

# Chapter 1

## Networked Professional Learning: An Introduction



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### Our Starting Point

People worldwide are facing global challenges that are transforming the world of work (Jakupec & Garrick, 2000). There is an urgent need to take action to reduce inequality by making high-quality healthcare available for everyone, to improve global security through enhanced forms of crisis management, to extend employment through improved schooling and to enable economic opportunity and social mobility through increased access to higher education (World Economic Forum, 2016).

These global challenges are complex and solving them requires changes in how people work (Beck, 2000). Large-scale, complex problems need to be broken down into smaller objectives, each of which requires deep, specialist knowledge to solve. This change in the organisation of work has at least two consequences; first, professionals become more specialised, and, second, individual specialists need to collaborate together to solve problems. One example of specialisation is nursing, where professionals are moving from general nursing to specialist roles as midwives, occupational therapists and trauma specialists. These specialists collaborate in teams, groups or networks with each individual applying his or her specialist knowledge to solve a multifaceted problem. These interrelated trends—increased specialisation, new forms of organisation and the evolution of work practice—are having a dramatic impact on how people work (Littlejohn & Margaryan, 2013). At the same

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time, these trends emphasise the need for professionals to continuously learn new forms of practice and ways of working. The co-evolution of work and learning is distinct from traditional career trajectories, where people learn up front the professional knowledge needed to follow a vocational pathway (Billett, 2001). Thus, new forms of professional learning are needed to support this agile and flexible expansion of professional practice.

There is widespread recognition that professional learning takes place not only through formal routes, such as workshops, classroom learning or other organised forms of learning but is also an integral part of work (Eraut, 2004, 2007, 2011). People learn through working with others, asking colleagues questions and observing more experienced colleagues and other forms of unintentional learning. Ideally professional learning would be integrated into work, rather than being offered as a form of training in parallel to work (Felstead, Fuller, Jewson, & Unwin, 2009; Tynjälä, 2008). Through the integration of work and learning, professionals can develop new forms of practice in efficient and effective ways. The digitisation of work opens up opportunities for the integration of professional work and learning through professional networked learning (Huws, 2014; Littlejohn & Margaryan, 2014).

There is already evidence that professionals learn in online, informal networks, yet networked learning has been largely invisible to professionals, managers and organisations as a form of professional development (Milligan, Littlejohn, & Margaryan, 2014). One reason could be because learning in networks tends to be informal and not formally recognised as professional development. Another reason could be because networked learners tend to learning through work or through observing others, and in these situations, learning may seem invisible (Eraut, 2000). Alternatively, networked learners may stray across traditional boundaries as they learn (Daniels, Edwards, Engeström, Gallagher, & Ludvigsen, 2013).

This book, *Networked Professional Learning*, critiques the potential of networked learning as a platform for the forms of professional development needed to solve global challenges. The use of the network as a medium for learning expands beyond the notion of 'Professional Development' which often is considered as formal, structured learning towards a more fluid and embedded form of learning for work which we term Networked Professional Learning.

The book draws together the work of 35 experts across 6 countries spanning 3 continents, including Australia, Denmark, Israel, the Netherlands, Sweden and the UK. The book will be of interest to researchers in the area of professional and digital learning, higher education managers, organisational human resource professionals, policymakers and students of technology-enhanced learning. A unique feature of the text is that it not only provides examples of Networked Professional Learning, but it questions the impact of networked learning on work practice in ways that allow for continuous learning and development.

The book is structured into three sections that explore networked professional learning from varying perspectives, questioning what are legitimate forms of networked professional learning (Part I on Networked Professional Learning across the

Professions), how new forms of professional learning impact the Academy (Part II on Higher Education) and what is the value creation that Networked Learning offers education professionals (Part III on Teacher Education).

Part I explores networked professional learning across a number of professions, focusing on troublesome themes, such as innovation and new forms of professionalism, boundary crossing and the legitimacy of the ‘invisible learner’ within the network. Universities have played an important role in providing forms of professional development. Thus, the second question focuses on how evolution of Networked Professional Learning is influencing Higher Education. This question is explored in the second part, by examining key themes including the role of Higher Education in professional development and the necessary changes in teaching practices and mind-sets. The third part of the book situates Networked Professional Learning within a broader educational, economic and social context, raising questions around the development and roles of the teachers of the future. Each section is outlined below:

## **Part I: Networked Professional Learning Across the Professions**

To solve global challenges and generate innovative solutions, professionals have to expand their knowledge through continual learning aligned with work practice. Once professionals have reached a particular level of expertise, they continually need to learn new concepts or develop novel forms of practice. This means that professionals are likely to learn through the activities they carry out as part of their job than through formal training or education (Unwin & Fuller, 2004). The knowledge they need might not be available through a pre-prescribed curriculum with ‘known’ outcomes and might only be learned on-the-job, through engaging in work activities. This way of learning—learning through working together with others—can be regarded as a form of professionalisation.

Learning through working requires different professions to cross boundaries and work together to develop new forms of practice. For example, police and dentists might work together to formulate new ways of detecting early signs of domestic abuse from dental records. This form of working together delineates who is the ‘tutor’ from who is the ‘learner’, emphasising another form of boundary crossing. Tutors’ roles shift to guiding learners in the network to collaborating and expanding their practice, while the learners shift back and forth across boundaries, acting in ways that would conventionally be understood as acting as a ‘tutor’ or as ‘learner’.

In professional, networked learning, there are likely to be ‘invisible’ learners, who may be observing a conversation but not contributing. A key question is, how do tutors know these people are learning? Conventionally tutors are the people who provide guidance and knowledge, but in circumstances where the same individual is alternating between being a ‘tutor’ and being a ‘learner’, this relationship is more

complex. Some ‘learners’ may be acting as a ‘tutor’ by teaching others and thus may be invisible as learners. Section “[Our Starting Point](#)” explores these various issues, presenting illustrative examples.

For example, in *Professional learning in open networks*, Dalsgaard, Chaudhari and Littlejohn trace how midwives self-regulate their learning in Massive Open Online Courses (MOOCs). Within the MOOC, learners share stories about their professional practice, acting as ‘tutors’ as they teach others. The authors outline how a validated survey instrument was used to measure how each individual self-regulated their learning in the MOOC. The survey was distributed as a post-course online survey to 2039 enrolled participants. Two hundred seventeen participants completed the questionnaire, equivalent to a response rate of 11, higher than the normal response rate in MOOCs. The analysis identified seven specific factors that influence the ways midwives learn in networks. The data provides evidence that midwives’ approach to networked learning is aligned to their practice, with findings suggesting that the midwives’ learning in the MOOC was characterised through self-reflection and expansive critical thinking. Boundary crossing is illustrated, as participants act as learners while, at the same time, indirectly or directly teaching other MOOC participants.

The theme of learning in MOOCs is expanded by Dalsgaard and Gislev in the chapter on *New educational formats for professional development*. Whereas the previous chapter focused on the proactivity of a large number of learners, this chapter explores the actions and intentions of those who, from a tutor’s point of view, appear to be disengaged. Here, the authors highlight that networked professional learning has to accommodate learners who appear ‘invisible’. The authors’ motivation for writing this chapter originates in an interest in the so-called ‘dropouts’: non-completing or disengaged participants of Massive Open Online Courses (MOOCs). They term this group ‘invisible learners’, defined as the non-active and disengaged participants of MOOCs, who do not participate in and complete the course activities and possibly also drop out of the course. The chapter characterises different learner groups in MOOCs and discusses which educational formats can accommodate invisible learners to achieve their professional development needs. The chapter is based on an empirical study of an open online course designed specifically for different types of learner engagement by allowing for different levels of participation. The study draws on 11 interviews and a questionnaire answered by 51 participants. The analysis identifies five different levels of participation, namely, students (enrolled), attendees, members, observers and visitors. The chapter concludes that activities and assignments of students and attendees in a MOOC can provide a key centre for networked learning activities of invisible students that use these activities as part of or as an extension of their own professional practices.

The first two chapters consider professional networked learning as a form of online learning. Yet learning at work often is blended, integrating online activity with face-to-face interaction. In this final chapter in this part of the book, Öberg, Nyström, Littlejohn and Vrieling-Teunter examine professional networked learning as a form of blended learning. Organisations have to prepare their workers to deal

with crisis situations, such as a school shooting, extreme weather flooding, a health pandemic and so on. These circumstances make it difficult to anticipate what needs to be learned and how, because it is impossible to know in advance who will be involved and what they need to be able to do. The chapter examines networked role play exercises where employees learn to deal with crisis situations. The chapter considers these learners in terms of a community of inquiry, since it is assumed that learning communities create awareness and trust and support knowledge sharing, all of which are necessary preconditions for people working together in crisis management situations. The study found that various types of communities may develop within a crisis situation: home communities, cohort communities, specialist communities and local working groups. These expanded views of communities could be used to help plan informal Networked Professional Learning in the future.

Overall, informal learning, where professionals learn through day-to-day interactions, will be important for future forms of networked professional learning. ‘Learners’ and even those who teach may not be visible or distinguishable, as people move back and forth from the role of the learner, to supporting the learning of others. This interplay of roles, extension of boundaries and invisibility of learners bring consequences for Higher Education, which are explored in the next part of the book.

## **Part II: The Impact of Networked Professional Learning on the Academy**

Networked professional learning has an impact on higher education. This impact includes potential changes in what the university is and should be. Among others, this development implies challenges to higher education practice and changes in the way professionals at the universities teach, research and reach out to the surrounding society. In other words, professional development within higher education needs to adapt to the societal and technological changes and challenges. This process emphasises professional development in terms of being a networked phenomenon where learning is linked to both internal as well as external networks. Such professional development features hybrid educational settings where older boundaries between different educational settings dissolve and possibilities to cross boundaries are important.

Professional development in higher education is a phenomenon that needs to be discussed at different levels. It relates to changes at the individual level and the transformation of practice at the organisational level. Simultaneously, higher education aims at developing professionals. This aim includes students and their teachers as well as supporting professional development within working life. For higher education staff, this implies two different and intersecting tasks. First, the mission to prepare students for working life in such a qualitative way that students are able to understand the value of a lifelong professional development perspective in their

future working lives. In other words, prepare them to perform professional development. Second, higher education staff should be able to perform professional development within their own practices.

The section includes different issues of networked professional development in higher education. These issues emphasise the alignment of formal professional development initiatives with informal networked professional learning that take place in the workplace. Some of these issues address philosophical questions, others relate to the preparation for and performance of professional development. The section examines how networked learning practices influence the design of professional development, through consideration of themes such as learning design, ontological and epistemological assumptions for design, design as an emerging phenomenon and teachers' view of design. The section explores how networked learning shifts the boundary between higher education and society at large, in ways that can help solve global issues. The role of higher education in transforming society is explored, in particular the ways formal, informal and non-formal forms professional development can transform professional practice.

The first chapter, *Networked learning in, for and with the world*, by Toft Nørgård, Mor and Bengtsen considers how networked learning might support integration of the university with society as a hybrid phenomenon. The chapter starts with a conceptual overview of the university from three standpoints: the ivory tower (mode 1), the factory (mode 2) and the network (mode 3). The chapter then traces the development of framework for the networked (mode 3) university, integrating learning principles with organisational guidelines and pedagogical formats. The authors consider two paradigms of education: firstly, learning within the networked university by bringing education to the public and, secondly, learning in and with the world by bringing the public into education. These paradigms are illustrated as educational design patterns that emphasise three dimensions: networked learning as a form of citizenship, networked learning as a form of trust and networked learning as a type of ecology.

The second chapter, *Learning in hybrid protopublic spaces*, by Young Pedersen, Caviglia, Gislev and Hjortskov Larsen, focuses on the notion of a hybrid university which is networked and linked to the adjacent society. While exploring the notion of 'protopublic spaces', the authors propose a framework to analyse learning as a form of collaborative inquiry. The chapter draws on theoretical assumptions and primary sources of inspiration from different lines of research, combining ideas of 'collaborative inquiry', 'connected curriculum' and 'hybrid protopublic spaces' to examine future forms of networked professional learning.

Networked professional learning is critiqued as a design phenomenon in the next chapter, *Designs for learning as springboards for professional development in higher education* by Konnerup, Ryberg and Thyrrø Sørensen. The authors examine a number of tensions within the landscape of Learning Design, drawing on the Larnaca Declaration, a theoretical foundation for the field of Learning Design, based on a synthesis of research and practice. The authors outline two distinct ways

of sharing learning designs for networked professional learning: ‘plans for action’ and ‘resources for reflection’. They contrast Learning Design as a way to improve ‘effectiveness’ versus a way to increase ‘reflexiveness’ for professional learning. The authors highlight a tension that learning designers have a tendency to assume that tutors are designing for relatively well-known problems and contexts. However, in contemporary workplaces, the desired outcomes of professional learning are seldom known in advance. The authors also position Learning Designs as ‘springboards for development’, concluding that these should not only be thought of as predefined ideas but should also be viewed as dynamic ways to collectively design new forms of practice.

Hansen and Bonderup Dohn, in their chapter *Design principles for professional networked learning in ‘learning through practice’ designs*, explore the intersection of design and learning. The authors examine how ‘learning through practice’ can prepare students for future professional practice and how these practice-based forms of learning can be described as a learning design. Three prototypical learning designs are illustrated: (1) case-based learning, (2) design-based learning and (3) simulation-based learning. Here networked learning is understood as the way in which learners connect the various contexts in which they participate, integrating their knowledge, perspectives and ways of being across these different sites. The authors distinguish sites for learning as both within and outside the formal educational system, emphasising the importance of forming connections between learners’ experiences in work practice settings and educational settings. The authors argue that case-based learning establishes a relationship of inquiry between the learner and their work practice and that design-based learning supports learners in expanding their work practice through changing it.

The final chapter in this part of the book is *Teachers’ beliefs about professional development* by Jaldemark, Håkansson Lindqvist and Mozelius. This chapter links networked professional to teachers’ beliefs, exploring the emerging networked practices of professionals and the organisations they work within. Teachers’ beliefs about professional learning are influenced by networked learning. In particular, professional development is fostered and supported through the development of networks which required good networked practices. This chapter is based on a study of beliefs of teachers in three departments at a Swedish university. The findings uncover concerns and beliefs about professional development at both the individual and collective levels.

These changes in Higher Education triggered by Networked Professional Learning have consequences for teachers and the teaching profession, which are explored in the next part of the book.

### Part III: Networked Professional Learning in Teacher-Learning Groups

Teachers' work is often structured in a way that allows little room to connect and collaborate and, traditionally, teaching practice is highly solitary. This isolated position can harm teachers' continuous learning and development. In response, educational institutes, such as teaching institutes and schools, increasingly regard learning in real-life social networks as beneficial for facing change and solving problems that are too complex to solve individually. A networked learning perspective may provide insight into the way the networks contribute to teacher professional development. Face-to-face social learning networks with the purpose to stimulate teacher professional development have been elaborated in several studies. These studies use different terms to describe the social learning idea, such as learning networks, communities of practice and learning teams. Although each social learning perspective has its own angle, teacher networks in general can be observed as teachers working and discussing practice issues while sharing a similar focus on learning. To account for the natural dynamics in such groups, Vrieling, van den Beemt, and de Laat (2016) have coined the overarching concept of teacher-learning groups (TLGs). In this part of the book, four examples of networked professional learning in teacher-learning groups are elaborated. The chapters leave from different perspectives representing school management, value creation, knowledge creation and learning experiences.

In the chapter *Learning to teach in a remote school context*, Pettersson and Olofsson take a school management perspective. They investigate an upper secondary remote school in northern Sweden that consists of four schools located in four different municipalities. The school management has the ambition to create conditions for teachers' professional development of digital competence through collaboration between teachers who are geographically separated from each other. The authors use the Cultural-Historical Activity Theory to explore possibilities and challenges in how teacher professional development of digital competence can be organised, facilitated and sustained. The findings show that the development of teachers' digital competence requires a school management that is supportive in creating a culture of change that can be sustained beyond single teacher professional development actions and activities. Moreover, teachers need support to elaborate and negotiate on what type of tools, rules, roles and divisions need to be added to the activity for the networked professional learning to take place and to proceed both in a short-term and long-term perspective. It is also shown how the school management needs to be sensitive to when and how the teacher-learning group is in need of encouragement and external support, that is, the importance of finding a balance between when the learning network can be self-organised and when it is in need of being externally directed with support from the school management.

Van Amersfoort, Korenhof, Nijland, De Laat and Vermeulen inform us about *Value creation in teacher learning networks*. This chapter explores the concept of value creation in two teacher-learning groups that aimed to promote and facili-



tate teachers' networked professional learning. The study investigated how value creation is affected by contextual factors. The findings show little differences in teachers' networked learning activity itself; however, substantial differences in leadership commitment, time and opportunity for networked learning and voluntary network participation were observed. Overall, the findings show that participating in teacher-learning groups may direct teachers to redefine their idea of what learning could be like and reframe the value of consulting their peers for learning. The combination of committed leadership and mandatory involvement in teacher-learning groups appeared to have helped teachers to gain positive networked professional learning experiences.

In *Analysing social learning of teacher-learning groups that aim at knowledge creation*, Vrieling-Teunter, Wopereis, Van den Beemt, De Laat and Brand-Gruwel make use of the 'Dimensions of Social Learning Framework' to study the social configuration of a teacher-learning group of teacher educators that aimed to develop a new curriculum for aspirant primary school teachers. The framework distinguishes four dimensions with 11 indicators corresponding to these dimensions that can bring the social configuration of teacher-learning groups into view. The first dimension, Practice, indicates the necessity for a relationship between the knowledge created and shared in the group and teachers' day-to-day activities. Domain and Value creation, the second dimension, is referred to as the sharing of experience and expertise among group members. When group members work interdependently with a shared purpose and responsibility for collective success, the group can demonstrate a Collective Identity (third dimension). The final dimension, Organization, exhibits how the group is organised. Because the teacher-learning groups in this case study created a sustainable knowledge base necessary to implement a new teacher training curriculum, an extended version of the framework (Dimensions of Social Learning Framework-extended, abbreviated as DSL-E) was needed to reveal indicators for sustainable knowledge creation. Informed by the Social Capital Model and the Value Creation Framework (see the former chapter in this section), the usefulness of the Dimensions of Social Learning Extended Framework for analysing sustainable knowledge creation of teacher-learning groups was explored. Results show that the Dimensions of Social Learning Extended Framework is helpful to identify indicators for sustainable knowledge creation. First, the use of the Dimensions of Social Learning Extended Framework revealed the collective knowledge working identity as indicator. A gradual development of distributed leadership as well as an inquiry-based attitude appeared necessary ingredients in this matter. Second, institutional value creation was found an important indicator for sustainable knowledge creation. This indicator says that teacher-learning groups should involve all stakeholders when starting a joint enterprise and connect actions to institutional goals right from the start.

In *MakerSpaces in schools*, Spante, Johansson and Jaldemark inform us about MakerSpaces settings. This can be defined as places equipped with various materials that can be used to construct things, in order to enhance creativity and cross-disciplinary collaboration. The study searches for learning experiences of teachers in Swedish K-6 schools that participated in a top-down networked professional

development project that focuses on integrating computer programming into the curriculum. The Value Creation Framework (see the former chapter) was used to monitor a teacher-learning group of 15 selected teachers from 16 schools. During 12 meetings in 2 years, the teachers discussed their experiences of integrating programming in their educational settings. Although some teachers were initially sceptical about the project, the results indicate that teachers experienced that participating in the teacher-learning group helped them to develop their professional attitudes, knowledge and practices.

## Discussion

The discourse on Networked Professional Learning is situated within the broader economic, societal and education contexts, providing an understanding of whether and how Networked Learning is responsive to the evolving needs of professionals situated within different sectors. Each of the chapters in these parts of the book draws on empirical data, providing critical insight into the possibilities offered by Networked Professional Learning, as well as exploring issues and challenges surrounding the implementation. These ideas are drawn together in a summary chapter by Peter Goodyear in which he argues that Networked Professional Learning operates at two levels: collaboration with others to learn how to tackle a current task and collaboration with others to improve one's capabilities for tackling future tasks, providing it with a design quality which frequently involves inquiry, reframing and action. Design inquiry combines a search for what is true, what is real and what is ideal. Design action involves composing and connecting: bringing people, tasks and things into a unified whole. He positions design as an expert professional activity (offering a professional service) and as a vernacular activity (everyone designs). Combining these perspectives, Goodyear sketches a future for Networked Professional Learning with social innovation at its heart and the co-design of collaborative services as a unifying practice.

These ideas form the beginning of a discourse which we hope you, the readers, will critique, debate and expand. We hope you enjoy the book!

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