of the underlying concepts within the relayed stories and experiences, and then verification of these concepts by the students, who were asked to comment throughout the process upon what was being captured and interpreted. At the end of the day, these whiteboard discussions – both student group discussion and facilitator-driven summary analysis – were photographed for future reference.

## **Findings**

### *Challenges: Relationships*

Eight of the eighteen students raised the relationship with supervisors as important when discussing challenges (S1, S2, S4, S5, S6, S8, S17, S18). Challenges were identified to begin in the preliminary phase and to continue into the study period. Several students discussed the selection of supervisors as problematic, with a lack of transparency and student involvement in this process. Only two students mentioned the care they took to 'shop around' for a supervisor. Managing relationships with supervisors was a topic of active discussion among the students, and the unequal power in the relationship between the student and supervisor

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<sup>3</sup> Thematic coding occurred throughout the day, grounded in Attride-Stirling's (2001) approach to thematic network analysis. In-situ analysis naturally generated Basic Themes, Organising Themes (which we called 'meta-themes') and a Global Theme. Further discussion of our methodology through the lens of a more focused analysis of our thematic findings – especially the Global Theme – is presented in 'Mapping the emotional journey of the doctoral "hero": Challenges faced and breakthroughs made by creative arts and humanities candidates' (Batty et al., 2019, p. 8).

was observed as a challenge that changed in nature as the student developed greater expertise through research: “it should be a partnership ... a transformative relationship with shifting of agency and who has the most knowledge” (S11). However, supervisors could also prove bored (S17), laissez-faire (S2), hostile (S4) and even unethical (S8). There was wide recognition in student discussion that the student was at the mercy of a supervisor’s career changes, periods of leave, illness, retirement, redundancy and/or death, and there was a lack of clarity about the role of the associate supervisor and how “finding the right team could be better achieved” (S14). One student pointed out the complexity of the supervisor’s role: “they need to be people who can be pastoral, methodological and have publication skills” (S15). Ideally, the student and the supervisor will, it was reported, engage in a relationship of “mutual growth [and] mutual respect for the process and end result” (S8). But one student questioned “who supervises the supervisors ... and how do students question their authority?” (S18). Planning for, and supporting, the dissemination of student work through scholarly publications and by presentations in public forums from early in the degree was deemed highly valuable behaviour by supervisors (S8, S17), but was not always apparent.

The focus on the centrality of relationships was not limited to a discussion of supervisors but also focused on students’ relationships with the university and external scholarly community (which was described as a ‘tribe’ (S14)), which students understood they were entering by completing a research degree. Several students raised the impediments they faced as a consequence of the ethics application process and Human Research Ethics Committee (HREC) input into their projects, as well as Occupational Health and Safety restrictions, and bemoaned the rule-bound nature of university processes with claims that this had ‘delayed’ their projects (S11, S14). Conversely, others emphasised the primary importance of ethics (S4, S17) and pointed out the benefits of exploring ethical issues early in research planning (S4, S13), including the ethics of caring for the self (S10). It was perceived

by these students, that considering ethical issues and structuring research to satisfy the high ethical standards of the HREC was a long-term benefit “even if the forms take time” (S4).

Strongly evident in the questions for self, supervisor and university data tabled below in Table 2 was student recognition of the importance of personal relationships with family and friends. Students emphasised the importance of considering the impact that their study would have on these close relationships, as well as proposing that planning for family and friends’ support was important for successful completion.

### *Challenges: Expectations*

It was apparent from several comments that doctoral students were not always made aware of the conventional milestones that comprise a PhD, including: the confirmation of candidature, completion of an ethics application, undertaking of coursework requirements and other training requirements/opportunities, as well as the completion of progress reports and undergoing the examination process. Some students also suffered an unexpected sense of isolation (S11, S13, S16) and struggled to build the collegial research networks that may be more accessible to university-employed researchers and academics.

A number of students struggled with formal elements of the doctorate, which, for creative arts students, conventionally includes a creative work and exegesis (Webb et al., 2012b). Several students discussed the need to make significant changes to their planned research, either in terms of research question/focus or method/methodology, with one student explaining that the research she planned was completed by another author during her candidacy, which required that she identify a new research question. This was devastating: “suddenly you don’t have anything” (S13). One student struggled with the exegesis: “What am I going to write in the exegesis? ... Every time I read something new, I keep changing what’s in the exegesis ... the bloody exegesis!!” (S1).

Eleven students mentioned that establishing a suitable research methodology and associated research methods was a key challenge. “Knowing and articulating different methodologies is challenging ... you can spend a whole PhD worrying about a methodology” (S5). One student recommended that students “start early thinking about method and avoid unnecessary complexity” (S8). Another suggested that in a creative writing PhD that includes an exegesis, a methodology may “emerge” from the study rather than be imposed upon a study early in the degree and advocated approaching an exegesis “creatively” (S10).

### *Breakthroughs in relationships and management of expectations*

In order to avoid potential relationship problems with supervisors, it was recommended that potential students should discuss their proposed research with different academic staff, ideally at different institutions, before making a decision to apply or enrol. In order to manage any difficulties that emerge in the relationship once a student was enrolled, it was recommended that a Memorandum of Understanding be developed between the student and supervisor(s) (some universities require this already), which articulates the expectations each has of the other and acknowledges that “the expectations on both sides need to be flexible and reasonable” (S1).

Three students discussed the importance of all universities providing a transparent and confidential process for complaints about supervisor behaviour, as well as support for conflict and dispute resolution. Several acknowledged that the process of building a relationship with the supervisor was also about finding ‘agency’ for the self (S2, S12, S15, S16), and one commented that “meeting the wrong supervisors was an important part of the process through to a different question” (S16). Two students emphasised the emerging and transformational process of taking ownership of their own research and time (S2, S16) as critically important.

Several students noted the importance of being able to manage and respond well to feedback. One commented that “academia is predicated on peer review for quality” (S12). Another added that feedback from “your supervisor, academic panels, peer reviews, examiners, and the ‘academic tribe’, is part of the ritual you have to go through ... to become a peer in the discipline” (S2). Keeping a learning journal was suggested by several students as a useful tool in developing personal agency and, further to this, that journal excerpts could inform the thesis (and exegesis in particular) as evidence of reflection on the research itself, its meaning and the relationship between the research and the creative work.

Several students advocated a strategic approach to building networks and planning for dissemination of work from early on in the degree. It was suggested that each university should provide a list of research students and their topics to facilitate networking and the development of mentoring and writing groups, which was deemed particularly important for distance/off campus students. Attending all university events as well as smaller conferences that include PhD students from early on in the degree was a suggested strategy for building networks as well as developing dissemination channels and opportunities (S6). Indeed, being generally strategic, particularly in planning for early and ongoing dissemination of work, was considered important in terms of developing personal agency as well as relationships. One student suggested that others “Identify the mandatory ‘things’, set real dates, be accountable and ... make these ‘milestones’ ... do more than one thing. Ask yourself, how can this contribute to dissemination?” (S14).

The importance of a capacity for agility, adaptability and resilience was strongly emphasised in the discussion among students. Learning ‘to let go’, or adapting, could be as important as resilience, depending on research “viability and/or likelihood of publication” (S13). The importance of time-management and “doing something every day ... maybe only

[writing] 200 words” (S5) was a common recommendation for making progress and taking meticulous note of references in order to save time later was also emphasised.

### *Group proposed questions arising*

As a consequence of the identification of challenges and breakthroughs in doctoral study, students were formed into four focus groups and asked to submit written questions they would now – in hindsight – ask prior to enrolling in a doctoral level program (see Table 2). The purpose of this exercise was to ask students to reflect on some of the sticking points of candidature, and by articulating them as questions for the supervisor, the university and the student applicant, provide guidance not only for each other in the workshop setting, but also for readers (potential and enrolled students and supervisors) to help dispel some of the mystery surrounding the doctoral degree process. It is evident that the discussions of the challenges and breakthroughs experienced by the participants powerfully informed the series of questions that these groups generated, and we believe they provide useful insight for future PhD students, supervisors and research training units.

[Table 2 near here]

### **Discussion of results**

In line with a key objective of action learning (Merriam and Caffarella, 1999), transformative learning (Mezirow and Taylor, 2009) and constructivist accounts of learning (Perry, 1981), several key assumptions regarding doctoral research study were identified and questioned during this workshop. These included assumptions that: the appointment of supervisors is a consultative, robust and open process; supervisors and students can/will work out difficulties in their relationship; and supervisors (and associate supervisors) will be able or willing to

sustain supervision across the term of the degree. A recent study of supervision of doctoral students in the creative arts (Hamilton and Carson, 2014) called for more wide-ranging ‘developmental’ opportunities for doctoral students that looked beyond process to matters of intellectual relationships between student and supervisor, the nature of the exegesis, ethical issues of creative practices and associated risks. The findings from this study indicate that creative arts and humanities students strongly agree that these are critical issues. However, the students in this study identified a wider range of relationships as important to a successful PhD experience, including relationships with close friends and family, the self, the discipline group (academic tribe) and the institution. This emphasises the life-wide nature of doctoral study and confirms other studies that propose universities need to do more to help students develop relationships beyond the supervisor (McAlpine and Amundsen, 2011), as well as provide opportunities for ongoing socialisation in, and across, disciplines (Gardner et al., 2011, Gardner, 2009).

A further finding of this research is a description of the shifting relationship between individual student and supervisor as the balance of field knowledge and specialised expertise sways in favour of the student, as a natural progression of building and defending new knowledge (Dibble and van Loon, 2004). This critical process has been referred to as the development of ‘negotiated agency’ (Jazvac-Martek et al., 2011) by which a student develops their academic or professional identity (Kovalcikiene and Buksnyte-Marmiene, 2015) and is admitted to their tribe. An important corollary to this was the need for the student, with the explicit support of the supervisor, to publish scholarly outputs across the term of their study to help them establish a presence in the field, some agency, greater confidence, a network and potential career pathways or options post-completion. The publication itself may represent a strong tangible outcome, but the component intangible outcomes associated with such a publication process are numerous, invisible and critically important to the development of

agency as researchers/academics (Kroll and Brien, 2006). The identification of supervisory relationships within the RHD as problematic is not a new finding (McCallin and Nayar, 2012) but it has been pointed out that the dominant genre of PhD/doctoral advice books published to assist students tend to position the doctoral researcher as a diminished scholar and constitute a transmission pedagogy that normalizes the power-saturated relations of protégé and master (Kamler and Thomson, 2008).

Students also argued that assumptions were made (by the university and/or the supervisor) that they had a clear roadmap of the doctoral journey and the required processes/events, such as confirmation of candidature and completing ethics applications and any required coursework, and that they fully understood their rights and the resources (financial, personal, academic) available to them through the university, when this was not always the case. Mezirow's (2009) emphasis on the questioning and problematising of assumptions as an important component to learning was strongly evident in students' discussion of university processes for appointing/managing supervisors and assumptions made about student knowledge of the milestones required by the institution, which has been demonstrated to lack clarity in other studies (McAlpine and Amundsen, 2011, Australian Council of Learned Academies (ACOLA), 2016).

It was unsurprising to see methodological questions raised as troublesome by students, as it has been widely recognised that doctoral students often encounter complex methodological paradigms (and associated philosophical and scientific assumptions), methodologies and research tools for the first time once they are enrolled (Trafford and Lesham, 2009) and often struggle with being able to identify, articulate and justify a methodological approach that is valid, reliable and ethical for a proposed research question, population and objective (Owens et al., 2019). It was therefore quite unique that these students are suggesting that the discussion about appropriate methodology begins with a

potential supervisor pre-enrolment. Specific to the creative arts discipline, several students expressed an anxiety about the form and purpose of an exegesis, which is a common challenge in creative doctorates and has been widely researched and discussed for at least the last two decades (see, for example Batty and Brien, 2017, Brien et al., 2017, Fletcher and Mann, 2000).

In relation to research culture and the invisible dimensions of their work, including intangible outcomes, students consistently emphasised in their tabled questions that university resourcing needs to recognise students' 'personal needs', promote networking and community building, focus on shared values and 'fit', and provide relationship management and counselling support. Isolation has been well documented as a challenge for doctoral students (McAlpine and Amundsen, 2011, Lee et al., 2013) and was an evident problem for some of the students in this study, especially those working in external or off-campus mode. One positive outcome from this research that cannot be overlooked, is the intangible outcomes of relationship building and collaborative networking established through the action learning process itself. This collaboration extended well beyond the two-day workshop as students developed further, tangible, outcomes in the form of published book chapters and in critiquing and editing groups. These book chapters engage with many of the invisible and multidimensional aspects of doctoral study identified in this research, and provide guidance for students that may assist them plan for – and respond to – the emotional and intellectual challenges involved (see, Batty et al., 2019; Brien et al., in press).

## **Conclusion**

Increasing numbers of research students in Australia undertake doctoral study in a sector that is primarily focused on, and defined by, the tangible outcomes associated with degree milestones that are not always clear to students. The massification of higher education at all

levels and the diversification of RHD students, along with strict benchmarking of outcomes and no increase in the numbers of academic staff, is placing pressure on university RHD training provisions, research supervisors and students themselves. In this context, recognising and addressing the challenges and breakthroughs identified by students as important to a successful doctoral experience is potentially empowering for the students themselves, both on a professional/academic and on the personal level, and for their supervisors, as well as for universities seeking to provide multidimensional student support. While not large enough in scope to be representative, the findings from this action learning research clearly suggest that successfully negotiating relationships and expectations in a timely manner are, not unsurprisingly, key components to navigating a research higher degree. However, underpinning these concepts is the core necessity of the educationally and personally transformative research experience that relies heavily on students taking ownership of their journey, and amplifying their own agency. This may occur through both tangible and intangible processes, and via collaborative efforts in terms of the research training support and resourcing of students, which promote relationship development and the maintenance of emotional and mental health as well as intellectual rigour. These are good practice in the context of valuing the multidimensional experience of the doctorate. As one of the anonymous reviewers of this article even emphasised, the institution-wide responsibility and opportunity to provide personalised, experientially inclusive RHD student support offers those institutions “a possibility to emphasise and recognise institutional responsibility in the roles of the institutional agents (as constantly moving elements that are at the interplay of an individual experience) as an essential element of a successful developmental and learning experience”. Anecdotally, presenting on this research in various fora, including to research students, supervisors and research education staff, has been very well received, and those attending have noted the importance of acknowledging the ‘human dimension’ of being,

supervising or supporting a candidate. Therefore, we postulate that closer attention to this aspect will be necessary as – in Australia at least – doctoral student numbers increase and the pressure to ensure timely and successful completions mounts.

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