

The Deficit Doctorate: Multimodal Solutions to Enable Differentiated Learning

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Abstract: The doctoral space is intricate, complex and convoluted. It is torn between individual and institutional commitments, local and international relationships, standards and standardization. This paper does not atomise or discuss individual doctoral supervision, but instead explores how institutions around the world train supervisors, and also create expectations for student and supervisory relationships. The key is to move beyond experiential ideologies and individual relationships, to understand the supervisory relationship in the broader institutional context and the international environment for research.

Keywords: Doctor of Philosophy, Deficit Learning and Teaching, Multimodality, Disintermediation, Deterritorialization

1. Introduction

Assumptions destroy a PhD candidature and crush the best designed policies, procedures and protocols. Homology is a difficult concept to dislodge from the supervisory relationship. The apprenticeship is a difficult metaphor to erase. 'We' supervise as 'we' were supervised. But higher education, and the students enrolled in it, have changed. While the deficit model of teaching and learning has been effectively critiqued in undergraduate education, it remains lodged in doctoral programmes. Put another way – and transforming the problem into a t-shirt slogan – when in doubt, blame the student. Not the supervisor. Not the policy library. Not administrative arbitrariness. Not inflexible candidature design.

The triggers for this paper were three problematic and troubling cases from within the diverse and complex suite of doctoral research candidatures. These cases were sent to me via email from Doctor of Philosophy students. Each emerged from a different country, with distinct international profiles. What aligns these stories is the destructive impact of a supervisor's assumptions on doctoral students¹ and the confusion of experience as a supervisor with expertise in teaching and learning (and supervision).

The first case involved a young female student, so frightened of and by her supervisor that she placed butcher's paper on the windows of her house in case he drove to her home and wanted to see her, outside of 'office hours.' This man touched her clothing and insisted on multiple occasions that she needed to get into his car and drive to the shops to accompany him. The student stopped attending her university

office, frightened he would ‘drop in.’ She was too frightened to report the case to the institutional authorities, conscious that any public knowledge of the situation would impact on her career.

The second case concerned a female international student who had two supervisors offering both incorrect and damaging advice. Her fees were high. Time was short. The supervisors were focused on ensuring this female student wrote articles on which their names would feature. The thesis was rarely mentioned. The supervisors were very inexperienced and – even though this young woman was writing on a distinctive topic – demanded that she used the methodology and theoretical approach deployed in a supervisor’s doctoral thesis many years previously. The student wrote 30,000 words that were – at best – tangential to the topic of the thesis.

The final case emerged from the experiences of a 70 year old man – a life-long social worker. He had managed to gather remarkable – rare – evidence, written 79,000 words and yet had only seen his supervisor twice in two and a half years. Three pages of his 330 page script had been read. The tracked comment offered on those three pages was theoretically incorrect. The student had no advice on how to organize or structure his literature or evidence, and was tentative in the deployment of his important and distinctive intellectual voice.

These cases will be resolved at the conclusion of this paper. These narratives of doctoral supervision – the stories of postgraduate life – matter (Lee & Williams, 2012). These events and experiences emerged through a deficit model of learning being applied by supervisors onto their students. The solutions to these challenges will be activated through the application of multimodality in the final section of the article. The doctoral space is intricate, complex and convoluted. It is torn between contested priorities: individual and institution, local and international, standards and standardization. This paper does not atomise or discuss individual doctoral supervision, but instead explores how institutions around the world train supervisors, and also create expectations for student and supervisory relationships. The key is to move beyond experiential ideologies and individual relationships, to understand the supervisory relationship in the broader institutional context and the international environment for research.

Graduating with a PhD does not mean that the holder can teach or supervise. The problem is that the word ‘supervision’ is a black box. It can be interventionist or hands off, part of a workload model, or a strategy to cannibalize student research to develop the supervisor’s publications and CV. It can be intellectually generous or deep exploitation. Doctoral education remains locally distinctive, but must be internationally rigorous. If international scholars lose the standards – the quality of a PhD - then the point of a university is defaced. The doctoral higher degree – the highest qualification in the institution – must represent the best of what a university can achieve. It is important to stress the standards, assumptions and expectations of a PhD as a degree. It is also crucial to understand, track and interpret the needs of students and recognize the abilities, life experience and skills they bring into the doctoral and master’s programme. Therefore, the imperative of this paper is to discuss and present the deficit model of teaching and learning, with specific applications to doctoral education and doctoral supervision.

2. The Deficit Model of Doctoral Education

The deficit model of teaching and learning is based on the ideology that women and men are incomplete – lacking - when they enter education. They require a teacher – a master – to make them whole, to bring them to knowledge. This deficit model particularly impacts and is actioned on the students who differ from the supposed ‘normative’ scholar. Those students differing from the normative model must be corrected for their deficiencies.

In the literature, two distinct modes of the deficit emerge: deficit theory and deficit ideologies. Deficit theory emerges from ‘minority education’ and ‘multicultural education,’ investigating the impact of diverse languages in a classroom (Collins, 1998; Dudley-Marling, 2007; Gorski, 2009). The deficit ideology is particularly impactful on educational policy, with ‘context-blind’ standards being affirmed as part of quality assurance (Sleeter, 2004). It is also used in discussions about ‘access’ to education (Ford and Grantham, 2003; Yosso, 2005). If democratic education remains a focus and priority, then deficit modelling is the antithesis of this movement and goal. The othering of PhD students and their experiences is part of wider othering practices derived from postcolonialism, patriarchy, and capitalist-based injustices. Such behaviours involve blaming the victim – blaming the disempowered person – for the structural inequalities in institutions such as universities.

The deficit model literature in higher education studies has been dominated by attention to first year undergraduates, probing attrition rates and student dissatisfaction. Instead of assuming that the students needed to change, a renewed focus was placed on how institutions change to meet the needs of students. This is a whole-of-institution transformation, spanning from information literacy programmes through to employability.

There are many proxies in place to determine the operation of a deficit model. One in doctoral education is the attrition rate. The students that leave the programme remain the great secret - the unspoken abuse narrative - within doctoral degrees. An array of strategies to socialize students into doctoral programmes attempt to triage this structural problem: inductions, orientations, information literacy and professional development courses. But because supervision is individualized, there is a continuum of options and opportunities, spanning from detailed guidance through to disconnection. An array of strategies and policies attempt to regulate, manage and model this relationship, such as supervisory training and supervisory charters (Flinders University, 2018).

The key challenge is how to manage social, cultural, economic, religious and political differences. Too easily, the ideology of difference bleeds into a deficit and deviance from the ‘normal’ trajectories of doctoral education. This normal does not exist. Indeed – to change the context but mobilize the title – James Joll famously referred to the start of the First World War in 1914 as triggered by *Unspoken Assumptions* (1968). He probed a will to war with many causes, outcomes and perspectives. But these origins were not definitive, concrete or – indeed – real. They were unspoken assumptions. Doctoral programmes are punctuated by such unspoken assumptions. The danger to students is not only found in the assumptions, but that they are unacknowledged, unwritten and unreflexively applied. Many proxies exist to reveal these assumptions: the confusion of experience and expertise, the disrespect and

dismissal of professional development in supervision, and admissions practices that favour one social group over another, particularly with regard to age and disciplinary background. Such decisions, supposedly made on intellectual ability, are revealing unspoken assumptions about class, race, gender and age.

The application of the deficit model, even implicitly, blocks a discussion of how the normative modelling of a student, a supervisor and the process has emerged. This treatment of students is what Paul Gorski described as “recycling its own misperceptions, all of which justify inequalities” (2010, p.6). This means that earlier injustices of higher education socialization are replicated through supervisory models. Because of the highly individualized nature of supervision, corrections, reflections and collaborations are rare, and only enforced through compulsory or mandated professional development. At its best, the deficit model requires a whole-of-institution corrective, transforming the nature of student and supervisor relationships. Business as usual is not appropriate. Interventions are necessary to ensure that prior practices are transformed through the innovations of information and media literacy, and socially just andragogical strategies.

The key is to avoid blind spots, avoid the perpetuation of older models of thinking, working, teaching and learning. Gorski realized that the function of deficit ideology is, “to manipulate popular consciousness in order to deflect attention from the systemic conditions and socio-political context that underlie or exacerbate inequities, such as systematic racism or economic injustice” (2010, p.6). Funding is frequently a proxy for these inequalities, such as the underfunding of bilingual education or disability services. Those behaviours, practices, protocols and strategies to enable those who are not young white men are frequently discounted and discredited. Replicating, generalizing and expanding Gareth Stedman-Jones’ categorization of the deserving and undeserving poor (1971), a capping of achievement levels for some communities of learners means that the barriers – for example – for a man or woman with an impairment to enter and succeed in a doctoral programme are high, but institutionally invisible. Doctoral programmes are not undergirded by universal design, but a tight, rigid and ruthless funnel.

3. A Universally Designed Doctoral Programme

One effective strategy to manage a diverse group of doctoral candidates is to commit to and apply the principles of universal design. Universal design can frame and shape buildings, curriculum, services, hardware and software. Mace configured a powerful early definition: the creation of services and products that are “usable by all people, to the greatest extent possible, without the need for adaptation or specialized design” (1997). Significantly, the principle is universal design, rather than universal application. Therefore, such a protocol does not address the injustices that exist before admissions into the programme. Once enrolled in a candidature, strategies can be implemented in milestone management, backward design and supervision to ensure that all students can gain from their degree and they have the opportunity to succeed.

Inclusive education, and inclusive education theories are difficult to apply to doctoral education, because it is an elite and elitist space. However this elitism should be determined via intelligence, rather than social or economic context. The International Convention on the Rights of Persons with Disabilities,

ratified by over a hundred nations since 2006, affirmed the value of inclusive education at its core. Universities were part of their brief and mandate. This imperative created what Justin Powell has described as the “Universal Design University” (Powell, 2013). This ideal is built on the foundation of open and accessible learning architecture, opening out higher education to a diversity of social groups (Barnes, 2007). The presence of students with impairments does not hamper the progress of others (Katz, 2013). Indeed, students with impairments gain from inclusive educational contexts (Katz, 2013). The challenge is, as Suanne Gibson confirmed, what happens “when rights are not enough” (2015). The question is how universal design principles can be applied to a diversity of students, beyond men and women with an impairment.

Such interventions are particularly challenging amidst neoliberal ideologies. The rolling back of state interventions and social welfare in favour of individual ‘choice’ has had an impact on universal design policies and principles. The disempowered in neoliberal systems are increasingly vulnerable (Chandler & Reid, 2016). A key initiative to be implemented through universal design is a change in the language from accommodation, modification and reasonable adjustments for students with a disability. Equal opportunities are not the goal. Equality and quality of outcomes are the imperative. Compliance models – of accommodation and modification – are cheaper and easier to implement. Yet structural change in the design of doctoral curriculum requires a radical reassessment and reconfiguration of supervision, meetings, outputs, candidature management and examinations. Such a reconfiguration not only enables students with an impairment, but all students. It is not up to an individual student to ask for reasonable adjustments (Magnus & Tossebro, 2013) because the demand for social justice is individualized rather than structural. Instead – through the design of the curriculum and candidature – multiple needs and expectations can be met. It is cheaper to commence an educational process with universal design as a foundation rather than retrofitting socially unjust structures. Therefore, there is incredible value in recognizing the diversity of users at the start of the process, rather than ‘accommodating’ them and creating ‘modifications’ through the candidature. Injustice and exclusion are difficult to measure. Yet by recognizing the barriers to participation before they emerge, a diagnosis or labelling of disempowered students is neither necessary nor required. There is a meta-empowerment to universal design. Students do not have to declare a disability to receive support.

There are many strategies to critique otherness and stop the development of othering spaces in doctoral education. A key first strategy is to ensure that all initial and core documents express a commitment to an enabling university and higher degree programme. Services are listed, if required. The second stage is to work carefully on interface development to ensure that the online experience is flexible, intuitive and includes a tolerance for error. Alternative formats for preparation should also be available. While the beginning of the doctoral programme requires consideration for orientation and induction, it is also crucial to consider the ending: the examination. A doctoral programme is unusual as its success or failure is based on two or three examiners and their interpretation. For oral examinations, specific strategies can be put in place to create a universally-designed time and support structure, with multiple breaks and modes of asking questions. The assessments on the written document remain more challenging to diversify while maintaining standards.

Accessibility has many meanings. A key imperative to reach this goal is to translate the language of blame, shame and accountability into opportunity, empowerment and achievement. John Swain, Sally French and Colin Cameron confirmed,

the dominant view of disability is individual or essentialist, that is as something wrong with the individual. A disabled person is thought of as someone who cannot see, cannot hear, cannot walk, has Down Syndrome, has a mental illness and so on (Swain, French & Cameron, 2003).

One key strategy to transform universal design into more than interface management and impact on the quality of the supervisory relationship is to apply the strategies from the third conceptual iteration of resilience theory.

Configured powerfully by David Chandler, resilience is a way to create “the governance of complexity” (2014). This new modelling moves beyond bouncebackability or the capacity to manage failure. Instead, he moves beyond an individual withstanding pressure, and towards “subject-centred ... relational understanding” (2014, p.11). Instead of focusing on individual failures, such a model probes governance failures. In other words, why do PhD students leave their candidature? Why do students of colour leave in greater numbers, alongside women, attiring more than men? Understanding resilience as self-worth and mindfulness (Hanson, 2018) is another strategy to blame the victim for their treatment.

In such an environment, what does ‘mentoring’ mean? Gorski described it as “code language for ‘assimilating’” (2009, p.20). Therefore strategies for mentoring can be modes of secondary socialization, to perpetuate injustice, as can the use of language like ‘disadvantaged,’ ‘culturally deprived,’ ‘remedial’ and ‘at risk.’ While locating an injustice is the first stage in addressing it, such labelling also summons Goffmanesque stigma (1963). The normal and normative pathways to achievement are not addressed. Actually, a recognition and empowerment of students as experts in their own life and research is transformative of both policy and procedures. Instead of an empty cup to be filled by the expertise of supervisors, students are the experts that inflect, enhance and improve the nature of a doctoral candidature (Mowbray, 2010, p.9).

These assumptions about a normal student and normal research commence at the admissions stage and continue throughout the candidature, including assumptions about employment and employability after graduation. In undergraduate education, admissions standards are being questioned, not recognizing the differentiated student body. Elizabeth Norman and Edwina Newham recognized the value of focus on “learner characteristics and learning strategies” (2018, p.128). Their goal was to consider the barriers to successful learning and to create universal design strategies to enable it.

The diverse and differentiate student cohort is no longer – was it ever? – the characteristic of undergraduate programmes. Doctoral programmes require a root and branch reconfiguration from admissions through to progression and examination. There needs to be an understanding of how differences are marginalized, hidden, demeaned and dismissed. Understanding difference – acknowledging difference – necessitates new support services and new modes of supervision. This is differentiated support and instruction. The unspoken assumptions are spoken.

The ideology that a PhD programme must deliver employment-ready graduates, many of whom will end up in a university, is incorrect. Students enter a programme after they have retired from paid work. Students complete a PhD while in full time work, to enable promotion and career advancement. There are 'lifestyle doctorates.' Some students wish to research, write and publish books and articles, or use the qualification as the basis of a consultancy career. Others wish to enjoy the process of a doctorate without a clear outcome in mind. Very often, the 'preparation guides' for doctoral candidates are based and built on assumptions about young men and women moving to a masters or doctorate after the completion of a bachelor degree and before marriage and family responsibilities (Buchan and Wilcox, 2012). For example, Mark Western, Matthais Kubler, John Wester, Denise Clague, Paul Boreham, Warren Laffan and Alan Lawson stated that,

graduates' earnings appear related to demographic factors, aspirations and motivations, the kinds of career paths with which the PhD intersects, and factors occurring during the PhD itself. Female graduates earned less than male graduates (2007, p.ii).

The researchers show that contextual factors, far beyond the limitations and restrictions of a doctoral programme, impact on employability and pay. Yet aspirations and motivations are not vacuum sealed from lived experiences. PhD students – like all citizens - learn about the restrictions and parameters of possibilities through a lifetime of sexism, racism, homophobia, ableism and ageism.

What is clear is that current interventionist strategies are not sufficient to challenge these unspoken assumptions of normative candidatures. Much is going wrong. The recent studies of mental health issues with PhD students are indicators of these challenges (Levecque Ansell, De Beuckelaer, Van der Heyden, Gisle, 2017). Nicola Reavly, Anna Ross, Anthony Jorma and Eoin Killackey confirmed that students managing mental health problems require five clear initiatives to enable success: clear policy, the promotion of services, accessibility of support service, a clear presentation of student rights and responsibilities, and plans to manage moments of crisis (Reavly, Ross, Jorma, & Killackey, 2011).

The lack of intervention and attention would be easier to understand if research was lacking about student expectations. The studies are clear. Students confirm with great clarity about what students want from a doctoral programme:

- Good supervisory relationship
- Clear boundaries
- Explicit Teaching
- Feedback rich environment
- Access and effective use of technology
- Supervisory Responsibility for employability
- Career development
- Student to student engagement
- Discussions of expectations
- Overt discussion of publishing policies (Norton, 2011).

These characteristics are clear, predictable and understandable. Similarly, the dissatisfactions are based on the assumption that the student is lacking in ability or expertise. This model suggests that something is wrong with a student and that there is a 'normal' way of doing a PhD. Those who have not had a life experience aligned with what is configured as a normative education or pathway into a PhD are marked as different – in deficient - and require remedial training, teaching and preparation. Conversely, supervisors give up on the student and rescue supervisors are then required (Brabazon and Redhead, 2017).

4. Supervision Beyond the Deficit Model

There is a greater diversity of students in our doctoral programme than at any point in history. This diversity has been based on the widening participation agenda in higher education more generally (Lipka, Baruch, & Meer, 2018). To manage this diversity, supervisors and international leaders in doctoral education require a better way – beyond what Biggs described as “blame the student” (1999). Inclusive education strategies, universal design and resilience institutional architecture are rarely summoned in policy or activated in procedures. Sometimes – most of the time - the reasons for failure in a PhD are not poor motivation or low level of ability. The transmission model of education does not function in undergraduate courses. It has even less relevance in doctoral education.

The best of learning takes student expertise and discovers andragogical strategies to align disciplinary knowledge with their prior expertise. Secondly, the ignorance and marginalization of student knowledge is particularly disastrous for groups that suffer and manage discrimination in the rest of their lives. These students include indigenous scholars, students of colour, international students, students with a disability, women, gay, lesbian, bisexual and transgender students, and students of differing ages. Those assumptions of learning and supervision can result in a heteronormative, procreative, colonial, white, English speaking, ageist, ablest and misogynist world views that not only squeeze out alternative views, but most of the population.

Doctoral studies is highly normative. The assumption that a student is a young man working in a lab is revealed through a cursory glance of Google images. Such assumptions not only hurt individual students, but corrode the doctoral system, infrastructure and ecosystem. Barbara Lovitts, in *Leaving the ivory tower: The causes and consequences of departure from doctoral study*, showed that 50% of those who start a doctoral programme do not gain a degree. Yet every thesis and student are isolated as an individual failure. Lovitts described “the invisible problem” of students who leave the programme (2001). Her startling statistic is further verified by other scholars such as Johnson, Green and Kleuver (2000). This invisible problem is caused by the deficit model of doctoral education because – and this is crucial to consider in its full resonance - the attrition rate of women and racial minorities is higher than white men.

There is also the attendant problem of long candidatures. The challenge of long candidatures is that it is difficult to determine if the students will leave at any point. Are they to be recorded as a long candidature or as attrition waiting to happen? Simply because a student is enrolled, does not mean they will finish. The longer the candidature, the less likely they are to finish. When I recently interviewed

our 100 overtime (over 4 years), enrolled Flinders students, 10 of those students were indigenous candidates. In other words, 10% of the overtime students were indigenous. However only 19 of the 1200 PhD students in the entire programme are indigenous. Racist and colonial ideologies cast a particular interpretation onto why indigenous students take longer to finish their PhDs. A postcolonial response would offer distinctive arguments and frameworks, confirming that the institution has not decolonized sufficiently to recognize indigenous worldviews and knowledge systems.

Therefore, it is important to invert the problem. Who – sociologically – is finishing? Science-based disciplines have a higher completion rate than researchers in the social sciences, arts and humanities. Men in the sciences, located within a structured lab environment, have the highest completion rates (Lantona & Browne, 2001). As Jonathan Norton reported, the higher the level of autonomy in the supervision, the more likely the student is to drop out. Therefore, what is needed to reduce attrition? Again, the research is clear: quality supervision, timely feedback, regular meetings, connection to a wider academic environment, caring relationships between students and supervisors with clear parameters, continuity of topic and continuity in supervision (Lantona & Browne, 2001).

The University of Melbourne research was precise in presenting the reasons for student attrition. These factors include a lack of student understanding about expectations of the degree and supervisor, inappropriate choice of topic, poor match of supervisor and student project, insufficient contact or feedback from the supervisor, no clear guidelines about access to research facilities and authorship, intellectual and social isolation and differential treatment of male and female research students (University of Melbourne, 2009). None of these characteristics are related to intellectual ability. Research shows that the completers and non-completers are equally academically able. The reasons they leave are not academic. Graduate student attrition – students who leave the programme - ruins individual lives, but also signify larger institutional issues. The solution most universities implement is they assume the attrition is caused by selecting the wrong students into the programme. If selection can be ‘corrected,’ then fewer students would leave the programme. This is an incorrect assumption. As selection has become more and more prescriptive, the attrition rate has increase because the institutional supervisory strategies have not changed.

The literature detailing the deficit model in teaching and learning, particularly the research of Janice Lombardi from 2016, focussed on the role of teacher expectations (Lombardi, 2016). She showed that teacher expectations are actually more important and significant to progress and achievement than student motivation. If teachers – or in our context, supervisors - have low expectations of particular students on the basis of age, race, sexuality or gender, then they were less likely to graduate. This is an incredibly significant finding and can create a self-perpetuating cycle of failure that manifests on the social groups that confront discrimination and prejudice more generally. Lombardi revealed the consequences of the assumption that if minority students ‘worked harder’ then they would be successful. She confirmed such ideologies remove the context of injustice, and shifts discrimination and blame from institutions and individuals.

Attrition is expensive and a key issue for governments, postgraduate associations and universities. Yet the cost of attrition to individual candidates is rarely captured. When an individual leaves the

programme, this is frequently an individual tragedy. It is also invisible. While exit surveys capture some of the desolation and disappointment, such material is rarely shared beyond an individual higher education establishment, because it is embarrassing information impacting on the institutional brand (Norton, 2011). Another area that is rarely reported or acknowledged beyond an individual institution is the length of candidature. A proxy for students that do not finish their degree is the length of the candidature. Sustaining the connection to the university, supervisor and project remains the challenge. Bourke's study of the Australian system confirmed that 51% of the 698 students surveyed completed in four years. After six years, 71% completed. The determinants of that completion – even through the length of time – was influenced by the discipline (arts completions took longer than the sciences) and departmental organization is important, ensuring that a student is linked with an intellectual community. The relationship with the principal supervisor remains the determinant and pivot to success (Bourke, Holbrook, Lovat & Farley, 2004). McCormack particularly studied the role of supervision, showing that the frequency of meetings, relationships with supervisors and uninterrupted patterns of support are crucial. Within this study, institutional and environmental issues were also key, with belonging structures and clear guidelines for progression and success required (McCormack, 2005).

The systems for doctoral education differ, particularly between the United Kingdom, New Zealand and Australian nexus and North American enrolments. The role of coursework is a differentiating factor, and holds a role in the length of a candidature. A United States-based study of the Council of Graduate Schools, based on 1406 surveys of completers between May 2006 and August 2008 revealed three clear variables in understanding completion and attrition. An overarching 80% affirmed the role of financial support in the completion, with 65% confirming that mentoring and advising was crucial. A further 57% argued that family support was crucial (Council of Graduate Schools, 2009). Therefore these three factors – money, supervision and personal support – were required as key variables for completion, and deal breakers for attrition. While these factors must be translated between disparate international systems, connecting these disparate surveys, theoretical discussions and longitudinal data sets, clear patterns are revealed. Supervision matters. Family and peer support matters. Financial support matters.

What is specifically of importance is not the deficit model for individual students, but how supervisors, assessors, reviewers, administrators and deans of graduate research institutionalize the deficit model. It is an ideology about how supervisory relationships operate in a university. In schools, researchers see the injustice and the deficit model of teaching and learning institutionalized through unequal school funding, stripping funding from bilingual education programmes, or a retraction on support programmes for students with an impairment. In universities – we need to open out the complicity in this deficit model. So the assumptions we share about achievement and candidatures through the use of such words and phrases like 'at risk' (Beck, 1992), remedial, culturally deprived and disadvantaged.

Lombardi offered five solutions to prevent the deficit model: show students they can reach the high expectations, generate intermediate goals to accelerate success, help student manage their fear of failure, create data-led short terms successes and produce scaffolded instruction (2016). There are many strategies to enable these solutions. For example, many institutions have milestones in place for students, enabling backward mapping that accomplishes many of these imperatives. There are solutions available in the literature. Therefore, why has the deficit model been perpetuated? One answer is that

blame for failure is placed on the individual, rather than the system. The university and the doctoral system is, within this justification, not responsible. Change is not required. It is cheaper and easier to implement this system, inferring that the individual student did not work hard enough. This blame of students continues over generations. This blocks and atomizes the introspections of an institution and the international university sector. Students blame themselves and manage feelings of inadequacy through stress, imposter syndrome and health concerns including mental health concerns. All these characteristics from students are proxies that a deficit model of supervision is in place.

How do we create a culturally, socially and intellectually safe space in doctoral education? The key first step is to critique the notion that the supervisor is a deity or keeper of all knowledge. Students are writing this thesis for two or three people: their examiners. The one truth to be guaranteed is that their supervisors will not be their examiners. Biggs is correct that, “learning is a way of interacting with the world” (1999), not a supervisor’s way of interacting with the world. Therefore supervisors, to help students learn, must understand students first understand their world and then connect with disciplinary expertise and the standards of a PhD.

The impact of removing the deficit model of supervision is supervisors and institutions recognize the abilities and world views our students bring to knowledge. Supervisors can continue to rehearse and pretend that a particular supervisory situation is unusual, the student is in deficit, and what is happening in the rest of their lives is irrelevant. Conversely, supervisors can recognize the gift that socially diverse students bring to knowledge, but also the prejudice, discrimination and challenges that many of our students confront simply to complete their research. If supervisors, administrators and deans of graduate research create a more fluid understanding of learning, research and supervision, then knowledge can be transformed. Good supervision is more than the transmission of knowledge. It is supervising the whole person, listening and creating a bespoke and customized pathway through the PhD.

As a Dean of Graduate Research, when I think about supervisory excellence - when I think about excellent supervisors - I look for men and women that create space and opportunities, and listen to the life experiences and the journey to knowledge from a diversity of students. It is only when we assume that our students are full, accomplished fascinating people at the start of the candidature that successful supervision is created. No student requires a supervisor to render them complete. They are whole before beginning their enrolment. A supervisor’s task and responsibility is to connect their life, their knowledge, with the standards required of a PhD. This is super-vision, seeing the gift that the students can bring to knowledge and framing, shaping and guiding this expertise into the genre of a doctorate. No deficit, just an opportunity to render our universities more socially just and more open to diversity. The transformations to knowledge when we do this are remarkable. There are many descriptors for this new model. One of the most evocative is the abundance model. Rebecca Alber created four characteristics of this paradigm.

- Every students possesses skills and abilities
- A bespoke and customized model of instruction
- Recognize standards are different from standardization
- Confirm that all learning builds on already existing strengths and interests (Alber, 2013).

Such models are profoundly appropriate for doctoral education, but institutionally supervisors, administrators and policy makers confront barriers to enable this success. It is 'about' supervision and supervisory quality. It is challenging to convince supervisors to undertake professional development. There is a profound confusion in the doctoral space between experience and expertise. The recognition that students are more than their theses and supervision embraces the entire person undergirds the abundance model. The key first step in enabling this model is the development of a learning inventory, recognizing the skills possessed by the students and what is necessary to develop.

Too often how we were supervised is how we supervise and yet our universities – and the political economy that frames them - has transformed radically in the last decade (Brabazon, 2016). Subjectivity – experience - rather than research-driven practice dominate. Through this subjectivity – pre-existing biases undergird supervision. Beth Harry and Janette Klingner described this as “the social/cultural deficit lens” (Harry & Klingner, 2007). One solution – an ineffectual one - has been annual performance management where the length of time of candidature is a proxy for supervisory quality. However the capacity to socialize students into new environments and expectations is necessary. Inductions and orientations are part of this strategy. Yet, if these are 'top down' functions, then supervisory behaviours and theories are not being critiqued.

Doctoral education has both globalized and massified. It has become part of the widening participation agenda. While still special and specialized, it is incorporated into the international business university. What is significant and fascinating, considering the high level of attrition in the doctoral space, is that so much attention is placed on recruiting international students, but their experience and satisfaction once enrolled is of much less interest (Cotterall, 2011). Indeed, the 'hard work' involved in supervising international PhD students has been logged in the literature (Goode, 2007).

There are alternatives to the individuated, atomized model of supervision. The community of practice approach, discussed by Lave and Wenger (1991) and Wenger (1998), has great value in doctoral education. The assumed knowledge of a discipline and andragogical processes can be critiqued, and a wider portfolio of academic practices discussed. In such an environment, academic writing becomes a social practice. This strategy serves to subvert the power structure and intensity of the supervisor and student relationship. Pare described the “high-stakes, intimate tutorial” as being “possibly the most crucial educational relationship of a student’s life” (2011, p. 59). It is little wonder in such a 'high stakes' environment that much goes wrong. There is also little overt discussion of what is increasingly termed academic literacies, particularly when working in a second language (Spack, 1997). There is also the profound challenges in the management of sexual assault and sexual harassment that are only now being nationally and internationally recognized and managed.

Time of candidature remains an important proxy of success for students and staff, but there are other variables to consider. The challenge is that the leadership of universities remain dominated by white males, particularly from the hard sciences. Therefore role modelling for the diversity of students and staff is difficult. Therefore, the second part of this article discusses the role of multimodality in enabling space, difference and diversity in doctoral education.

5. Multimodal Doctoral Education

An array of research confirms that the students that reflect on the process of completing a PhD are more likely to finish. This is a meta-PhD. Blogs are particularly useful for this purpose. The key is to discover modes of communication that create both space and confidence for students. Multimodality is important as a method to critique of the deficit model. One strategy involves focusing on the learning of students, rather than the management of supervisors. The apprenticeship model can create what Ward and West describe as “benign neglect” (Ward & West, 2008, p.62). Supervisors, administrators and Deans of Graduate Research require strategies to render the invisible visible to reveal the scaffold of research education.

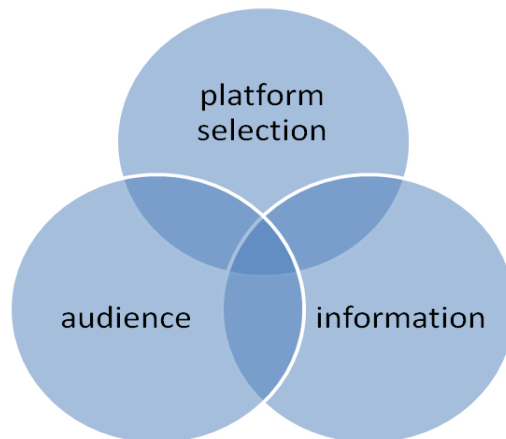
The andragogy of doctoral supervision remains isolated in individual academic offices. Professional development programmes are remedial at best. With the focus on text production – the development of the thesis – the issue of scholar development is less well developed (Kamler & Thomson, 2006). Also, the ambiguity of scholar development, research development and thesis development creates a slippage that renders the practices and behaviours of doctoral supervision even more ambiguous and ill defined. The apprenticeship model, with the goal of creating an autonomous scholar, is undertheorized and its effectiveness is reduced as demands for employability and transferable skills increase (Johnson, Lee & Green, 2000).

It is a necessity to create a matrix of information and media literacy that operates with clarity, consciousness and reflection in both schools and universities that is not clunky, but creates a continuum between 1.0 and 2.0, offline and online, analogue and digital, historical and simulacrum, undergraduate and postgraduate, PhD and post-PhD candidature. For students, mechanisms and strategies are required to ensure that learning is taking place through a reflection on the process. The support structures of social media are valuable, even beyond altmetrics and the dissemination of research (Partridge, 2017).

The best deployment of information literacy programmes is to embed these knowledges and skills into disciplines, rather than leaving them to be self-standing courses or modules. Multimodality is the strategy to empower our students, to reflect on their supervision and research. Multimodality is part of media literacy. Information is composed of the sensory materials. Media literacy is the management of platforms, signifiers and interfaces. Information literacy is the management of content and signifieds. Multimodality is the mechanism to align media and information literacy.

Multimodality, at its most basic, is the capacity to select, interpret and manage diverse platforms. The many platforms and channels that are now the nature of our reality, a way of experiencing information, ideas and life. It takes that mode of knowledge and uses that already existing expertise in one mode to improve your expertise in other modes. Through multimodality, students recognize strengths and improve weaknesses. Multimodality allows our students to take one set of skills and abilities, understand how they are used in one mode and then move them to another. Multimodality enables scholars – and citizens - to understand how to operate in a multi-platform environment. It enables students and their supervisors to move between platforms with clarity and consciousness. But it also enables researchers to work on media literacy and information literacy. Teachers localize and recognize

the strengths on one platform and the goal is to move between platforms, using the skills gained in one to develop news skills in another. Multimodality is also crucial in creating inclusive communication environments because it is the key principle that allows scholars to select which platform is best for a particular component of information for a specific audience.



Modality determines how particular signifying practices operate within texts, framing the limits of the real, the true, the normal. Multimodality recognizes that there are many realities, truths and normalities and if we mismatch platform, information and audience, then communication will not work. Student-generated media, blogs in particular, can create a space to understand and reflect on their research.

The challenge is also how to build a community and reduce researcher isolation. Social media offers clear solutions. Social media encompass such a range of interfaces, platforms and applications that bespoke and customized strategies can be created to suit the specific context of the student. Reeve and Partridge confirmed four types of research isolation: “physical isolation, research topic, diversity, and the supervisory relationship” (2017, p.449). Being a member of a minority creates an array of exclusions. But social media – using both disintermediation and deterritorialization – enables social relationships and connections to emerge. Twitter hashtags such as #PhDchat can enable relationships and communities to be formed.

Gunther Kress is the key theorist of multimodality (2010). He built social semiotics with Robert Hodge in the 1980s (Hodge & Kress, 1988). In the 1990s, he became fascinated with how images worked. Through the 2000s, multimodality became his focus, how to determine the best use of media platforms for specific audiences, when should images be used, when should text be deployed. Gunther Kress currently specializes in education, thinking about children’s education with an attention to creativity, and the role of visual communication in learning. Clearly his theories have deep applications in doctoral-level education.

Ensuring doctoral students have an inventory of their strengths and their capacities at the start of the candidature ensure they commence with confidence. With effective supervision – including training in multimodality - supervisors have strategies to take students from where they are to where we want them to be. We can maintain international scholarly standards but without standardization. Effective

supervision – what it is and what it means – has clear characteristics and behaviours. It is not simply an individual and individualized relationship. Supervisory relationships must be understood in the broader institutional context. Both students and supervisors have roles and responsibilities. Yet because supervision is isolated into specific cases, students and universities, generalizable patterns are rarely revealed. It is integral to understand the supervisory relationship in the broader institutional and international context. Simply because a staff member holds a PhD does not mean that they can supervise. It is a foundational expertise, but a greater array of andragogies are required. It is work and attracts a workload weighting in the many institutional systems. But it is not simply a matter of workload. It is very easy to blame supervisory failure on students. The research shows clearly that the best supervisors intervene, rather than rely on an incorrect Darwinian application of survival of the fittest. If the student confronts challenges, it is easier to blame the student, rather than the supervisor. Yet supervising does not guarantee success. Indeed, without professional development, it is difficult to create a culture of improvement and excellence in supervision. It is very easy to justify a decaying orbit of ability: to supervise as we have been supervised. Yet students change, particularly in the last two decades after the widening participation agenda. A study by Cullen, Pearson, Saha and Spear reveal some unusual results.

- Younger academics offer less assistance with written work towards the end of the PhD.
- Academics who obtained their PhDs in Australia offer less assistance with written work at the beginning of the PhD.
- Academics without PhDs offer more assistance with written work towards the end of the PhD.
- Academics with more students tend to offer more assistance with written work throughout the PhD (1994).

Interpretation of these results is required. But two clear points are revealed. The early career supervisors do not recognize the scale and scope of the attention required to written work in the final six months of a candidature, with the most experienced realizing that attention is required on written work throughout the programme.

To show how to deploy multimodality and due diligence in doctoral education, it is time to return to those three student cases and how – with considered multimodality – their issues were resolved. The first case involved a young woman, so frightened of her supervisor that she had placed butcher's paper on her windows. Firstly, she was rendered culturally safe. She did not prosecute the supervisor, but wanted to finish her thesis. A new supervisory team was put in place for her final year and weekly meetings instigated with her female supervisor. She was introduced to other students – to create peer learning - and created relationships on Facebook to give her daily encouragement and support. She finished her PhD in 3 years and three months.

The second case was the international student with inexperienced and selfish supervisors wanting publications, not her completion. Once more the supervisory team was changed. A supportive social media environment was created around Twitter and Facebook. A podcast series was conducted with her

about her research and even though she wrote 30,000 irrelevant words, she finished in two years and nine months. She was supported and organized, and is building an academic career.

The final case involved a seventy year old man who had simply been neglected. His supervisory panel was changed, and the new supervisors listened to his needs. The supervisors spent a week reading the work and offered a deep strategy for (re)organization. He joined Facebook to create peer support and the supervisors met weekly and read the work. He finished four months after the new supervisory panel was in place.

What researchers and leaders in the graduate space learn from these cases is that supervisors who have one mode of supervision will fail to enable difference and their behaviour will damage students. This is the moment – this is the time – for bespoke, customised and post-fordist supervision. Peer learning creates a context, environment and socialization for students to understand their research degree in a way that is holistic, deep, textured and real (Boud and Lee, 2005). For students who are not young, white men, the deficit model of supervision can kill their candidature. But if social justice undergirds doctoral research, then our students can lead us to a different – better – future

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Endnotes

- i One way in which assumptions are managed in doctoral education is via a transparent and accountable introduction, orientation and induction into the process. While institutions enact these processes, I also provide a 'set up' document to align student and staff expectations, motivations and assumptions. The link to this document and a video to frame it is found at Brabazon (2017).