Chapter 12
An Exploration of Darkness within Doctoral Education: Creative Learning Approaches of Doctoral Students

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ABSTRACT
In doctoral education, the formal structures include the Graduate School system, PhD courses, and supervision contracts, etc. Doctoral education also takes place on informal and tacit levels, where doctoral students learn about the institutional regulations, the research field, academic craftsmanship, and research design by observing how their supervisors talk, act, and handle issues in the professional community. However, the formal-informal divide is not adequate if we want to understand the sprawling, mongrel, and diverse forms of student engagement, coping, and learning strategies within doctoral education today. By drawing on the empirical studies of cross-level institutional voices, as well as international studies into similar grey areas of student learning in doctoral education, this chapter argues that learning spaces of educational ‘darkness’ hold unrecognised potential for enhancing learning experiences, harnessing professional competences, and enriching the depth of research in the PhD life that implies significant contributions to future doctoral education development.

INTRODUCTION AND BACKGROUND
This chapter explores creativity within doctoral education, focusing on the creative learning approaches and learning spaces that doctoral students apply and activate during their PhD life, but which are largely overlooked and ignored within formalised doctoral education. This study applies the concepts of ‘darkness’ and ‘non-formal learning’ to highlight the student activities and learning strategies performed within doctoral education, and links these peripheral activities and learning approaches to concepts of creativity and creative learning. In this way, creative problem solving skills are not something that educators, supervisors, and institutions should invent. On the contrary, they are already existing and ap-
plied by the doctoral students themselves in everyday doctoral education, so we just need to catch sight of them and acknowledge their relevance, subtlety, and implications for how doctoral education can be further improved and match doctoral students’ actual needs for support.

The way doctoral education is organised institutionally influences how we expect doctoral students to learn, and therefore also how supervisors approach the task of doctoral supervision. Issues of global drivers including formalisation, massification, and quality assurance, etc. also influence doctoral education. Graduate schools emerge and become still larger entities with the aim of creating administrative cohesion, knowledge sharing across disciplines, and centralised support systems on a divisional level (Andres et al., 2015). The body of literature on how to ensure quality in doctoral education and professionalise the research supervision of doctoral students is growing, including books on how to advice students about writing up their thesis (Murray, 2011; Trafford & Leshem, 2012), how to assess the doctoral thesis (Pearce 2004; Tinkler & Jackson, 2004), and how to guide and prepare doctoral students for the viva (Murray, 2009; Morley, Leonard & David, 2010). The underlying logic of this formalisation of doctoral education rests on the understanding that doctoral education can be a messy process and spin out of control for students and supervisors, which is why doctoral education should be ‘tamed’ and rationalised into formalised procedures and contracts.

Students are met with guidance on how to manage their personal circumstances and skills development (Cryer, 2006), and told to “be aware that you must accept the responsibility for managing the relation between you and your supervisors. It is too important to be left to chance” (Phillips & Pugh, 2012, pp. 108). Lee connects this aspect of formalisation with what she calls “functional teaching and supervision” and links it to a “managerial approach” (Lee, 2012, pp. 31). Grant describes formalisation of doctoral education as “a matter of technical rationality” (Grant, 1999, pp. 2), which she argues is “attractive, particularly to university bureaucracies (and their funding bodies) who want predictable outcomes and timely completion” (ibid). Formalisation of doctoral education is enacted to prepare for the unexpected and keep students on the right track by inviting them to document and reflect on their research and learning processes step by step. This is seen in every day doctoral education in the use of electronic logs and evaluation systems, in the rules and regulations of doctoral education in the different national contexts, and in formalised structures such as research programmes, PhD programmes, departmental guidelines, and formalised learning environments such as obligatory and voluntary PhD courses, seminars, and workshops.

In contrast to the formalised ways of organising doctoral education, important parts of doctoral supervision take place as “role modelling” (Fuller & Unwin, 2009). On more implicit and tacit levels, doctoral students learn about the organisation, the research field, academic craftsmanship, and research design by watching and observing how their supervisors talk, act, and handle issues in the academic community. Philips and Pugh (2012) stress that role modeling “is a very important aspect of your task as supervisor. It is not a case of saying ‘do as I tell you’ but more a case of students gradually learning to ‘do as you do’, whether that is what you prefer or not (pp. 191). In this process, the doctoral student – sometimes overtly, sometimes tacitly – learns and assimilates the supervisor’s disciplinary “world view” (Wisker, 2012, pp. 173) and “habit of mind” (Halse & Malfroy, 2010); the way the supervisor ‘sees’ the world of their discipline and acts according to the “lived knowledge that enables individuals to exercise deliberative reasoning to make considered judgments about how to act in particular situations to bring about positive change” (Halse & Malfroy, 2010, pp. 85). On the social level, this aspect of organisation is