

# To Publish or Not to Publish before Submission? Considerations for Doctoral Students and Supervisors

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Postgraduate research education is multi-faceted incorporating the teaching of a range of skills and study behaviours. A key skill for doctoral students is that of scholarly writing that Aitchison (2009) argues is often difficult to teach, with students unclear about the standards required for doctoral work. One benchmark of standards of academic literacy is published outputs, with Kamler (2008) pressing for greater pedagogical attention to be given to writing for publication within doctoral education. However, the case for pursuing publication as part of doctoral research experience is subject to a number of variables. This discussion paper debates some of these variables to consider writing for publication within diverse doctoral education. Features of difference will be discussed to reveal that the choice of whether or not to “publish as you go” (Taylor & Beasley, 2005: p. 130) is influenced by the personal, disciplinary and institutional context that frames the doctoral undertaking.

*Keywords:* Diversity; Doctoral Education; Ph.D. Thesis; Publication

## Introduction and the Changing Nature of Doctoral Education

The growing diversity of both doctoral programmes and doctoral students within a globalised competitive higher education environment, seen as contributing to the building of a knowledge and innovation economy (Halse & Malfroy, 2010; Lee, 2011), is now well documented (Pearson et al., 2008; Thomson & Walker, 2010). Diversity in doctoral education is part of the wider changes in UK higher education that in recent years has been transformed from an elite to a mass system, with a much larger proportion of the population participating. The increase in participation, termed by Sankey and St. Hill (2009: p. 125) as “massification”, has led to an expansion of enrolments in doctoral programmes of all kinds accompanied by the increased autonomy and potential variation among higher education institutions offering doctoral study (Morley et al., 2003). The traditional “research” doctorate is now just one form of doctoral education alongside taught (incorporating elements of advanced coursework) and professional doctorates as well as the Ph.D. by publication. Cumming’s (2010: p. 25) description of the contemporary doctoral interface that he sees as positioned at “the points where education, training, research, work and career development intersect” illustrates the changing goals and purposes of doctoral education. Miller (2010) sees these intersections as part of the wider skills acquisition model of all higher education that increasingly has “employability” as its focus.

Whatever its form, the Ph.D. text (usually 50 - 100,000 words), as the principal research product, is required above all to make an original worthwhile contribution to knowledge (Dinham & Scott, 2001). This carries the implicit assumption that what is worth researching or exploring is worth disseminating. However, the dissemination of research findings, as new knowledge, has both disciplinary and temporal dimensions that point to the issue of when and where to publish as complex and subject to

the specific circumstances of the student’s candidature.

Ambivalence on the part of students and supervisors about the place of publication in doctoral education remains a contested issue. Lee and Kamler (2008), for example, argue for the tasks of writing and publication to be more systematically incorporated within doctoral pedagogy. Kwan (2010), however, writing in the context of Hong Kong, notes that publishing during the course of doctoral study is experienced as additional work beyond the central task of thesis writing. That aside, Delamont et al. (2004: p. 171) take the clear position that “graduate students and their supervisors have joint interests and responsibilities towards publication in the promotion of the research itself and sponsorship of the student”. Wellington (2010: p. 139) adds a further moral imperative arguing that it is unethical to do research, especially if this involves human participants, and not disseminate their “voices” and the research findings to a wider audience. Accepting there is a responsibility to publish, with advice about the mechanics of this as a primary duty of supervisors (Dinham & Scott, 2001), the subject of this commentary is the timing of publication activity, particularly in light of the best interests of the student.

Against a background of increasing pressure to publish during and after Ph.D. candidature (Lee & Kamler, 2008; Kwan, 2010), the discussion below considers a range of factors that may influence different approaches to publishing during the course of doctoral study, highlighting some of the complexity of both the doctoral student experience and the multiple elements of the Ph.D. process (Hawley, 2010). Discussion begins with a focus on diversity highlighting the different types of both doctoral programmes and doctoral students, particularly the variation of experience between full and part-time students. Different research traditions across disciplines are also considered. The next two sections develop ideas that frame a reconceptualisation of a “publish as you go” (Taylor & Beasley, 2005: p. 130) approach in terms of instrumental and strategic

outcomes. The discussion highlights that one of the key benefits to the student of publishing is a stronger grounding in the processes operating within a wider externally facing research culture. The article closes with a call for more empirical work on this topic that, hitherto, has received only scant attention in the literature.

### Diversity

The rhythms of doctoral research vary according to different disciplinary research paradigms, the composition of supervision teams, the working relationship between the student and supervisor(s) and the culture of the institution. There are also diverse purposes of doctoral research and Gasper (2010) identifies three common types: theory-oriented, situation-oriented, and policy-oriented and highlights that, in practice, these are not always discreet categories with some overlap often occurring. One example is that much policy-oriented research is situation focused with only limited claims for generalisation.

Diversity in supervision practice is a further element that Yates (2010) contends is often shaped by the supervisor's own experience of doctoral study. One aim of the broader quality control agenda for postgraduate research education is to try and standardise protocols to bring greater transparency and uniformity to supervision practice (Yates, 2010). Two further elements influential in shaping the experience of doctoral study are the personal position of the student as well as the particular nature of the research project in which they are engaged (Wisker et al., 2003). Differently located students will have differing opportunities. Where, for example, there is disruption due to changes in the supervision team or lack of continuity through illness and absence, it can be challenging for students to maintain their study motivation and momentum and remain on course at all (Ives & Rowley, 2005). In these circumstances writing for publication is not a realistic option.

The practice and process of the Ph.D. is thus subject to multiple variables that can structure approaches to writing for publication as a doctoral student and discussion now turns to three aspects of diversity that are particularly significant in influencing students' publishing behaviour. The first concerns the different forms of doctoral programmes now widely available, the second is the differing experiences and opportunities for full and part-time doctoral students and the third is the varied disciplinary context for doctoral education, with discussion in this section including brief consideration of publication practices beyond the UK.

### Differentiated Doctoral Programmes

As noted above, the pattern of doctoral education has changed in recent years to broaden the routes to a Ph.D. Taught and professional doctorates are now widely offered alongside the conventional research Ph.D. with these delivered through diverse teaching methods ranging from face to face individual and group supervision to distance learning and a blend of both (Thomson & Walker, 2010). Servage (2009) points particularly to the proliferation of the professional doctorate that is rooted in specific practice contexts such as those of education, social work, nursing and business. Students are attracted to this type of doctorate because of motivation to extend knowledge and improve practice and engage in advanced learning in their professional field (Bourner et al., 2001; Watts, 2009). Practice-

based Ph.Ds. can potentially involve a wide mix of outputs such as project reports, portfolios as well as artefact dissertations and experimental innovation. Such plurality of outputs has led some commentators to argue that the practice-based doctorate is undertaken at the margins of the academy (Evans, 2010: p. 67). The extent to which a practice-based doctoral research culture differs from "traditional" academic research cultures, in terms of which questions are posed and the nature of the knowledge produced, has yet to be fully explored (Barnes et al., 2012). That aside, it is the practice-based doctorate that has emerged as the main alternative to the conventional apprenticeship-type Ph.D. for graduates who have a professional rather than a scholarly focus and who are intending to pursue non-academic careers.

Seddon (2010) sees one impact of this changing provision as a shift in the character of doctoral education that increasingly is becoming oriented towards employment and policy objectives, particularly in respect of workforce development. Specifically, Seddon (2010: p. 220) identifies differences between what she terms as "old and new learning sites" that potentially position traditional and professional doctorates in different academic locations. For the award of a professional doctorate, the development of working practice skills and knowledge is increasingly privileged. Tensions can thus arise in the knowledge creation process associated with accountability to professional interests beyond the academy that, for some, may raise concerns about whether there are standards common for all doctoral degrees. Students on professional doctorate programmes cut across established practices in doctoral education because they have a dual focus on the domains of research and occupational practice. Their position is not one of a clear-cut doctoral jurisdiction due to the necessary cross-boundary interaction between their workplace, the university and professional practice communities. Added to this, "questions concerning relations between knowledge and practice, where knowledge making (research) is understood as a form of practice and practice as a kind of knowledge" (Lee, 2011: p. 153), have led to uneasiness on the part of some about the scholarly nature of practice-based doctoral outputs. One consequence has been that the criteria that govern the award of "doctor" are now seen as "somewhat slippery" (Seddon, 2010: p. 220), with transparency over academic achievement becoming increasingly blurred.

The "slipperiness" discussed by Seddon (2010) has arisen because of the increase in enrolment on doctoral programmes of students who do not fit the stereotypical image of a doctoral student (young, full-time and aiming for an academic career) or where doctoral education does not follow the laboratory-based physical science model that, hitherto, has been privileged within research communities. Implicit is the aspersion that contributing new knowledge to domains of occupational practice for the development of workplace skills may be less academically rigorous than knowledge that extends applied theoretical understandings. Johnston and Murray (2004), whilst arguing for more diverse provision away from the traditional Ph.D., highlight the continuing neglect of quality issues across all types of Ph.D. provision. Such reflections reveal how knowledge is cultural production and the way in which academic discourses are mobilised according to specific contexts and traditions, with students learning "the forms of inquiry and habits of mind particular to their field of study" (Barnes et al., 2012: p. 315).

## Full versus Part-Time Study

Another key variable highlighted in the literature is the difference in experience between the full and part-time student. Full-time doctoral students are likely to be part of an enhanced research culture and participate in a wide range of learning activities such as seminars, faculty conferences and writing workshops as part of a broader skills development programme (Thomson & Walker, 2010). They are also, as a result, likely to develop a more strongly articulated research student identity with the doctorate as their key life focus.

This full-time role that draws on a model of academic research apprenticeship often incorporates elements of peer student encouragement to foster a sense of membership of a research community. Collaborative learning relations help develop confidence in the doctoral undertaking within a wider developmental network (Baker & Lattuca, 2010). Sharing ideas about potential seminar papers or journal articles, possibly as a function of a journal club (Golde, 2010) or writing group (Aitchison, 2009), positions publishing as a feature of the organic intellectual development of the doctoral student within a community of scholars. This is commonly experienced in the engineering and experimental science disciplines where full-time students are likely to be members of an established research team and their project clearly defined within a broader programme of work. Yates (2010) comments that projects in these disciplines commonly have significant resources (both financial and human) to support long-term research agendas. The pressure on project teams (often in large scale laboratory settings) in these disciplines to publish results in peer-reviewed journals as quickly as possible is accepted as routine practice (Delamont et al., 2004: p. 172).

The position for part-time students, however, is radically different with the doctorate fitted in around the competing priorities of paid work and family responsibilities, and the opportunity to engage with other students generally very limited (Watts, 2008, 2010). Such reduced participation in a research culture can lead to “intellectual and social isolation” (Taylor, 2002: p. 137). The focus on finishing is usually the priority (Nettles & Millet, 2006). With this goal to the fore, Rugg and Petre (2004) suggest that too strong an encouragement to part-time students to publish may act as a distraction from the main task of completing the thesis. Other commentators such as Phillips and Pugh (2000) suggest that a focus on getting published can be seen as a misuse of thesis time and can serve to distance the doctoral student from writing the thesis, with this especially the case for part-time students. A further consideration is the potential delay to completion arising from the demands of writing for publication that may also have financial consequences related to a prolonged candidature. The guidance of the supervision team as a function of a “high-trust working relationship” with the student (Unsworth et al., 2010: p. 871), to take account of a range of personal circumstances, is key.

## Variations across Disciplines and Contexts

The connection of the student’s research with that of their supervisor(s) may also influence the emphasis on approaches to publication, with this a function of a common research practice and shared research objectives shaped by different disciplinary traditions (Franke & Arvidsson, 2011). Thus, although institutions set the broad procedural framework for doctoral studies

and prescribe the major “hurdles” of doctoral education (Barnes et al., 2012), they have historically usually been undertaken within a single academic discipline, though as Taylor and Beasley (2005) note, this is changing, with some doctorates now supervised across more than one discipline. Gasper (2010: p. 53) discusses the concept of disciplinarity as community, a highly organised intellectual field and as a set of habits resulting in highly protected intellectual domains, most with clearly defined boundaries. Barnes et al. (2012: p. 313) echo this view, highlighting the distinctiveness of disciplinary communities with these likened to tribes and territories. The result is the “existence of areas of deep and organised knowledge” (Gasper, 2010: p. 53) governed by accepted academic codes to produce a type of disciplinary ontology characterised by the sense that “this is the way we do it”. The academic department is thus the primary socialisation agent at the doctoral level (Gardner, 2007, 2010).

These genre differences are powerful but not necessarily fixed such that Yates (2010) comments on the changing approach to the design of doctoral projects within the humanities and social sciences. He argues that the traditional freedom on the part of students to design their own study may become a thing of the past, with pressure growing to tie their work to the research strengths of a supervisor or department. This would align Ph.D. study in these disciplines more closely with the model used in science that usually is part of a lab-based research group characterised by Golde (2005: p. 677) as a “small solar system with a faculty sun”. A further point of alignment noted by Yates (2010) is that today in the social sciences Ph.D. students are likely to encounter pressure to publish earlier in their candidature than previously was the case. This trend is indicative of change towards all doctoral education assuming the characteristics traditionally associated with the natural and physical sciences. In particular, research productivity, quantification and proxies are prioritised, all of which can affect the funding that flows to the department and the university. Numbers of publications, external impact and the potential for commercial applications are some examples.

The contribution to knowledge, as a mark of scholarly quality, is pivotal in the award of a Ph.D., but what exactly constitutes new knowledge is culturally determined as well as being subject to disciplinary influence (Seddon, 2010). New knowledge may be constructed as methodological innovation, as theoretical development and also as the codifying of experience, particularly within social enquiry and professional practice communities. It is possible to make an original contribution in different ways and often in pragmatic contexts (Wagner, 2010). Trigwell (2010), for example, points to the different research orientations between science and engineering and the arts and humanities, suggesting that originality will be measured through a discipline-specific epistemological lens. Whatever its form, knowledge is always “contextualised through knowledge politics” (Seddon, 2010: p. 221). Traditional doctorates are seen to contribute knowledge that is well suited to academic contexts, whereas taught and professional doctorates offer new understandings of other contexts.

Approaches to doctoral publishing also vary from country to country. In Scandinavia, for example, there is a requirement that all or part of the materials presented for doctoral examination have previously been published (Taylor & Beasley, 2005). This is in contrast to the position in the USA with regard to publication from social work doctorates that occurs at very low

rates (Green et al., 1992). Lee and Kamler (2008) note that in Australia, whilst publication of findings prior to submission is not mandatory, doctoral students and their supervisors are facing new pressures (particularly in the social sciences) to produce a range of peer-reviewed publications by the time the thesis is completed.

The above discussion of diversity in contemporary doctoral education serves to highlight the plurality of purposes, practices and outcomes of the doctoral degree that Thomson and Walker (2010) characterise as an intellectual journey involving risk and discontinuities. The concept of risk is taken up in the next two sections that consider instrumental and strategic approaches to decision-making about the form and timing of doctoral publishing, particularly in relation to the possible impact on the outcome of the doctoral assessment process.

### **Instrumental Approach**

Although writing is an integral component of doctoral research (Lillis & North, 2006), this aspect of the Ph.D. undertaking continues to be challenging for many students (Hunt, 2001). Given the inherently stressful nature of the Ph.D. (Watts, 2009), it is reasonable to explore what benefits there may be for students in pursuing getting published during their candidature. The extent to which, for example, publishing can contribute to a 'de-stressing' of the assessment process, particularly the viva element, is one consideration. Wellington (2010) identifies both extrinsic and intrinsic motivations to publish. Extrinsic factors include improving the CV, gaining credibility within the research community and starting to become known in the field. Intrinsic motivations centre on more developmental aspects such as the opportunity to clarify ideas, build confidence and self-belief and reap personal satisfaction from seeing your work in print. Barnacle and Mewburn (2010) suggest that this can result in the student feeling more strongly confirmed in the identity of doctoral candidate.

The particular merit of having a journal article published is discussed by Rugg and Petre (2004), who argue that this is usually viewed as a sign of being a fully-fledged academic. The opportunity to engage in a dialogue with reviewers can provide insight and different perspectives on doctoral work that may not emerge in supervision. Through the critical exchange of ideas and receipt of challenging feedback, this instrumental approach to publishing has the potential to shape the thesis and the general direction of the research in creative ways. Despite the potential benefits, writing journal articles is a risk-laden activity. Academic journals act as gatekeepers to specific disciplines and are thus expected to be rigorous in the way that they conduct their intellectual business. It is, therefore, not surprising that most articles are rejected (Rugg & Petre, 2004) and the majority that are published undergo significant revision before acceptance. Students need to be made aware of this and with advice from their supervisor(s), should carefully balance the risk and opportunity of taking their work forward in this way. Where a paper is rejected, careful consideration should be given to the opportunity/cost of refashioning the paper for submission to an alternative journal, as this can become extremely time consuming, with no guarantee of success.

The leap from non-peer reviewed to peer-reviewed outputs is great and, although as Wisker et al. (2003: p. 388) note "bad news should lead to development", this often can act in reverse in the case of Ph.D. students. Receiving highly critical com-

ments from reviewers may cause in students emotions of deflation and loss of confidence in both their abilities and the integrity of their work (see Morrison-Saunders et al., 2010). Wisker et al. (2003: p. 386) also comment that verification and testing the credentials of doctoral work through publication is one way of avoiding a thesis that is "only a work of deference and synthesis". There are, however, other ways in which to sharpen the research product such as conference presentations, seminar papers and peer evaluation from other students.

Rugg and Petre (2004) draw particular attention to the value to doctoral students of presentation of their work in the public arena of conferences and seminars. This activity, they argue, is useful in a number of ways, especially the opportunity to "test" the emerging product that is the Ph.D. thesis in its developing stages through debate with experts in the field. As work in progress, feedback on research design, method, ethics, theoretical framework and preliminary findings is valuable as much for confirmation of being on the right track as it is to signal where some re-thinking might be appropriate. As the doctoral project gets fully underway, students are expected to take intellectual responsibility for their work including interrogating and refining ideas so that they begin to find their own academic or scholarly voice (Yates, 2010). Conference papers have the further benefit of helping to establish networks through placing students' work in the public domain that often includes a listing on the internet, with this as initial dissemination and sharing of new knowledge.

### **Strategic Approach**

Most of the literature on postgraduate research education focuses on elements of process in relation to doctoral study. Issues connected to the form and style of supervision, academic and pastoral support, dealing with critical feedback, writing protocols and the development of an academic identity are all topics that have featured in recent journal articles. The issue of assessment of doctoral work, however, has received relatively little attention in the literature, this despite ongoing concerns over the transparency and independent rigour of elements of the assessment process (see Watts, 2012).

Although in the UK "there is no rule that publications are required for a Ph.D. degree" (Phillips & Pugh, 2000: p. 96), they are an added bonus and critically position the thesis as a work of scholarly substance. Of particular value is the status of the peer reviewed journal article that Rugg and Petre (2004: p. 85) state derives its credentials from the "exclusive and discerning" nature of peer review journals. It could thus be argued that students and supervisors setting specific publication objectives is a legitimate strategic approach to ensuring a successful outcome at the viva. In short, if a student has some conference papers and a couple of articles in reputable journals, it becomes almost impossible for an external examiner not to pass the candidate (Watts, 2012). Publication of their work indicates "this work has made a contribution to knowledge", which is central to the award of a Ph.D. (Mullins & Kiley, 2002). If publication is achieved in a high status academic journal, this is of particular credit. Wellington and Torgerson (2005: p. 35), however, urge caution about this strategy, as the labels of "eminent" and "high status" are contested and subject to interpretative criteria. Other published outputs such as book chapters, for example, are also of value but the intellectual quality control in respect of

edited books can be variable as these are not necessarily subject to peer review (Rugg & Petre, 2004).

Developing the theme of strategic benefit, there is a case for students to embark on their publishing career by submitting papers jointly authored with their supervisor(s). Kamler (2008: p. 283) argues that supervisors co-authoring publications with their students is a significant pedagogic practice that should be accorded a higher priority as a strategic approach to “scaffold doctoral publication”. Delamont et al. (2004), however, comment that patterns of joint publication are largely shaped by the conventions and traditions of particular disciplines and note that this practice is not necessarily the norm. In some disciplines, such as science and engineering, supervisors co-publishing with their Ph.D. students, is a routine occurrence. This is a function of what Golde (2010: p. 107) describes as habituated practice within a particular field. These practices, termed by Shulman (2005: p. 59) as “signature pedagogies”, operate as boundary markers between disciplines to create accepted and expected ways of doing things. All too often these disciplinary differences are overlooked in commentaries on doctoral education.

A further matter related to publications co-authored by students and supervisors debated by Delamont et al. (2004) concerns the intellectual exploitation of the doctoral student as the junior partner in the collaborative process. They explain that culturally specific views about the nature and interpretation of collaboration operate differently across disciplines. Instances of supervisors having their names on a student’s paper as co-authors by virtue of their position, rather than due to their direct input, do occur. The potential for the perceived exploitation of students may influence a supervisor’s preference to avoid the practice of co-publishing altogether. Rugg and Petre (2004) take a more positive stance, arguing that jointly authored articles can add to the rewards for supervisors of this demanding work that often can spill over into ‘non-work’ time due to the competing demands of teaching and management tasks. Taylor and Beasley (2005) comment further that wider strategic advantage accrues from co-authored doctoral publications that reflect well upon the supervisor, upon the department and upon the institution as well as on the funding body sponsoring the student.

Whilst the timely completion of the thesis is clearly the first priority, Kwan (2010) discusses how doctoral publishing can be influential in helping to secure employment upon graduation, especially in a tenured post within academia that has become increasingly globally competitive. Kwan (2010: p. 59) specifically argues for “strategic management of thesis publishing” to include publishing internationally during and beyond the doctorate. As acknowledgement of both the stakes and difficulties involved in high-level publishing, Kwan (2010) advocates for instruction in research publication to be accorded some priority across all doctoral programmes, but also questions how effective this might be. She concludes that there is a lack of empirical data on this topic that remains largely under-addressed in the literature.

## Conclusion

As doctoral educators we are increasingly required to consider the best interests of our students that includes offering them strategies for success, particularly in the developing market culture of higher education (Molesworth et al., 2009). The increased diversity of both doctoral education and doctoral

students means that there can be no standard approach to doctoral pedagogy in preparing students to participate in research cultures. “One size” does not fit all and this points to the importance of the relationship between the student and supervisor that underpins “the mutually constituted and continuously evolving nature of doctoral practices and arrangements” (Cumming, 2010: p. 25) to produce a model of progress to suit the student as individual.

The balancing of personal goals and circumstances with product development in the form of the thesis can give rise to tensions over process, with writing for publication just one of a number of tasks facing the student during their candidature. The transformative experience of undertaking a doctoral research degree often involves a complex set of dynamics (Lee, 2011), but getting the thesis completed should be the first priority and this is the approach I take with my students. That aside, because a requirement of successful doctoral study is the development of new knowledge, it is not unreasonable to expect that dissemination of research findings should be seen as one component of doctoral study, either during the candidature or in its aftermath (Dinham & Scott, 2001). Lucas and Willinsky (2010: p. 352), putting it more strongly, argue that, “scholarly publishing is a matter of public value and public good”. Making students aware of potential publishing outlets, particularly relevant journals, is an important, but often overlooked responsibility of supervisors. Guidance about rejection rates, review processes and the likely timeline from submission to publication is valuable, as “graduate students can turn out to have rather vague understandings of the whole process of academic publishing” (Delamont et al., 2004: p. 174). This is particularly important for doctoral graduates intending to take up a career in academia.

Making new knowledge available to advance research amongst the disciplinary community in the subject area is, I would argue, an important responsibility of the doctoral graduate. It appears, however, that publishing from the Ph.D. is not universally the case such that much doctoral research goes unreported in the public domain in part, at least, because many students do not receive adequate mentoring or support to publish from their research (Kamler, 2008). Supervisors encouraging a more explicitly outward-looking stance on the part of students towards writing beyond their thesis for a wider audience, is suggested by Lee and Kamler (2008) as one pedagogic strategy to increase publication rates from doctoral degrees. Where such encouragement is required post-doctoral award, in the face of other pressing demands, it may not be realistic to expect supervisors to maintain contact with doctoral graduates.

The in-depth focus on diversity within doctoral study presented in this article contributes to the educational dialogue about doctoral publishing and is intended to offer a conceptual frame for further empirical work on this topic. Given the paucity of literature on the impacts of publishing as part of the doctoral pathway, there is a need for more empirical research in this area to strengthen understanding of the ways in which supervisors can guide students to appropriately incorporate realistic publishing goals within their study. One area of particular interest is the extent to which a “publish as you go” (Taylor & Beasley, 2005) strategy for publishing, results in a more favourable outcome at viva. Another concerns the ways in which publishing before submission materially impacts on thesis development in both temporal and substantive terms. Because of the increased focus by both universities and funding agencies

on research outcomes, completion rates, public engagement, contributions to esteem and bidding for funding, research in this area has the potential to change institutional policies on publishing in the doctoral context. However, any future empirical enquiry would need to take account of specific disciplinary research traditions that, as the discussion above outlines, are well embedded and remain a powerful influence on doctoral education processes.

## REFERENCES

- Aitchison, C. (2009). Writing groups for doctoral education. *Studies in Higher Education*, 34, 905-916. doi:10.1080/03075070902785580
- Baker, V. L., & Lattuca, L. R. (2010). Developmental networks and learning: toward an interdisciplinary perspective on identity development during doctoral study. *Studies in Higher Education*, 35, 807-827. doi:10.1080/03075070903501887
- Barnacle, R., & Mewburn, I. (2010). Learning networks and the journey of "becoming doctor". *Studies in Higher Education*, 35, 433-444. doi:10.1080/03075070903131214
- Barnes, B. J., Williams, E. A., & Stassen, M. L. A. (2012). Dissecting doctoral advising: A comparison of students' experiences across disciplines. *Journal of Further and Higher Education*, 36, 309-331. doi:10.1080/0309877X.2011.614933
- Bourner, T., Bowden, R., & Laing, S. (2001). Professional doctorates in England. *Studies in Higher Education*, 26, 65-83.
- Cumming, J. (2010). Doctoral enterprise: A holistic conception of evolving practices and arrangements. *Studies in Higher Education*, 35, 25-39. doi:10.1080/03075070902825899
- Delamont, S., Atkinson, P., & Parry, O. (2004). *Supervising the doctorate—A guide to success*. Maidenhead: Open University Press.
- Dinham, S. & Scott, C. (2001). The experience of disseminating the results of doctoral research. *Journal of Further and Higher Education*, 25, 45-55. doi:10.1080/03098770020030498
- Evans, T. (2010). Understanding doctoral research for professional practitioners. In M. Walker, & P. Thomson (Eds.) *The Routledge doctoral supervisor's companion* (pp. 66-75). London and New York: Routledge.
- Franke, A., & Arvidsson, B. (2011). Research supervisors' different ways of experiencing supervision of doctoral students. *Studies in Higher Education*, 36, 7-19. doi:10.1080/03075070903402151
- Gardner, S. K. (2007). "I heard it through the grapevine": Doctoral student socialization in chemistry and history. *Higher Education*, 32, 383-408. doi:10.1007/s10734-006-9020-x
- Gardner, S. K. (2010). Faculty perspective on doctoral student socialization in five disciplines. *International Journal of Doctoral Studies*, 5, 39-53.
- Gaspar, D. (2010). Interdisciplinarity and interdisciplinarity—Diverse purposes of research: Theory-oriented, situation-oriented, policy-oriented. In P. Thomson, & M. Walker (Eds.), *The Routledge doctoral student's companion* (pp. 52-67). London and New York: Routledge.
- Golde, C. M. (2005). The role of the department and discipline in doctoral student attrition: Lessons from four departments. *Journal of Higher Education*, 76, 669-700. doi:10.1353/jhe.2005.0039
- Golde, C. M. (2010). Adapting signature pedagogies in doctoral education: The case of teaching how to work with the literature. In M. Walker, & P. Thomson (Eds.), *The Routledge doctoral supervisor's companion* (pp. 106-120). Abingdon: Routledge.
- Green, R., Hutchison, E., & Sra, B. (1992). Evaluating scholarly performance: The productivity of graduates of social work doctoral programs. *Social Services Review*, 66, 441-466. doi:10.1086/603932
- Halse, C., & Malfroy, J. (2010). Rethorizing doctoral supervision as professional work. *Studies in Higher Education*, 35, 79-92. doi:10.1086/603932
- Hawley, P. (2010). *Being bright is not enough: The unwritten rules of doctoral study* (3rd ed.). Springfield, IL: Charles C. Thomas Publisher.
- Hunt, C. (2001). Climbing out of the void: moving from chaos to concepts in the presentation of a thesis. *Teaching in Higher Education*, 6, 351-367. doi:10.1080/13562510120061214
- Ives, G., & Rowley, G. (2005). Supervisor selection or allocation and continuity of supervision: Ph.D. students' progress and outcomes. *Studies in Higher Education*, 30, 535-555. doi:10.1080/03075070500249161
- Johnston, B., & Murray, R. (2004). New routes to the Ph.D.: Cause for concern? *Higher Education Quarterly*, 58, 31-42. doi:10.1111/j.1468-2273.2004.00258.x
- Kamler, B. (2008). Rethinking doctoral publication practices: Writing from and beyond the thesis. *Studies in Higher Education*, 33, 283-294. doi:10.1080/03075070802049236
- Kwan, B. S. C. (2010). An investigation of instruction in research publishing offered in doctoral programs: The Hong Kong case. *Higher Education*, 59, 55-68. doi:10.1007/s10734-009-9233-x
- Lee, A., & Kamler, B. (2008). Bringing pedagogy to doctoral publishing. *Teaching in Higher Education*, 13, 511-523. doi:10.1080/13562510802334723
- Lee, A. (2011). Professional practice and doctoral education: Becoming a researcher. In L. Scanlon (Ed.), "Becoming" a professional: An interdisciplinary analysis of professional learning (lifelong learning book series, Volume 16) (pp. 153-169). London: Springer. doi:10.1007/978-94-007-1378-9\_8
- Lillis, T., & North, S. (2006). Academic writing. In S. Potter (Ed.), *Doing postgraduate research* (2nd Edition, pp. 114-151). London: Sage Publications.
- Lucas, R., & Willinsky, J. (2010). Open access and the ongoing transformation of scholarly publishing. In P. Thomson, & M. Walker (Eds.), *The Routledge doctoral student's companion* (pp. 344-355). London and New York: Routledge.
- Miller, B. (2010). Skills for sale: What is being commodified in higher education? *Journal of Further and Higher Education*, 34, 199-206. doi:10.1080/03098771003695460
- Molesworth, M., Nixon, E., & Scullion, R. (2009). Having, being and higher education: The marketisation of the university and the transformation of the student into consumer. *Teaching in Higher Education*, 14, 277-287. doi:10.1080/13562510902898841
- Morley, L., Leonard, D., & David, M. (2003). Quality and equality in British Ph.D. assessment. *Quality Assurance in Education*, 11, 64-72. doi:10.1108/09684880310471489
- Morrison-Saunders, A., Moore, S. A., Hughes, M., & Newsome, D. (2010). Coming to terms with research practice: Riding the emotional rollercoaster of doctoral research studies. In M. Walker, & P. Thomson (Eds.), *The Routledge doctoral supervisor's companion* (pp. 206-218). Abingdon: Routledge.
- Mullins, G., & Kiley, M. (2002). It's a Ph.D., not a Nobel Prize: How experienced examiners assess research theses. *Studies in Higher Education*, 27, 369-386. doi:10.1080/0307507022000011507
- Nettles, M. T., & Millett, C. M. (2006). *Three magic letters: Getting to Ph.D.* Baltimore, MD: The Johns Hopkins University Press.
- Pearson, M., Evans, T., & Macauley, P. (2008). Growth and diversity in doctoral education: Assessing the Australian experience. *Higher Education*, 55, 357-372. doi:10.1007/s10734-007-9059-3
- Phillips, E. M., & Pugh, D. S. (2000). *How to get a Ph.D.: A handbook for students and their supervisors* (3rd ed.), Maidenhead: Open University Press.
- Rugg, G., & Petre, M. (2004). *The unwritten rules of Ph.D. research*. Maidenhead: Open University Press.
- Sankey, M., & St. Hill, R. (2009). The ethics of designing for multimodality: Empowering nontraditional learners. In U. Demiray, & R. C. Sharma (Eds.), *Ethical Practices and Implications in Distance Learning* (pp. 125-154). Hershey: Information Science Reference.
- Seddon, T. (2010). Doctoral education in global times: "Scholarly quality" as practical ethics in research. In M. Walker, & P. Thomson (Eds.), *The Routledge doctoral supervisor's companion* (pp. 219-230). London and New York: Routledge.
- Servage, L. (2009). Alternative and professional doctoral programs: What is driving the demand? *Studies in Higher Education*, 34, 765-779. doi:10.1080/03075070902818761
- Shulman, L. S. (2005). Signature pedagogies in the professions. *Daedalus*, 134, 52-59. doi:10.1162/0011526054622015

- Taylor, S. (2002). Managing postgraduate research degrees. In S. Ketteridge, S. Marshall, & H. Fry (Eds.), *The effective academic: A handbook for enhanced academic practice* (pp.131-147). London: Kogan Page Ltd.
- Taylor, S., & Beasley, N. (2005). *A handbook for doctoral supervisors*. Abingdon: Routledge.
- Thomson, P., & Walker, M. (2010). Doctoral education in context: The changing nature of the doctorate and doctoral students. In M. Walker, & P. Thomson (Eds.), *The Routledge doctoral supervisor's companion* (pp. 9-26). Abingdon: Routledge.
- Trigwell, K. (2010). The relationship between doctoral students' approach to research and experiences of their research environment. In M. Walker, & P. Thomson (Eds.), *The Routledge doctoral supervisor's companion* (pp. 282-291). London & New York: Routledge.
- Unsworth, K. L., Turner, N., Williams, H. M., & Piccin-Houle, S. (2010). Giving thanks: The relational context of gratitude in postgraduate supervision. *Studies in Higher Education*, 35, 871-888. doi:10.1080/03075070903348396
- Wagner, J. (2010). Ignorance in educational research: How not knowing shapes new knowledge. In P. Thomson, & M. Walker (Eds.), *The Routledge doctoral student's companion* (pp. 31-42). London & New York: Routledge.
- Watts, J. H. (2008). Challenges of supervising part-time Ph.D. students: Towards student-centred practice. *Teaching in Higher Education*, 13, 369-373. doi:10.1080/13562510802045402
- Watts, J. H. (2009) From professional to Ph.D. student: Challenges of status transition. *Teaching in Higher Education*, 14, 687-691. doi:10.1080/13562510903315357
- Watts, J. H. (2010) Supervising part-time doctoral students: Issues and challenges. In P. Thomson, & M. Walker (Eds.), *The Routledge doctoral supervisor's companion* (pp. 123-130). London & New York: Routledge.
- Watts, J. H. (2012). Preparing doctoral candidates for the viva: Issues for students and supervisors. *Journal of Further and Higher Education*, 36, 371-381. doi:10.1080/0309877X.2011.632819
- Wellington, J. (2010). Weaving the threads of doctoral research journeys. In P. Thomson, & M. Walker (Eds.), *The Routledge doctoral student's companion* (pp. 128-142). London & New York: Routledge.
- Wellington, J., & Torgerson, C. J. (2005). Writing for publication: What counts as a "high status, eminent academic journal?" *Journal of Further and Higher Education*, 29, 35-48. doi:10.1080/03098770500037739
- Wisker, G., Robinson, G., Trafford, V., Warnes, M., & Creighton, E. (2003). From supervisory dialogues to successful Ph.D.s: Strategies supporting and enabling the learning conversations of staff and students at postgraduate level. *Teaching in Higher Education*, 8, 383-397. doi:10.1080/13562510309400
- Yates, L. (2010). Quality agendas and doctoral work: The tacit, the new agendas, the changing contexts. In P. Thomson, & M. Walker (Eds.), *The Routledge doctoral student's companion* (pp. 299-310). London & New York: Routledge.