The Artistic practice-Research-Teaching (ART) Nexus: Translating the Information Flow

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Abstract

This paper reports findings from interviews with fourteen Australian artist academics, who discuss the complex relationships between their Arts practice, their Research and their Teaching. We refer to this as the ART nexus because of the strong flow of information reported between these three activities. However, this information flow is not achieved without conflict. Conflict arises over the balance of time available and different mindsets required for differing activities, and there can be hesitation about analysing intuitive creative thought. The findings reveal ways in which information is 'translated' for different audiences including undergraduate and postgraduate students, who are both recipients of and contributors to the nexus. The article problematises the ART nexus in an attempt to offer greater insight into the ways in which individual artist academics teach through their arts practice and their research, within a university system that struggles to accommodate this breadth of endeavour.

KEYWORDS: artist as academic, practice-led research, arts practice-research-teaching nexus, translating information

Introduction

This paper investigates the thinking and action of artist academics (music, electro-acoustic media, visual art, theatre and ceramics) in relation to their Arts practice, their Research and their Teaching. We refer to this as the ART nexus because of the strong flow of information reported between these three activities. There is a dearth of research that takes into account all three, with existing research focusing on the relationship between teaching and research. Significant in this is a 1996 paper by Neumann. Here, Neumann presented a history of the teaching-research nexus in higher education via a review of research and writings. Despite both activities having evolved together, she found no conclusive evidence of a nexus, that is, a link, between the two. While acknowledging that "empirical evidence is inconclusive", Neumann described the nexus as "hardly a reality in the modern era of the 'multiversity'". She concluded that there "is a need for systematic, unbiased study of the possible interaction of the teaching and research roles of academic work, in order to enhance understanding of the operation of the core work roles of academics, as well as to assist policy making and the implementation of change at institutional and national levels" (p. 5). Our research does not seek to provide the comprehensive analysis that Neumann requests. It does however provide greater insight, through an empirical methodology, into the interaction of the artistic practice, research and teaching roles that make up the core work of artist academics.

In responding to the knowledge gap, this paper draws on a diverse literature including our own previous research, which has involved in-depth interviews with artist academics over a period of three years. Through the research we have sought to ascertain individual responses to the experience of working in academia within an artistic discipline. Because of the small group or one-to-one approaches often required for teaching the creative arts at both undergraduate and postgraduate levels, we include both, although we acknowledge differences as a consequence of a variety of factors including student maturity, creative initiative and skill level. We work from the understanding that the knowledge within artistic practice can take three forms: the practice itself; writings about the artistic practice, that is, practice-led research; and research related to, but not about the artistic practice. Accordingly this paper investigates how knowledge/content is activated within and through the ART nexus and responds to two questions:

i) What knowledge informs teaching within undergraduate and postgraduate programs?

ii) How does the knowledge contained within the process and product of artistic practice inform teaching within undergraduate and postgraduate programs?

We begin our paper with an introduction of the terms currently used to discuss artistic practice and the research drawn from this work. We then review literature on the knowledge and content that emerges from artistic practice and how this engages with audiences, most particularly student audiences. We bring to this discussion findings from our previous research. We then seek to arrive at and communicate a greater understanding of the research-teaching nexus, in particular the artistic practice-research-teaching (ART) nexus.

Background

Discussion of artistic practice as research is a relatively recent endeavour (see, for example Bolt, 2006; Davidson, 2004; Odam, 2001; Rubidge, 1996; Smith & Dean, 2009), and key terminologies are still in a process of development. The terms creative practice (Milech & Schilo, 2009), reflective practice (Schön, 1987), mindful practice (Stewart, 2006) and artistic practice (Odam, 2001; Barrett, 2007) have all been used to describe central processes. We have used 'creative practice' in previous papers, but some people outside the creative arts have objected, and we now feel rightly so, to the claim that their own research and activities are not creative. We now favour the term 'artistic research' because we consider it to encapsulate all artistic disciplines whilst avoiding unnecessary assumptions about process or objective.

Teaching tertiary students about artistic practice requires an understanding of the knowledge inherent in the practice. This knowledge can be found within the creative process (Blom, 2006; Hannan, 2006), the creative outcome (Bolt, 2006; Crossman, 2006), both (Odam, 2001), or in artistic research about some closely related aspect (Thome, 1995). It can also come from researchers not engaged in the arts practice being discussed (Barrett, 2006; Blank & Davidson, 2007), although discussion of this is beyond the scope of this paper. Central to our previous papers has been the experience of 'being within' (rather than abstracted from) the arts practice, and researching through and within that practice. Indeed, we believe this debate to be at its most challenging in those forms that leave no permanent record: music, dance, and other performative arts that are bound within the moment of their occurrence. It follows that effective teaching of undergraduate and postgraduate students requires both recognition of, and the ability to draw from, all knowledge sources including those generated through this very specific encounter.

Biggs's (2004) discussion on the nature of practice-based research in art and design describes how the experiential knowledge/content contained in arts practice can take different forms. Biggs identified three principal forms of knowledge: explicit, tacit and ineffable. The first, 'explicit content', is knowledge that can be put into words. In contrast, 'ineffable content' "cannot be expressed linguistically" (p. 7). 'Experiential feelings' are, for Biggs, not research in themselves but, when 'translated' through words, become representations of the object (or process) of interest. They then become an important part of the 'experiential content'. Therefore the ineffability of experiential feeling can inform experiential content. However, "language cannot express everything" (p. 12) and in 'tacit content' there is "an experiential component that cannot be efficiently expressed linguistically" (p.7).

Our research in this area began in 2007. During the course of our investigations, participants have identified both explicit and tacit content as forms of knowledge embedded in artistic practice as research. Participants have used words such as intuitive, serendipitous, unfolding and unexpected when speaking of the artistic process. Fiona, a theatre director, spoke of there being "a sense that you are entering a world of mysticism when you are talking about processes of acting", and Ava, an actor, described "an unfolding or a revelation rather than a decisive direction". Clare, a composer, talked of knowledge being "generated not just through those two privileged modes of intelligence but through all forms of intelligence … social intelligence, emotional intelligence, kinaesthetic intelligence and so on". Artistic practice was said to communicate beyond its medium through storytelling; to be about being a public intellectual; being part of a broader tradition, drawing on other disciplines including science, psychology and philosophy; and about being part of an international community of arts practitioners. It has been described as both interactive and as collaborative (Blom, Bennett & Wright, forthcoming).

Practice-led writing by individual artists reveals a range of knowledge within artistic practice. Thome (1995), an electro-acoustic artist, identified a form of collaboration as she became conscious of the "multiplicity of relationships" (p. 31) brought about by the use of technology, which "can be applied to a continuum of creative processes, ranging from the composer defining these tools as instruments or performer-substitutes to their being utilized as co-creators/collaborators in the production of musical compositions" (p. 31). Preparing a conceptually challenging piano piece for performance, Blom (2006) found it necessary to gain an understanding of the piece before meaningful practice could occur. This took much time, but only after grasping the accretive process used by the composer, and the context in which the piece was written, could the rhythms, pitches and structure of the piece be tackled. Composer Bruce Crossman (2006) described his own "acknowledging [of] a European cultural 'root' within Australasian

composition. He felt this work should also resonate with its Pacific locale" (p. 46). Here, the knowledge generated through artistic research was about self-collaboration between artist and technology, gaining aesthetic understanding of a piece of music before the practicalities of practice can start, and transferring one culture into another by 'preparing' piano strings to change the timbre. In each example, the practical, that is Biggs's 'explicit content', is preceded by the 'ineffable' or the 'tacit' which, when informing each other, can be 'translated' through words. Whilst the teaching of research-based practices of this kind presents significant challenges, it can offer unique insights into the teaching-research nexus.

The Artistic practice-Teaching nexus

In 2006, the Australian magazine *RealTime* commissioned interviews with artists working in academia within different disciplines. The responses offer rare views of the artistic practice-teaching nexus at work at the undergraduate and postgraduate levels, and we draw from these interviews in the following discussion. Sound artist Garth Paine, interviewed by Priest (2006), explained:

> *Creative practice is central to all my teaching and, within that, exploration, innovation and discovery are paramount. This approach makes the praxis between research/practice and teaching a real and vulnerable one. It's where students are exposed to the nature of both the practice-based and industry research I undertake and how that informs both my own practice, my passion for experimental sound, and the framework in which I position my teaching. (p. 9)*

Performance maker Mark Minchinton, who was interviewed by Gallasch (2006), viewed teaching as "playful" and performance as "an embodied ethics". Whether his own discoveries … or his students' everyday encounters, he observed:

> *It's a matter of observing and absorbing, of how you approach an Other, how you depart, how you make decisions. I don't care if the student is going into television, performance art or real estate, at least they have a grounding in the understanding of others. (p. 4)*

Five theatre practitioners interviewed by Cuskelly (2006) noted "significant interplay" between their roles as artists and educators (p. 2). Three of these felt

that teaching made them more compassionate as directors as well as clarifying their ideas and the way they communicated. Two derived "tremendous inspiration from contact with their students".

Theatre maker Richard Murphet spoke of starting from scratch every time he started a new project: "Every time I go to direct a play … I don't know how to do it. I start at the beginning and I ask, 'What's direction about?' and then I gradually find it. And that's fantastic for (the students), because they feel they know nothing and that's the state you have to be in when you're doing art" (p. 2).

The flow of knowledge through the artistic practice-teaching nexus emerges as two-directional. After interviewing four musicians teaching in Australian universities, for example, Hannan (2006) found that all were positive about the benefits of being artist-educators. He also noted the influence of teaching, at both undergraduate and postgraduate levels, on artistic practice. A common experience among the music academics was being asked to teach undergraduate units for which they felt they did not have particular expertise. However, they reflected that this had particular advantages for their artistic practice: "The trade-off for all the hard work is an increased understanding of the technical and aesthetic aspects of genres and techniques that can feed back into the teacher's own art practice" (p. 6). Two composer/performers remarked that they "learnt as much or more from their students as the students learnt from them" (p. 6). This aligns with research conducted with academics outside of the creative arts, many of whom have been reported as "identifying clear benefits for their research coming from time spent in the classroom and vice versa" (Dever, Morrison, Dalton & Tayton, 2006, p. 16).

One composer interviewed by Hannan (2006) noted that his "teaching and research have become integral to his creative practice" (p. 6). The composer gave an example of the teaching-artistic practice nexus at work, explaining that challenging postgraduate composition students to think about "how their work is making an original contribution to knowledge" filtered into his own approach to composition. And composer Michael Smetanin, interviewed by Campbell (2006), noted how teaching enables one to see "the different ways students approach compositional problems … [which] keeps you a little bit sharper" (p. 8).

The Artistic practice-Research nexus

As we have seen, there is already evidence of a nexus between artistic practice and teaching. We turn now to that between the artistic practice and academic research. In our initial research phase, three distinct views of arts practice as

research emerged from participants' comments: 1) the artistic outcome is separate to the documented (and publishable) process considered to be research; 2) the artistic outcome and academic research overlap; and 3) the artistic outcome and academic research are integrated (Blom, Wright & Bennett, 2008). It is telling that Odam (2001), when considering artists who undertook systematic enquiry into their own practice, referred to both teaching and research into "the artistic process" (p. 82) as significant. The value of this 'inside', process-based knowledge lies within, but extends beyond, the creative arts. It offers opportunities for more meaningful conversations on a wide range of teaching, learning and research processes.

Haseman (2007) has argued the rigour of "practice-led research [which] employs its own distinctive research approach with its own strategies and methods, drawn from the long-standing and accepted working methods and practices of artists and practitioners across the arts and emerging creative disciplines" (p. 148). Davidson provided an example of this with analysis of her practice as a case study in which "the process of documentation and then critical reflection re-enforces the research element of the rehearsal process" to create a form of reflexive artistic action research (2004, p. 146). Table 1 illustrates three concepts of artistic research proposed by Rubidge (2005). Because the creative process is embodied, we argued in our second paper (Wright, Bennett & Blom, 2010) that someone other than the artist can only undertake 'practice-based' research. This was reinforced by Carter's observation that "creative knowledge cannot be abstracted from the loom that produced it" (2004, p. 1). It is in 'practice-led' and 'practice as' research that the artist academic offers insight of a kind not available to the non-practitioner. Engagement in all three concepts can enable artist academics to reclaim agency over the writing that surrounds their work. This inevitably influences both how they think about and approach teaching.

Table 1: Concepts of artistic research derived from Rubidge (2005)

Practice-based research	Research that tests pre-formulated questions and/or hypotheses derived from artistic practice;
Practice-led research	Research using practice to research practice. Often without an initial clearly defined question or hypothesis, it may lead to a formal question or hypothesis;
Practice as research	Research in which artistic practice is the primary research methodology

Approach

The findings reported in this paper are drawn from an ongoing study into issues arising within the role of artist as academic. Academic arts practitioners have been interviewed over two distinct phases of research, which have included questions on approaches and challenges to, and relationships between, artistic practice, research and teaching; impacts of the Australian research framework *Excellence in Research for Australia* (ERA); terminology; and perceptions of knowledge. While the second stage of the project focused on issues that emerged from the first, in both interview schedules participants were asked three common questions, and the responses to these questions form the basis of this paper:

    I.   How participants view their practice as a site of knowledge (that is, as research);

    II.   The relationship and interaction between the roles of artist, researcher and tertiary educator; and

    III.   Participants' perceptions of, and attitudes towards, these roles.

Interviews were conducted with fourteen arts practitioners, all active as teachers and researchers with full time academic positions in Australian universities. Participants were identified from university websites and professional networks, and purposeful sampling was used to ensure a broad representation of disciplines. We did not seek a gender balance, but the final sample included eight male participants and six females. Participants were invited to participate by email, and were sent background information on the study. Interviews took place in person and were recorded. Interview transcripts were shared between the three researchers and data analysis of these interview responses adopted Glaser's constant comparative method whereby codings were compared "over and over again with codings and classifications that have already been made" (Flick 2002, p. 231). We started with issues that emerged from the literature review and then sought new directions from participant responses. At each stage our coding was shared and discussed at length. The arts practices in which the participants engaged and their years in academia are given in Table 2.

Table 2: Participants

Study name	Years as academic	Arts discipline	Post-graduate qualification
Ava	10	Actor	Completing a PhD
Brian	5-6	Electro-acoustic composer & performer	PhD
Clare	40	Composer	PhD
Damon	4	Songwriter & popular music performer	Currently enrolled MA
Ellen	15	Dancer	PhD (literature)
Gina	14	Ceramicist	PhD
Ivan	16	Performer/improviser & composer	MA (hons)
Joe	5	Site-specific sound artist	Currently enrolled PhD
Ken	34	Visual artist – painter/drawing	BA (Hons), Grad Dip.
Leo	5.5	Composer	PhD
Mary	20+	Keyboard player	PhD
Nora	10	Theatre director	PhD
Owen	5	Double bass player	Currently enrolled PhD
Simon	7, plus 8 part-time	Violin player	MA, currently enrolled in a PhD

Findings and discussion

We frame our findings and discussion in three sections: knowledge/s emerging from artistic research; the artistic-research-teaching nexus; and conflicts arising within the negotiation of that nexus.

The knowledge emerging from artistic practice and its engagement with different audiences

Earlier, we introduced literature that reveals a range of views on the forms of knowledge that emerge from artistic practice. Our research findings indicate how this knowledge informs teaching and research at different student levels. For Mary, a pianist teaching undergraduate music and music education students, the processes of preparing for a performance informed her teaching "a huge amount", but they also presented opportunities for research into a new field. Psychologically based elements of performance had not been fully explored, and she felt that her time "would be ideally put into practice and into research, and the teaching should be in the middle, being fed by both of those things". Leo, a composer teaching undergraduate music education students, explored his practice within his teaching: "I try and use my compositional knowledge and my knowledge of that approach to music in as many ways as I can in my teaching". As a composer he found that his music offered performers the chance to "learn something new about how to perform". Here, compositional knowledge as notation and as sound, moves from what Biggs (2004) termed the 'ineffable', to being 'explicit content'.

Leo talked of two approaches to his undergraduate teaching: an academic way of thinking, and taking an artistic point of view; and yet both came from his artistic practice as a composer. His choice of terminologies illustrates Biggs's notion of 'translating': namely the process that occurs when introducing to different teaching areas the knowledge inherent in his artistic practice. This transformation or translation arose in the interviews of many participants, each shedding a different light on the process. Simon, a violinist, found his playing to be constantly informed by historical, musical and performative issues, on which he reflected and researched because of "my own inquisitiveness". However, the output of this thinking was often performed: "playing my understanding". For site-specific sound artist Joe, "learning from professional practice lies at the heart of my ability to teach". Part of this thinking was his view that "performativity is a way of thinking about what language can do in terms of bringing things into existence", for example in a performance. For Joe, the performance itself was not viewed as research "in terms of the ideas of utility and generalisability" until transformation of "that novel experience into something that can be shared in another way". One participant commented that each new form resulting from this translation can be subject to independent appraisal, often against unrelated criteria and values.

For Nora, a theatre director, knowledge in the process of a production is transferable both to another group of actors and to the audience. In this way her undergraduate students often felt its impact first, and then helped communicate the knowledge to new audiences. Nora described this learning process as "morphing" an existing creative work into new forms for new audiences in order "to fit another formula". She hoped that the students involved in the process also undertook this new learning. In exegetical writing for her PhD thesis, which focused on the creation of a new theatre work, Nora

noted "constant acts of translation, like I was speaking in lots of different languages".

These translations were made to meet academic requirements, the needs of designers where the conversation became "sort of spatial, three-dimensional", and then for actors where "it's an action-driven kind of language". She described these constant translations as being artistically "multilingual".

The Artistic practice-Research-Teaching nexus (ART)

Although Neumann (1996) found no conclusive evidence of a link between the research and teaching nexus, eight issues emerged consistently in the literature she examined. Of these, five are relevant to our discussion of ART: namely, a strong belief in the teaching-research nexus by academics; the need to take a broad approach to the question of a nexus between teaching and research; the complexity of the nexus; the need for clarification of what is meant by 'research' and 'teaching' and what the terms encompass; and the role of the institutional reward system and conflicting signals to academics about the importance of teaching and research.

Although each of our participants recognised a flow of information between their artistic practice, their research and their teaching, three participants noted an especially strong nexus between their teaching and their practice. Clare, a score-based composer, described the constant stimulation of undergraduate and postgraduate teaching and its influence upon her thinking about music, its contexts and its meanings. Because of her artistic practice she described "this peculiar orientation … a peculiar sense of what I'm teaching and a peculiar approach to the way I'm teaching it". Here, teaching stimulated the composer role, which in turn informed teaching, thus providing benefits for both roles. Hannan (2006) also noted these links, but we accept that the strength of the nexus between practice and teaching is not always present. For example, while all of the sound artists interviewed by Priest (2006) felt that maintaining an arts practice had a positive effect on their teaching, three did not view teaching as integral to their practice.

Similarly, Simon, the violinist, acknowledged the flow from teaching into his playing. A valued teacher once told him: "you will come to a time in your life when you will want to teach, and you will need to teach." He commented, "She was absolutely right". Today, he finds that teaching gives him a reason to play the violin because he had "become very empty" with his career, making him "lose faith in, not music, but the… current environment and reception [of music]". The learning that had come from his teaching included understanding a need to be clearer and more defined; choices about

how to present an issue; and the need for decision-making to be "specific and quick". Teaching and learning had greatly influenced his practice by helping him to identify creative needs and make creative choices. Simon felt "increasingly moved" to research because of the need to help students more, "or to at least do something to help push them in the right direction". He recognised that while students needed to develop their own motivation, he could help through what he called "informal pushing". This provided the students with a broader preparation than note learning and technique. Ivan, a performer/composer, reported that he learned particularly from his post-graduate students. For example, one student "writing a jazz concerto" triggered Ivan's desire to research deeply into the student's topic. He described this as "a dialogue of enquiry" and as "helping a postgraduate student set up an experiment". "Eventually", he said, "the student becomes supervisor and I become the candidate. That's the kind… of knowledge transfer… sharing I find very satisfying".

Other respondents articulated Neumann's call for a strong belief in the teaching and learning nexus, and they extended this to incorporate artistic practice. Songwriter Damon agreed that the three roles "necessarily nurture each other". However, he liked to keep the roles separate because artistic practice was "crucial to the freshness" of the perspective he brought to his teaching and research. This replenishment meant not addressing his own song writing and performing too analytically. As an electro-acoustic artist, Brian applied techniques introduced in his teaching to a work performed at a US electronic arts festival, thereby offering students the opportunity to hear the techniques in the work. Gina, the ceramicist, spoke about the impact of her artistic practice and reflective research on her own work and on the practice of students: "academic work has heightened my artistic practice because it has empowered me to analyse it, critique it, [and] reflect on it. … I've noticed students struggle whilst they're in the research process, but in the end they all say it was one of the most important things they had every done as an artist". Ellen, a dancer, recognised students who valued what their artistic practice was communicating, and "others who are more shallow and [who] tend to be more shallow in their practice". She observed that for students "to *see* what they have to do" takes unselfishness and "it takes curiosity".

The experience of artists in other creative disciplines further illustrates how the knowledge within artistic practice can be taught. Schechner (1990) and Turner (1987), for example, have been crucial in the attempt to systematise the performance experience. Turner's anthropological readings of performance—his work on 'liminality' in particular—enabled Schechner to construct models of learning that have contributed to theory and practice in contemporary performance. Work of this kind laid the foundation for the identification of Performance Studies as a distinct field within the liberal-arts tradition. Similar thinking is seen in Zapata's (2005) teaching of undergraduate piano students. Zapata suggested that if the stage experience

can be thought of as a process, it "is possible to find a structure for the development of that process" whilst recognising that this structure "will be different for every pianist" (p. 35).

He put into two groups the information that can be gathered from every performance, noting that this list often reflected his own personal concerns: 1) musical: memory effectiveness, technical effectiveness, artistic effectiveness; and 2) physical: body endurance and general motor responses during performance; physical reactions to various anxiety levels during performance; tension and relaxation of muscles. Zapata encouraged students to take responsibility for their processes to "create a life-long chain reaction of constant discovery and growth towards that ideal state of performance" (p.35).

Artistic practice also appears to provide the impetus for, and broader approaches towards, curricular design and innovative pedagogical approaches. When planning a new subject within an existing fine arts program, Ken tried to "create pathways or maps [to]…encourage [students] to take these strange journeys to places they are unfamiliar with". By adopting a broad approach focused more on "imagination, imaginative capability, capacity to connect things, metaphoric jumps", Ken designed a "chemical mix of things" drawn from the excitements and creative possibilities he had experienced, and which "potentially can be activated in the students as well". He deliberately connected artistic practice and teaching by undertaking the same project he had set his students, because otherwise "you don't have an understanding of what the outcome is because you haven't gone through this particular [project] … before". He found this process to refresh his capability by enabling him "to see if I make a few more little discoveries or insights, or actually confirm that what I am doing is maybe useful in that way". In doing so, Ken could be seen as systematising the fine arts experience in a similar way to Schechner (1990) and Turner's (1987) roles in the theatre performance experience, and Zapata (2005) with piano performance. Composer Leo, who taught within an undergraduate music education program, approached his teaching from "an artistic point of view, not from a purely academic one… I continually see most things from the perspective of me being a composer". His research focus emerged from noting that student composers often become "so allied to the computer and the playback features of notation software that they can simply play back the piece over and over and over again without learning anything from the playback". By approaching the teaching from an artistic point of view he described himself as "just facilitating the process whereby the composers learn a little bit more but they are still free to be creative". These responses align with Cuskelly's (2006) 'significant interplay' and they remind us that the nexus flow is far from mono-directional.

One of the complexities of adding artistic research to the already complex teaching-research nexus is that terms such as reflective practice and

artistic practice are often used interchangeably in the literature, and have different meanings for different people and contexts. Owen, a double bass player, adopted reflective practice as a powerful tool for "developing excellent teaching practices" in both the classroom and in instrumental teaching.

He also found it relevant as a "tool for developing yourself as a learner. I use various methods to do this but use it formally and informally throughout each and every day." He preferred the term 'reflective practice' to 'mindful practice', which he found "somewhat diluted [and] almost not powerful enough". Whilst we have adopted the term artistic practice, such comments remind us of the range of opinion in this regard.

Conflicts arising from the three ART roles

As discussed, the nexus between artistic practice, research and teaching operates in different ways according to discipline and artist. However, whilst the three roles or activities overlap and can influence the work of artist academics in a circular way, they can also cause unresolvable conflicts. We highlight some of these in the following section.

The pressure to upgrade qualifications and produce traditionally notated research papers was a commonly reported concern and reflects the current university environment in many countries. Participants centred their concerns on the need for a very different skill set to that required for teaching or artistic practice, and on the fear that to over-analyse the creative process puts at risk the intuitive and the spontaneous. In part, these concerns relate to the time required to enact all three roles to the high standards of a skilled professional. This was reported as hugely challenging, and compromises were often forced. These issues also emerged in Hannan's (2006) investigation, which found professional touring, upgrading qualifications, undertaking written research, and completing administration all create unresolvable conflicts. Most of our participants spoke of the difficulty of finding enough time to maintain their creative work alongside teaching and research: it is "difficult to be divided into three people and obviously it's hard not to be primarily interested in the discipline itself and in all areas of that". While participants enjoyed all three roles and noted the benefits of working with students, the amount of administration required of academics arose as an additional conflict. This is a familiar concern, and academics in many disciplines find themselves "locked into the faulty model of the paper chase" (Arnold, 2010, p. 13).

For some participants, the time difficulty lay in the different mindset required for each activity. Gina described "the free dynamic of potential"

within artistic practice compared to a different kind of focus needed for academic research. She found it "extremely difficult to jump from creative critique to creative practice" and saw it also in the dilemma faced by her postgraduate students. However, she took pains to say that writing words can also be highly creative. It is clear that abstracting the knowledge from 'the loom that produced it'(Carter, 2004) requires different thinking, different skills, and committed time. Some of our participants had developed strategies to bridge this divide. Ava, an actor, suggested that there may be a handful of people who can straddle the academic and artistic worlds, but she understood how the different roles "pull against each other and create tensions". She also saw the limited scope of academic conventions about the nature of knowledge and inquiry in artistic practice. However, Ava suggested alternative models for the artist in academia including longer-term residencies with outside organisations, and opportunities for artists to become involved in inter-disciplinary research. Here the artist can become a "resource or source" of new knowledge. For Joe, the sound artist, professional practice "lies at the heart of my ability to teach". He suggested thinking about music making as a professional practice in a similar way to an accountant "doing his business"; yet he recognised the difference in that "arts practice is considered to be an area where novelty is a value … its value is in its newness". For him, "having knowledge from experience, from working in the field, is what makes me able to work with these ideas in a way that hopefully I can transmit some useful knowledge".

Closing summary

The knowledge that emerges from artistic practice and which informs teaching within undergraduate and postgraduate programs can be psychologically based, phenomenological, technical, structural, historical, musical, performative and creative. It can involve both participants and observers and it can take the form of explicit or tacit knowledge. This knowledge can be systematised and constructed into models of learning or into structures that guide teaching approaches. The thinking behind the knowledge that emerges from artistic practice can lie at the very heart of a teaching practice.

Research in relation to artistic practice takes many forms, but the institutional emphasis on written research leads many artist academics to write about their work. While written research has a direct impact on undergraduate and postgraduate teaching, however, academic language alone is not sufficient to teach artistic practice. The challenge arising from this is finding a form, or forms, that will allow an artist academic's work to be situated in a teaching and a research environment alongside the artistic practice itself. This involves more than finding the appropriate language; it involves meeting the needs of two or more critical audiences. While some academics have decided they do

not want to take on the challenge of accommodating different audiences, others embrace the challenge and find there is much to learn from doing so.

Certainly, what we do understand about the nexus reveals innovative processes that may address limitations of traditional modes of research, which do "not provide an adequate model for all research, including much of what is happening in the sciences" (Rosenberg, 2008, p. 4). There have already been some attempts to position artistic research as an epistemology in its own right. Haseman, for example, proposed three research paradigms: quantitative research (scientific method); qualitative research (multi-method); and performative research (multi-method led by practice), "expressed in non-numeric data, but in forms of symbolic data other than words in discursive text. These include material forms of practice, of still and moving images, of music and sound, of live action and digital code" (2007, p. 151). It is our hope that deeper understanding of the innovative approaches employed in artistic research will lead to increased understanding of and recognition for academics distinguished by their ability to 'know' their practice.

Our research suggests that for knowledge within the process and product of artistic practice to inform teaching, there needs to be a belief in the ART nexus. In this respect we align with Neumann. In fact, this strong belief was expressed by all of the participants who were successfully negotiating the nexus. For participants who were not engaged in research into, or stemming from, their artistic practice, the nexus moved underground or took another road. In these cases, teaching tended to be informed by artistic practice but not via deliberate reflection.

The addition of artistic practice as both contributor and beneficiary of the teaching-research nexus calls for a more fluid model that accommodates a range of approaches, directions and connections. It is tempting to conclude with a neat table in which we differentiate the ways in which the ART nexus appears to operate. However, we resist this temptation because we do not believe the nexus to be a linear progression. Rather, participants refer to a true nexus: "a means of connection" (Macquarie Dictionary, 1999, p. 530) that enables artist academics to position themselves within the questions that surround artistic practice and the scholarship of teaching. Perhaps a more useful way to approach this inter-relationship is to draw on Griffith's (2004) typology of teaching-research links, which posits four orientations stemming from the relationship between teaching and research (in Jenkins & Healey, 2005, p. 21):

Research-led teaching:	Emphasises research findings with little focus on the impact of teaching on research;
Research-oriented teaching:	Emphasises both the process and outcomes of research, and draws on the research experiences of teachers;
Research-based teaching:	Integrates research and the design of student learning, lessens the divide between student and teacher, and fully explores interactions between teaching and research;
Research-informed teaching:	Consciously and systematically inquires into the teaching and learning process.

Griffith's approach is particularly useful when adding artistic research to the teaching and learning nexus, because negotiating the complexity of such a nexus requires the adoption of a suitable orientation for each new situation. This fluidity can be variously determined by the needs (or requirements) of the university sector, students, curriculum, teaching approaches, research, and artistic practice. Our respondents have described research and/or teaching-led, -oriented, -based and -informed artistic practice, and for those successfully negotiating the nexus it was the orientation they adopted that enabled them to situate their work.

Despite the fluidity of approaches and knowledges within ART, the conflict arising from this uneasy negotiation remains unresolved. In a sense, artist academics have become 'tempered radicals' who "struggle between their desire to act on their 'different' agendas and the need to fit into the dominant culture" (Meyerson, 2004, p. 4). The most successful negotiators appear to manage both. Our findings have implications for future research into such issues as how the artist academic balances a practice of professional standard with teaching, research and the requirements of academia; and also for how the flow of knowledge within ART, and the innovative approaches adopted by arts practitioners, can inform and refresh the research paradigms of other disciplines.

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