Intercollegial sharing of professional tacit knowledge and expertise within education.

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ABSTRACT

The aim of this study is to gain insight into factors impacting on the sharing of personal knowledge and expertise between colleagues in organisations. The focus on knowledge in the current economy has fostered the emergence of learning organisations, in which knowledge management and the sharing of knowledge are important facets of organisational practice. Professional learning communities and other opportunities for exchanging individual knowledge and expertise are considered to play an important role in this. Given this context and aim, this study builds on the research question 'What factors impact on collegial sharing of knowledge in organisations?'

This study's methodology adopts a social constructivist perspective with face-to-face interviews being the method used for data collection. For the study, 18 teachers in upper secondary vocational education institutions in The Netherlands were interviewed, cumulating in ten individual and two focus group interviews. Key findings indicate that professional discretion plays a pivotal role in the occurrence of knowledge sharing. As such, the decisions of professionals lie at the heart of knowledge sharing and exchange. Personal preferences and attitudes regarding colleagues, one's current hierarchical position and expected effects on this position, reciprocity, and protection of one's knowledge and material, are found to affect knowledge sharing by mediating a professional's willingness and discretionary reasoning. Other factors that are found to impact on intercollegial communication and knowledge sharing are psychological safety and time.

The results of the study are of value to current debates in the field of learning organisations and knowledge management because they reveal the significant influence that professionals have on the locus and motion of knowledge between colleagues and within an organisation. Deploying a micropolitics perspective, analysis shows how professional discretion embodies the power of knowledge. This power not only exists in managing one's professional position, but also in the professional discretion and personal judgement that provides an individual with the power to distribute and withhold knowledge. For organisations, it follows, this implicates that facilitating resources such as time and opportunities for professional development does not suffice, and that a learning organisation and professional learning communities can only be fostered to a certain extent. Results show that there lies a task for management in supporting employees in their communication and sharing, yet also indicates that top-down management can have a counterproductive effect. These outcomes imply the need to expand the notion of the power of knowledge to the intersubjective level within the context of learning organisations, and to include this level in future debates and research concerning knowledge management in organisations.

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AUTHOR'S DECLARATION

"I declare that, except where explicit reference is made to the contribution of others, this dissertation is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution."

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ABBREVIATIONS

CoP   (Community of Practice)

CPD   (Continuous Professional Development)

EC   (European Council)

EdD   (Doctor of Education)

EU   (European Union)

EQF   (European Qualifications Framework)

MBO   (Middelbaar Beroepsonderwijs [Lit. trans.: Medium Vocational Education])

MOOC   (Massive Open Online Course)

OCW   (Ministerie van Onderwijs, Cultuur & Wetenschap [Lit. trans.: Ministry of Education, Culture & Science])

PhD   (Doctor of Philosophy)

PLC   (Professional Learning Community)

ROC   (Regionaal Opleidingencentrum [Lit. trans.: Regional Educations Centre])

SER   (Sociaal Economische Raad [Lit. trans.: Social Economic Council])

Please note that for some of these, information has been included in the glossary.

Introduction | Context, Relevance and Questions

The aim of this study is to gain insight into contexts and impacting factors concerning the sharing of tacit knowledge and expertise between teachers in their organisational context. Outcomes are designed to provide insight in considerations, experiences, and processes that teachers experience regarding sharing their knowledge with colleagues, and to add to the existing knowledge base with the aim of contributing to the development of fruitful contexts for knowledge sharing within organisations.

This is done against a neoliberal environment in which the knowledge economy takes a prominent place. According to Powell and Snellman (2004, p. 199), "the key component of a knowledge economy is a greater reliance on intellectual capabilities than on physical inputs or natural resources." Individuals possess a core resource of intellectual capability, namely knowledge, which implies that the development of human capital and economic growth depends on the development of individual intellect and knowledge (Peters & Reveley, 2012). The value of knowledge exists in its utility to develop human capital (Olssen, 2006). As the environment globalises quickly, relationships between organisations, employees and third parties such as customers or competitors take new forms. Stability and the number of routine jobs are decreasing (European Centre for the Development of Vocational Training [CEDEFOP], 2011; Goos et al., 2010; see also Livingstone & Guile, 2012) while flexibility, knowledge, and creativity are gaining importance. Employees need so-called 21st century skills such as critical thinking, creativity, collaborative skills and the ability to be innovative (e.g. Griffin & Care, 2015), indicating a shift in skills and content in the labour context. In scholarly literature, but also more broadly in journalism and popular writing, the concept of the 'knowledge economy' or 'knowledge society' is much discussed.

The rise of this knowledge economy has been accompanied by the rise of neoliberalism both in business and in education (Patrick, 2013), even to the extent that the two appear to be hardly separable. Neoliberalism refers to political, economic, and social arrangements that emphasise and are driven by competitive market relations, assuming that the market is more efficient than other institutions and thus should replace other institutions (Springer et al., 2016, p. 2). Neoliberal policies pursue marketisation through

de-regulation (decreasing government influence), and liberalisation and privatisation (increasing the role of the private sector)(e.g. England & Ward, 2016). Competition is a key element of the neoliberal market (Huber, 2016; Read, 2009) – according to Foucault even more than supply and demand and exchange of commodities: "the market that the neoliberals are thinking about is a society in which the regulatory principle should not be so much the exchange of commodities as the mechanisms of competition" (Foucault, 2008, p. 147). Considering the globalised scale of economies as well as socio-political relations, Heywood (2017) speaks of 'neoliberal globalism', indicating the further global expansion of market-oriented structures, values and concepts. This context, established by neoliberal conditions and the knowledge economy, entails a pivotal role for (employees with) knowledge, as knowledge is necessary for creating and maintaining political, economic and social arrangements and relations in a competitive environment. Amidst these developments, the European Union (EU) has aimed to build the world's most competitive and dynamic knowledge-based economy for some two decades now (European Council [EC], 2000). An explicit example of this neoliberal approach is expressed by the SER (The Social and Economic Council of The Netherlands), which holds that higher education institutions are expected to be more actively involved in the education of employees and the unemployed, in cooperation with trade and industry parties (Sociaal Economische Raad [SER], 1999).

Under such circumstances, knowledge and learning have a prominent position in organisations and work contexts. For employees, continuous development to keep oneself up to date and employable is important, if not necessary. From a neoliberal perspective, learning and education are seen as an investment in the market with the individual learner being defined through market-driven notions (Giroux, 2002). Already in the early 1990s, the EU focused on lifelong learning which was considered "synonymous with post-compulsory vocational education and training and was clearly linked to the development of human resources, the demands of economic growth and the employment crisis" (Brine, 2006, p. 651), clearly indicating neoliberal forms of state reason (Olssen, 2006). Longworth (1999) provides an overview of the rise of lifelong learning, and describes how some education institutions worked (and still are working) on widening intakes and modifying courses to make the educational world poly-accessible, based on needs from industry and the wider community. Here, one might think for example of investing in profession-based programmes, adding modes of delivery (e.g. online learning) and offering

(free) massive open online courses (MOOCs) to widen access, to recruit students for regular degree programmes, and to lower costs, while generating revenue (Hollands & Tirthali, 2015). By now, lifelong learning has become a widely spread phenomenon that has changed perspectives on and approaches to education (Aspin et al., 2012; Volles, 2016).

For organisations, collecting, managing and retaining knowledge has become an important feature of business administration. Knowledge not only has a role in creating and maintaining the relationships and arrangements that underpin the organisation, it also is a product itself, and as Powell (1998, p. 228) formulates, "the core capabilities of organisations are based increasingly on knowledge-seeking and knowledge-creation." For instance, institutions such as schools and universities depend on the knowledge that is present within their organisation for delivering their product, and pharmaceutical companies and IT-companies build on their employees' intellect and knowledge for production and innovation. Also, maintaining standards and ensuring productiveness under neoliberal conditions implies keeping track of international market developments, and facilitating and promoting (continuous) development among employees to keep knowledge up to date. In adapting to the condition, organisations in the knowledge economy (may) start acting as learning organisations. In such organisations, people continually expand their capacity and strategies to accomplish desired purposes, and they are committed to continually and collaboratively learning and improving together (Leithwood & Aitken, 1995; Senge, 1990a, 1990b; Silins et al., 2002). Here, personal and organisational development is meant not only to humanise but also to increase effectiveness, that way uniting educational and economical rationality (Harteis & Gruber, 2004). An organisation can be considered 'to be learning' if any of the organisation's entities acquires knowledge that by extension is potentially useful for (individuals and groups within) the organisation (Huber, 1991; Roper & Pettit, 2002). Yet, in cases where one could speak of a learning organisation, it does not necessarily have to be the case that learning is actually taking place. Fostering conditions is no guarantee for processes to happen, and individual improvement and commitment are not necessarily shared with others (see Easterby-Smith, 1997).

Against this background, education is not immune to the concerns over developing learning organisations nor to neoliberal, global and market-driven influences (Bottrell &

Manathunga, 2019; Ennew & Greenaway, 2012; Patrick, 2013). Education institutions are organisations building heavily on their knowledge base and they too are facing international competition. They find themselves in a special position within the knowledge economy, as they are expected to possess and distribute knowledge through education in order to support economic productivity and competitiveness (Ball, 2009). David Hargreaves (1998) argues that education and teaching have a role in reshaping professional and institutional contexts in the knowledge society. Andy Hargreaves (2003) reflects this idea, writing that teaching is the only profession that is expected to create human skills and capacities for individuals to succeed in the knowledge society, which is aimed at creating skilled workers and to scaffold economic competitiveness. He states that "schools today serve and shape a world in which there can be great economic opportunity and improvement if people can learn to work more flexibly, (…) reskill or relocate themselves, (…) and value working creatively and collaboratively" (Hargreaves, 2003, p. 1). Patrick (2013, p. 2) concludes that "the end of education can be considered as the creation of the knowledge worker," and the Dutch Ministry of Education, Culture and Science in its report 'The State of Education 2020', states 'allocation' as the *first* core task of education, underlining the importance of education aimed at obtaining a good position in the labour market (Inspectie van het Onderwijs, 2020, p. 11).

Consequently, within this knowledge economy, teachers form a central and specific category of workers and have a crucial role to fulfil, being "the midwives of that knowledge society" (Hargreaves & Goodson, 2007, p. xvii). Teachers' job responsibilities do not limit themselves to 'traditional' teaching (e.g. literacy) and upbringing. Facing increasing needs of students and the labour market in the knowledge society (OECD, 2014; Van der Meer, 2017), educators are also expected to build learning communities, and to adopt and teach the capacities and skills essential to economic prosperity, such as those concerning innovation, flexibility and commitment (Hargreaves, 2003) and the 21st century skills mentioned earlier (Beck, 2008). As previously touched upon, the Dutch government is actively involved in neoliberal developments in education. This not only applies to educating students, but also to the quality and professionalism of teachers and other employees in the education sector. After all, it would be difficult to provide the world-class education the government aims at in its strategic agenda for higher education until 2025 (Ministerie van Onderwijs, Cultuur & Wetenschap [OCW], 2015) without having a world-class education professional workforce. The learning and professional

development of teachers have been of growing interest since the 2000s, mainly due to social and economic changes, the contemporary nature of knowledge, and employability issues (Verloop & Kessels, 2006). Often, the purpose of teachers' knowledge sharing is their professional development (Zhong & Qu, 2012). For example, many schools and teachers use 'study-days' that facilitate time and opportunities for interaction with colleagues to support professional development. One of the results in The Netherlands, comparable to the UK's Chartered College of Teaching, was called the *Lerarenregister* (literally 'Teacher's Register'). The register aimed to make public information about teachers such as their education, professional development activities, employer and license, and involved among other things the professional chain, managed to a great extent by the professionals and professional bodies. This included competence criteria for teachers, curriculum content, and registration and continuous professional development (CPD). On the 21st of February, 2017 the Bill *Beroep Leraar en Lerarenregister* ('Profession Teacher and Teachers Register') passed the Dutch Senate and on the 1st of August, 2017 the Act came into force. However, June 11th, 2018, the then Dutch Minister of Education postponed the deadline for mandatory subscription, and on January 16th, 2019, obligation to register was further postponed. That same year, the register was converted to an online portfolio platform, because a register was believed to be successful only if it belonged to and was managed by all teachers (Lerarenportfolio, 2019) – something which apparently had not been achieved. Nevertheless, other elements of the bill and policy remain important, as also without such a register, both governments and institutions continue to invest in the education sector and its employees.

Research Questions and Dissertation Structure

The current study was conducted within the semi-public education sector in The Netherlands with a focus on intercollegial knowledge sharing and learning in the organisation. Within this context, organisations rely on professionals to exchange their knowledge in order to increase and deploy knowledge as a source, to improve their performance and (competitive) position, and to avoid knowledge from disappearing. Professionals in general may benefit from each other's experience and knowledge (e.g.

Van den Bossche et al., 2006). Behind this lies the interrelatedness of individuals within an organisation and the possible added value of their professional development and knowledge when working collaboratively. One common way to operationalise knowledge exchange within institutions is to establish communities of professional learners (e.g. Hord, 2004; Senge et al., 2000) that can scaffold learning environments for teachers' professional development (Verloop & Kessels, 2006). Given this context, in this dissertation the word 'intercollegial' is used to indicate processes and relationships between colleagues.

The combination of sharing and group effort on the one hand, and 'productive purposes' on the other can result in learning contexts that support both individual professional learning and the growth of knowledge resources. This may apply even more to teachers and education institutions given the range of responsibilities and tasks, and the challenging environment teachers have to cope with, as well as expectations regarding collaboration and learning communities. Within some types of education, such as vocational education, tacit knowledge may be even more important, given the focus on skills and practical performance both for teachers themselves as well as in the programmes offered. Although, as is explained above, knowledge sharing is important in education, little research has been done on what impacts on professionals' choices and actions with regard to (engaging in) knowledge sharing. Therefore, the current study focuses on this aspect, aiming at providing a valuable contribution to the existing literature and narrowing the space between the individual professional and the learning organisation. The core research question for this study is:

What factors impact on collegial sharing of knowledge in organisations?

Alongside this, there are a number of sub-questions.

- How do teachers articulate and deploy their knowledge?
- What role does the institution play in knowledge sharing?
- What role does intercollegial interaction play in knowledge sharing and exchange?

This dissertation proceeds as follows. First, a literature review consisting of three parts is provided. The first part introduces and elaborates on the concept of tacit knowledge, which

is largely based on the work of Michael Polanyi. This is followed by alternative views and critiques on tacit knowledge. The first part concludes with literature regarding tacit knowledge in practice, considering how tacit knowledge may be used in practice and how it may be shared. The second and third part of the literature review concern factors that may impact on knowledge sharing between professionals in organisations. In part two, the focus is on the institutional and organisational context, discussing themes such as managerialism and learning communities. In the third part, the attention shifts to relational aspects that may influence individuals and their interaction, which are professional discretion, power and status, interdependence, and psychological safety and trust. Following the literature review, I provide an account of this study's methodology. This includes a description of paradigm and approach, as well as methods and ethical considerations. Chapter three presents the results of this study. This is organised around three key areas: professional knowledge and communication, institutional factors, and professional factors. Subsequently, the Discussion chapter offers an elaboration on key themes that have risen from the analysis, which are professional knowledge, the role of management, the significance of professional discretion, issues in the intersubjective domain, the relationship between knowledge and power, and learning organisations. In the final chapter, I return to the research questions, draw conclusions, and reflect on the research conducted.

1. Literature Review

The main aim of this chapter is to explore the key literature concerning tacit knowledge, and contexts and issues related to knowledge sharing. This literature review consists of three parts. In the first part, the concept of tacit knowledge is discussed, which to a great extent is based on the work of Michael Polanyi, more specifically on his 1958 work *Personal Knowledge* (Polanyi, 1958) and later essays as gathered in *Knowing and Being: Essays by Michael Polanyi* (Grene, 1969). This is followed by an examination of critiques and other perspectives on tacit and implicit knowledge as put forward by other researchers. Some researchers hold that tacit knowledge cannot be operationalised due to its implicit nature. However, Polanyi is not alone in claiming that tacit knowledge and skills, although these may be impossible to explicate exactly as they are, can be transferred in interaction. Building on the assumption that interaction and collaboration underpin the sharing of knowledge, this first part of the chapter concludes with considering tacit knowledge in the work context, and providing examples of how exchange of tacit knowledge may take place.

The second part of the review concerns institutional and organisational issues that may impact on knowledge sharing in organisations. Building on the context provided in the introduction which introduced the knowledge economy and learning organisations, changes in governance and management are discussed, as well as their influence on professionals. This part then continues with views on professional learning and learning communities.

The final part of the review focuses on relational, interpersonal aspects. It begins with the concept of professional discretion, as well as changes to it in the light of developments in the organisational and managerial field. Following, key principles of Foucault's work on power and knowledge, as well as literature on (professional) status are used to examine the concept of power and status in social contexts. Other themes discussed in this part concern interdependence, and psychological safety and trust.

1.1 Tacit Knowledge

The concept, or notion, of tacit knowledge was first widely introduced and explored by Michael Polanyi. In his book *Personal Knowledge* (Polanyi, 1958), Polanyi questioned the existence of truth and objectivity and explored what these are based upon and originate from. He did this in the context of (natural) sciences. Tacit knowledge, as will be described later in more detail, is considered to be personal and contextual, rather than factual and validated by science. Polanyi and other researchers have discussed and written about this interesting and abstruse concept of tacit knowledge, with tacit knowledge also often being referred to as personal or implicit knowledge (as opposed to explicit knowledge). After, some alternative views and critiques are introduced to provide insight in and examples of the concept in the work context.

1.1.1 Tacit Knowledge: Foundations and Perspectives

Michael Polanyi (1891 – 1976) studied at the University of Budapest where he received doctoral degrees in medicine and physical science. Initially, he worked as a physical chemist at, among other, the University of Berlin. Polanyi emigrated to Britain to work at the University of Manchester where he became increasingly concerned with social sciences. Although the dominant approach to science, especially in his initial disciplines, adopted a positivist paradigm, Polanyi held that personal involvement and commitment are always part of discovery and the assessment of the observed. Being a trained and established scientist, his 1958 book *Personal Knowledge* (Polanyi, 1958) that elaborates on his atypical ideas received great attention.

Polanyi believed that scientific knowledge, which was thought to be impersonal and universal – or factual – could be seen differently and as being less objective by reframing the conception of knowing. Polanyi used terms like 'personal knowledge' and 'tacit' to indicate a concept of knowledge that is not so much factual but more of a unique, individual, 'coloured' kind. This resulted in a distinction between explicit knowledge (put

simply, that what can be articulated and shared) and tacit knowledge, which is implicit, within a person.

As is usual in philosophy of knowledge (e.g. Stehr & Meja, 2005), within Polanyi's theory on tacit knowledge one of the core elements is objectivity. According to Polanyi (1958, p. 4), objectivity would rely "to a greater measure on theory rather than on more immediate sensory experience." An important, fundamental distinction made here is the one between theory, representing rationality, and experience, the two being interrelated but separated by the degree of objectivity. If we picture this issue on a one-dimensional axis ranging from objectivity to subjectivity, theory is supposed to be on the objective side, while experience would be on the other side of the axis.

For Polanyi, the objectivity of a theory is based on two criteria. The first criterion is that the theory should reveal an independent reality, the second criterion is that it should lead to new discoveries. Put differently, a theory both represents and predicts reality. However, as Kant and Kuhn had noted already too, theories are constructed by human beings and rely on stimuli and data gathered and processed by humans. Although personal influence should be minimised in science or at least evaluated and assessed, the "act of knowing includes an appraisal, and this personal co-efficient shapes all factual knowledge" (Polanyi, 1958, p. 17). Hence, one could say objective theories do not exist, as theories are the result or average of multiple human actions and experiences – and indeed, Polanyi (1958) states that 'complete' objectivity does not exist. People often uncritically "accept a certain set of pre-suppositions and use them as their interpretative framework" (Polanyi 1958, p. 60) and identify themselves with such pre-suppositions. This framework is the result of countless personal experiences, and constitutes the presence of subjectivity within any theoretical or rational product or outcome. The framework then is used to make sense of information, to value and assess, and to give meaning to experience, and by doing so the individual instils "the personal participation on the resultant knowledge" (Polanyi, 1958, p. 60). Assertion and objectivity are not possible, as these would originate and exist within the same framework. Even when tested and held against other frameworks, at best a 'less subjective' theory would arise.

Research, thus, always involves acts of personal judgment; the use of neither theories nor adopted methods eliminates the existence of some degree of subjectivity. As an example, such a personal co-efficient is the interpretation of applied methods, which in turn renders different results among different scientists – results which themselves too are

subject to interpretation. Another consequence is that theory "cannot be tested by experience – (…) it ought to be revised so that its predictions are restricted to observable magnitudes" (Polanyi, 1958, p. 9). Such magnitudes can be, for instance, measurements or phases. As a result, (tacit) knowledge and knowing are a-critical, as all knowledge originates from and is tested within frameworks with a degree of subjectivity. This interplay provides an insight into why Polanyi uses the term 'personal knowledge'.

Set against this background, personal knowledge can be considered to be the individual foundation of affirmation, and the appraisal of truth, context and experience, which are dependent on individual, personal sets of criteria that establish a framework. Polanyi often uses 'tacit knowing', reasoning that "knowledge is an activity which would be better described as a process of knowing" (Polanyi, 1961/1969a, p. 132). As a result of this personal component or origin of knowledge, the process of knowing always "is either tacit or rooted in tacit knowledge. A wholly explicit knowledge is unthinkable" (Polanyi, 1962/1969b, p. 144). The train of thought behind this is that a) experience and stimuli found knowledge, mediated by a personal framework and personal judgement, b) this always is an internal, non-explicit activity, and thus c) all knowledge is rooted in tacit knowledge, or knowing. This principle led to much criticism, not least because it stems from a subjective epistemology, while Polanyi claimed to identify objectivity and ways to reach it (e.g. Brownhill, 1981).

Similar to Polanyi, Bernard Lonergan (1957) considers the process of 'coming to know' to be a process involving experiencing, understanding and judging. Tasting, seeing, feeling and smelling and other experiences provide the material for inquiry leading to understanding. It is this process where whichever stimulus existing outside an individual passes personal filters before it can be considered and incorporated. It follows that different individuals may process stimuli in their own way. If complete objectivity and true facts are off the table, and personal influence plays a role in individual development of knowledge, it is plausible that the sharing of knowledge is related to personal, subjective items such as ideas or stories. Rather than facts that are thought to be true and applicable to anyone, anywhere, experience and personal appropriation become important when thinking about knowledge sharing. As with science and research, here it may be the case that the question is not 'what is true knowledge', but more something along the lines of 'of what does one's knowledge consist?' The personal nature of knowledge and reference frameworks, and the role of personal experiences and inquiry, are sharply embedded in

Gourlay's (2002, p. 2) definition which is used in this dissertation: "Tacit knowledge is a non-linguistic, non-numerical form of knowledge that is highly personal and context specific and deeply rooted in individual experiences, ideas, values and emotions."

Polanyi attributed great value to personal appraisal and the 'internal' character of knowledge, which also becomes clear in the case of professional application of knowledge. Polanyi's view on how personal knowledge is related to professional work is reflected in his writing on skills and skilful performance. Polanyi defines the aim of skilful performance as being "achieved by the observance of a set of rules not known as such by the person following them" (1958, p. 49). Skills, thus, can be considered to be habitual acts, with the 'skilful performing actor' not being aware of assumptions, causal relationships or other rational foundations underpinning their ways of doing. Reading this definition, one could think that mastering performance and skills in the end could lead to less skilful performance, as skilful performance requires *not* being aware of the set of rules, and thus *becoming* aware and more competent would equal decreasing skilfulness. As such, the definition is debatable, because it is both possible to act conscious of the reactions one may cause, as well as to analyse behaviour and reflect on experience after performing 'automatically'. For instance, student teachers or student nurses can act both out of habit and based on experience gained during their professional life at the same time. Video training or supervision may serve as means to detect and analyse the 'sets of rules' Polanyi mentions. Yet, from Polanyi's point of view, actions that are performed 'during' skilful performance are carried out unaware of their underpinnings. This indicates a distinction between doing on the one hand and knowing and thinking on the other. At this point, Polanyi again points at the tacitness of knowledge. Key here is the principle that an individual may be aware of the fact they are *doing*, without being able to *describe* what that doing is. Polanyi (1958) also refers to this as 'ineffable knowledge'.

A combination of skilful performance and ineffable knowledge results in operations being 'boxed' or encrypted. The knowledge involved in actions is implicit. This issue of encrypted skills and performance is what Polanyi (1958) calls the 'unspecifiability' of skills and skilful performance. Rules or relationships are unlikely to be known, and describing the performance and underpinnings is hard if not impossible. As a consequence, skilful performances cannot be transmitted and shared easily. Learning from one another, then, is quite different from following step-by-step instructions, such as when

assembling an IKEA bookshelf (which, however, can be quite challenging too). It does not only concern learning or doing by prescription, but also requires a great deal of engagement with the process and, *if possible*, the transfer of personal knowledge.

According to Polanyi (1958), human learning and development not only include observing signs and events, but also involves the act of reassessing and reorganising data and relationships after gaining an understanding of the situation. Polanyi (1958, p. 103) states that the power of our conception lies in identifying new instances of certain things we know, and every time our existing framework deals with an event anticipated by it, it has to modify itself to some extent accordingly. This is considered an irreversible heuristic act that transforms our framework, our thinking, and our appraising of future encounters. Initially, latent learning is inarticulate, personal and internal. The re-organisation of a train of thought, of causal relationships, and of acting and resultants, eventually results in the capability to manifest something in different ways at different moments under various circumstances, Polanyi (1958) believes. Indeed, observational learning enables a replication of behaviour. Other forms of associative learning not mentioned by Polanyi, such as imprinting, could supplement learning from observations and events (e.g. Pontes et al., 2020; Sluckin, 2017). However, Polanyi points towards active learning when describing the human capability of latent learning, of which the two main features are understanding and interpretation. These two features, one could argue, are related to experience and personal judgement. As with skilful performance, relationships and foundations are important factors in the context of learning. A possible distinction that can be made here is the one between implicit learning (non-explicit and without awareness), and explicit learning, for example through analysis and feedback (Eraut, 2000). The significance of these approaches to learning for professional development and quality of the knowledge shared lies in the opportunity for both transferring and appropriating information from one professional to another. This indicates that development and learning consists of both sending and receiving information, as well as of processing this information. It also suggests that learning from someone else's knowledge requires evaluation of 'instances' and 'events', in order to adapt one's own conception of a context and what one knows about this context.

Thus far, a division has been made between individual internal processes on the one hand, and external events and stimuli on the other. Yet, communication and learning between individuals is based on interaction, implying a synthesis of internal and external

processes. Often, this human interaction (partially) consists of articulation in some form. Polanyi therefore ascribes a central role to articulation using symbols (letters, mathematical symbols and other signs). But here too, there is a personal component. Connotation of symbols, or words in a language, depends on both the context in which it exists and the individual deploying it. Furthermore, the focus of all articulation is conceptual, with language playing only a subsidiary part in this focus. After all, communication is initially about the message, not about the language itself. In a comparable way, people think using language as a tool, not as a focus.

This adds another complex issue to the concept. Just as 'encrypted' knowledge and frameworks are personal, so are the methods of communicating. This is where the tacit component and core of tacit knowledge become clearly visible. The relationship between speech (articulation) and thought (knowledge) can constitute possibilities for communication, sharing and development. This indicates a separation between what we know and what we might say about it – a duality of speech and knowledge. Articulating knowledge can be difficult, considering the unspecifiability of skills and skilful performance, the personal appraisal of (and framework for) experience, and the personal nature of denotation and connotation. In exact disciplines such as physics and chemistry, which is where Polanyi's roots were, theories and articulation must be advanced and communicated using linguistic and mathematical language to represent concepts (Heisenberg, 1958). However, a concept never captures everything completely. Styhre indicates this causes a problem of representation – a problem that also exists "for tacit knowledge; some skills and capabilities are not easily expressed through the media of representation available" (Styhre, 2004, p. 180). Moreover, personal frameworks are contested by new situations – assuming that the human mind relies on verbal clues and thoughts based on language, personal frameworks are influenced by speech, listening and reading.

The importance of articulating with the purpose of sharing and professional development is relatively clear. Articulation enables communication, and without this, transfer of any kind of information, not to mention knowledge, becomes complicated. In the context of knowledge sharing and professional development, a major question is what forms such articulation and communication may take. Conversations at the workplace may act as a vehicle, but there may also be other ways and modalities for sharing. In the case of tacit knowledge, it is especially of interest how professionals articulate knowledge and

experience they are not aware of and how and when such information 'travels' between individuals.

1.1.2 Alternative Perspectives on Tacit Knowledge

Although Polanyi put tacit knowledge as a philosophical concept on the stage, others too have been concerned with it. In various disciplines such as psychology, adult learning, and knowledge management, the concept is used, sharing a certain base across the fields but differing in interpretation and operationalisation (Gourlay, 2002). Already in the 1940s, Gilbert Ryle wrote about intelligence in practice, and the difference between 'knowing that' and 'knowing how'. According to Ryle (1948), theoretical activities such as calculating involve consideration of regulative propositions (rules); practical activity involves such consideration too, but also requires something else: the capability to mediate between action and theory. This idea assumes that knowing, such as knowledge of rules and propositions, differs from application. Applying knowledge can be done with or without intelligence, that is, purposely or coincidently. Related to this, Ryle (1948) also pointed out that 'knowing that' (rules and facts) has to be translated into practice (acting). One who is acting practically may not contemplate all possible rules and may choose the most adequate approach, while theorists may lack the contextual knowledge to judge on the adequacy of rules. A similar distinction is the one between content knowledge, which is factual and explicit, and process knowledge, which is more applied and can remain implicit (e.g. Smith et al., 2013).

Considering the distinction between 'knowing how' and 'knowing that', and the notion of content versus process knowledge, there is a clear overlap between these and Polanyian views on knowledge related to the combination of knowledge and performance. There also is an individual touch to the 'how'. As for Ryle, the knowing how and especially the doing that follows consists of the ability to act based on rules. This assumes one understands to some degree how theory or knowledge relates to reality. In a way, Polanyi's skilful performance resembles this, with skills being habitual acts and skilful performers observing a set of rules. However, there also is a notable disparity between Polanyi and Ryle. As the performer may not be aware of those rules, skilful performance

does not require the conscious application of rules, whereas Rylean acting presupposes a component of choice and consciousness given the capability to *mediate* between action and theory.

In this literature review, tacit knowledge has been framed as implicit, personal, and context-specific. Skilful performance, from Polanyi's point of view, is based on a personal and unconsciously applied set of rules, with the tacit knowledge involved being impossible to be explicated. This position has been criticised (e.g. Lynch, 2013) because Polanyi places the tacit dimension, which would always remain tacit, firmly in the real world. Despite all modern technologies and human capabilities, nowadays it appears narrow to hold on to such a vision on what is purely implicit and personal. While acknowledging the difficulties in articulating and transferring tacit knowledge and skills, some critical views indicate that tacit content can be articulated, and therefore, to a degree, shared and transferred (e.g. Nonaka, 1994; Nonaka & Takeuchi, 1995). Neuweg (2002) subtly expresses this, respecting Polanyi's ideas about the use of internships, by stating that although tacit knowledge may not be teachable, it is *coachable*. This shifts the focus from 'the individual' to 'the individual among others' within a process of socialisation. For instance, there is evidence that metaphors, analogies and stories can be used to convey tacit knowledge (e.g. Kothari et al., 2011; Krátká, 2015), that apprenticeships and other ways of learning by doing can add the development of tacit knowledge and skills (Nonaka & Takeuchi, 1995; Polanyi, 1958), and that groups have a positive effect on evoking and sharing knowledge in general (e.g. Stoll et al., 2006). Yet, others such as Ambrosini and Bowman (2001) and Collins (2001) argue that tacit knowledge cannot be communicated. Arguments for this often revolve around how tacit knowledge is embedded in individuals' actions in the performance context, or how ways of life and social practices cannot be made explicit because those are complex and subject to change and context. Such views evidently acknowledge a personal foundation of tacit knowledge, but, if put this tightly, reason from a strong relativism and a certain inadequacy of human communication.

Adding knowledge management as a frame of reference, and aiming at improved use of available knowledge as a resource, Nonaka and Takeuchi (1995) introduced tacit knowledge into the domain of knowledge management and professional learning. This implies a link between tacit knowledge, practice and (people within) organisations. Nonaka and Takeuchi (1995) distinguish between cognitive and technical tacit knowledge. Cognitive tacit knowledge refers to cognition and rational aspects. This is what Polanyi

refers to with the observed 'set of rules', and what in Rylean theory would relate to the theoretical component of activities. Technical tacit knowledge includes skills and know-how. If tacit knowledge would consist of both these elements, Nonaka and Takeuchi's approach leans towards Ryle's. Similar to Polanyi, Nonaka and Takeuchi (1995) also suggest that knowledge has to be converted into linguistic or an otherwise symbolic form in order to enable communication and sharing. This is what commonly is seen as externalisation of knowledge (e.g. Nonaka & Takeuchi, 1995; see also Simons & Ruijters, 2004). As connotations and denotations are personal, and meaning depends on context, some kind of control over language is necessary, and as Polanyi (1958, p. 113) puts it, one's own view "admits this controlling principle by accrediting the speaker's sense of fitness for judging that his words express the reality he seeks to express." This kind of transfer applies mostly to cognitive tacit knowledge, as that is easier to explicate. Technical tacit knowledge is considered to be developed mainly via individuals' actions and direct 'here and now' experience (Nonaka & Takeuchi, 1995).

Nonaka and Takeuchi's approach to the concept is characterised by the connection between knowledge creation and implicit knowledge. Nonaka's (1991, 1994) circular model of knowledge creation suggests sharing and social interaction as means of externalising implicit knowledge. With this, they lean heavily on the premise that tacit knowledge is sharable, but more importantly, they assume that sharing *without* contextual embedding and practice can be enough to transfer tacit, personal or implicit knowledge. This contradicts not only, for example, Polanyi and Ryle, but also questions the mentioning of apprenticeships by Nonaka and Takeuchi (1995) themselves. Gourlay (2006) criticises the spiral view on knowledge creation. He doubts the relationship between tacit knowledge as a source of new knowledge, existing knowledge, and collaboration. Other critiques on this idea of knowledge creation concern, for example, the role of managerial authority (Essers & Schreinemakers, 1997) and the lack of clarity concerning collaboration and rendering of new ideas (Bereiter, 2002).

Eraut (2000) indicates that aspects of behaviour are acquired by processes that (implicitly) add meaning to our activities and our context. This suggests, as with Polanyi, that experiences underpin understanding. Eraut (2000) makes a division of three types of tacit knowledge. One is that of 'tacit understanding of people and situations'. The other two are 'tacit rules underpinning decision-making' and 'routinised actions'. According to Eraut (2000, p. 113), these types come together "when professional performance involves

sequences of routinised action punctuated by rapid intuitive decisions based on tacit understanding of the situation." Polanyi's concept of skilful performance appears to serve as a foundation for this approach, given the overlay between the 'set of rules' mentioned by Polanyi and the dimensions of the tacit knowledge that constitute performance as attributed by Eraut.

A different thread of critique on Polanyi's concept is of a more philosophical nature and concerns awareness and adequacy of content. At the core is the idea that if knowledge is built unconsciously, articulated knowledge and learning might contain incorrect correlations or heuristics. Acquisition of tacit structures neither depends on nor stems from attention to or awareness of learning (Reber, 1989), and an individual does not consciously perceive tacit knowledge as guiding its actions (Dienes & Berry, 1997). Due to this lack of awareness, and the application of tacit knowledge 'in the moment', tacit contents are not adequately reflected upon or examined (Herbig et al., 2001). Moreover, the learning environment in work contexts is often uncontrollable and presents diverse and changing situations (Gelman, 1994). Yet, these environments ask for critical and conscious interrogation. As a consequence, that what may be explicated or articulated can be considered to be a personal and temporary perception, instead of a description of actual sets of rules, relationships or facts.

The complementing and differing views discussed above might already have suggested that Polanyi's concept certainly has been useful and appreciated over time for several decades, but also that there are aspects that are open to discussion and change. Alongside the term 'tacit knowledge', Polanyi introduced concepts such as skilful performance and involved, although phrased differently, the idea of novices and experts in internships. He also established a relationship between tacit knowledge, expertise and connoisseurship (see Mareis, 2012). Over time, many terms have been used, ranging from 'mastery' and 'expert' to indicate certain proficiency, to 'intuition', 'tacit skills', 'expertise' and 'embedded understanding' when discussing use or application of tacit knowledge. The terms are not necessarily synonyms, and certainly not for 'tacit knowledge' – rather, the wide variety of terms originates from debates within philosophy and other disciplines and "clearly indicates how far the complex dimensions of tacit knowledge must be projected and how hazy its borders remain" (Mareis, 2012, p. 66).

1.1.3 Tacit Knowledge in Organisational and Professional Practice

So far, tacit knowledge has been considered from a predominantly theoretical point of view. It has been pictured as being implicit, highly personal and, due to its connection with skilful performance, as context-specific. Its articulation and explicit presence are believed to be either impossible (according to Polanyi), or when deemed possible at least complex matters. This might lead one to think of tacit knowledge as it being something vague and surreal. However, considering the attention within academia and organisational contexts, tacit knowledge would better be conceived as being real yet abstract, or in any case, as present in practice. Although much has been written on the concept, and more recently on its possible value and presence in organisations too, little can be found about the operationalisation, or the 'from what to how'. Tacit knowledge in practice continues to be a topic of discussion and causes question marks to appear among both scholars and in practice, with some saying that "tacit knowledge has so far resisted operationalization" (Ambrosini & Bowman, 2001, p. 811).

Having made a distinction between tacit and explicit knowledge earlier in this chapter, it is now useful to add another distinction, one that concerns the locus of knowledge in work contexts. Lam (2000) distinguishes between the individual and collective level, something which Eraut (2000) implicitly does too when writing on tacit knowledge with respect to social contact with colleagues. Here, the individual level represents knowledge that resides within individuals' brains and skills. Collective knowledge is "the accumulated knowledge of the organisation stored in its rules, procedures, routines and shared norms which guide activities and patterns of members" (Lam, 2000, p. 491). Stemming from a combination of the epistemological distinction and the locus of knowledge, Lam (2000) points out different types of knowledge within organisations. Individual, personal tacit knowledge is called 'embodied knowledge', which consists of practical experience and is based on doing, rather than on rational knowing. It also has a strong automatic component. This is reminiscent of Polanyi's skilful performance and the accompanied ineffable knowledge, because of the emphasis on acting based on experience. Moreover, it is context-specific. According to Lam (2000), explication of such embodied knowledge results in 'embrained knowledge'. The individual level and embodied knowledge as described by Lam shows clear resemblances to Polanyi's notion of tacit knowledge. Lam also draws on Polanyi to scaffold her theory.

Because it both builds and elaborates on Polanyi's, Lam's theory on organisational learning appears to be relevant to the current study.

How then, according to Lam, can embodied knowledge be operationalised within groups of people? Lam (2000) holds that this depends on the type of organisation in which the knowledge exists and is used, and builds a quadrant with variables 'Standardisation of work and knowledge' (high-low) and 'Knowledge agent' (individual-organisation). Within education in general, the degree of standardisation of knowledge and work is relatively low. Education professionals often are highly trained professionals, possessing not only content knowledge, but also specific skills related to teaching, communication and social interaction. However, these skills and context-specific knowledge often are personal and individual. This places schools in the 'operating adhocracy' department of the quadrant, which concerns the type of organisation that is highly organic and building on factual *and* practical knowledge and skills, with coordination being characterised by "direct interaction and mutual adjustment among the individual experts" (Lam, 2000, p. 496). According to Lam, learning occurs when professionals work together and collaboratively take on challenges. Based on a comparison of Polanyi's and Lam's theories, it appears that one way to operationalise and 'activate' personal, tacit knowledge is collaboration between professionals. Polanyi (1958) also assumes that collaboration is a way to transfer personal knowledge, for example through internships. As such, expectedly practice, supplemented with other individuals' input, opens up possibilities for exchanging tacit knowledge.

Ambrosini and Bowman (2001) offer another yet contiguous approach. They do so within the context of firms and market-driven contexts, and plead for the use of 'tacit skills' rather than 'tacit knowledge', because this would better relate to a resource-based view on organisations. Ambrosini and Bowman, too, believe that tacit knowledge and skills are deeply rooted within individuals. However, they side with Nelson and Winter (1982) insofar that they state that because the knowledge and skills are ingrained, they are implicit, suggesting that explication does not exist or is impossible. Siding with Polanyi, they do underline difficulties in copying or receiving tacit knowledge or skills: "Tacit knowledge cannot quickly migrate, i.e. it cannot be transposed to other firms, because the knowledge depends upon specific relationships (between colleagues, customers etc.)…" (Ambrosini & Bowman, 2001, p. 814). Although this statement essentially concerns exchanges between groups of people from differing contexts, it implies that sharing between individuals is complicated, not only because knowledge is rooted within people,

but also due to the context and relationships that play a role. The authors propose to focus on knowledge that actually can be articulated, as imperfect as the result may be, and suggests methods for operationalisation based on cognitive and causal maps.

The two approaches discussed above, one based on collectiveness and the other on means of articulation, shed some light on the more practical side of tacit knowledge and its embedment within organisational contexts. These approaches add to the assumption that tacit knowledge is personal, individual and rooted in experience, and that exchange or transfer of tacit knowledge, although difficult due to articulation issues, requires some form of collaboration or interpersonal interaction. Since the 'revival' of the concept after its ostensible re-introduction by Nonaka and Takeuchi in the 1990s, interest in the more practical and functional side of tacit knowledge has been growing. Much of this interest has been generated from corporate industries. Herbig et al. (2001, p. 688) state that "up to now most research on tacit knowledge and experience-guided working was conducted within industrial production." This focus has shifted somewhat over time, as research on tacit knowledge in other contexts has begun to emerge. In less market-oriented disciplines where practical skills and skilful performance may hold a crucial role, such as education and nursing, tacit knowledge has received attention. Below, I provide examples of this and explain how tacit knowledge plays a role in these areas.

Assuming that interpersonal interaction plays a role in sharing practice-related tacit knowledge, Nonaki and Takeuchi (1995) take a social-constructivist stance by ascribing a key role to socialisation in their Knowledge Management model. Socialisation as a process of sharing experiences, they hold, would enable the creation and operationalisation of tacit knowledge such as shared mental models and skills. Their cyclical model suggests that such a process of socialisation a) results in explication of tacit knowledge, so that b) new explicit knowledge can be combined with existing knowledge and c) new insights can be internalised. Woo et al. (2004) describe how the use of knowledge maps scaffold and facilitate such a process. Knowledge maps are tools that often point to people, documents and databases to enable individuals to find appropriate knowledge. These maps support Nonaka and Takeuchi's socialisation by fulfilling the role of sharing platform (Woo et al., 2004). Sternberg et al. (2000) describe how such maps stimulate the explication of knowledge and, once the map represents bits of knowledge, translates practical intelligence, or practical skills, into accessible, socially constructed knowledge. Drawing on the idea of cognitive maps, Ambrosini and Bowman (2001) put forward causal and

cognitive maps as a means to research tacit knowledge and skills, or the 'sets of rules' behind these. These studies show how knowledge or causal maps are useful as a tool to articulate tacit knowledge, and provide examples of translating the concept of tacit knowledge into a more practical, applicable and explicit form.

Both the personal and interpersonal aspect of tacit knowledge development and sharing are expressed more clearly within person-related work. For instance, some key aspects of nursing, such as unpredictability of situations, ambivalence of human communication, and the resulting necessity of reacting, promptly require actions based on experience and intuition (Benner & Tanner, 1987). Experience not only develops tacit knowledge, it also is a resource for acting on its own, which explains why experience-guided working and using tacit knowledge go hand in hand (Herbig et al., 2001). Yet, "intuition and tacit forms of knowledge are often ignored because of fear of bias and concerns that they are 'unscientific'" (Welsch & Lyons, 2001, p. 300).

Research on tacit knowledge within the practice of nursing has shown that unspecified, abstract forms of knowing do play a role within this occupational context. Welsch and Lyons (2001) indicate a characteristic of experienced, well-performing nurses they describe as the 'sense' to detect something being different than it is supposed to be. This 'intuition', or 'embedded understanding' (Lake et al., 2009), which is based on experience, is explored in depth by Herbig et al. (2001). They found that nurses who perform above average distinguish between positive and negative feelings, whereas poorer performing nurses just 'felt uncertain' about a patient and situation. This sense originates in an evaluation of the patient through social interaction. Such patient-nurse interaction triggers tacit knowledge and experience to judge on a patient's wellbeing by assessing not only the reaction of a patient, but also active involvement and activities. As an example, one may think of a trembling patient. For poorer performing nurses, a trembling patient may not indicate anything special if trembling is not a symptom of the expected diagnosis – they may consider it to be nervousness, for instance. To more experienced nurses, the trembling be a sign or hunch something else going on, and they may connect the trembling to other cases and diagnoses. Increased familiarity with signs, formal information, requirements and required actions allow nurses to gain confidence. This accumulation of formal knowledge and (in Polanyi's view) knowing, enables nurses to move "beyond the need to work with explicit rules to proficient nursing practice" (Lake et al., 2009, p. 380).

It appears that tacit knowledge at least influences nurses' clinical judgements. Niedderer (2007, p. 6) puts it more strongly by stating that "tacit knowledge is an important requirement for achieving best results in research and practice, which is associated with expertise and connoisseurship." The application of tacit knowledge stems from a synthesis between formal knowledge and tacit knowledge, grounded in (clinical) experience. It appears to be tacit knowledge that enables nurses to judge and act promptly, and that enables them to overrule linear thinking by applying a shorter circuit. Shorter circuits are useful, if not necessary, because if we would consider first principles in every situation we encounter, we could not function effectively (Welsch & Lyons, 2001). Tacit knowledge also plays a role in interpreting and implementing explicit (research) findings (Kothari et al., 2011). This development of primary information and a repertoire of responses enables fast prioritisation and results in an intuitive ability to grasp a patient situation and develop an effective response (Lake et al., 2009).

The development from novice to expert requires the acquirement of both factual, explicit knowledge and tacit knowledge or skills. In the literature so far, ranging from Polanyi in the 1950s to research in the 2000s, the recurring word in the context of professional development is 'experience'. Although connotations can differ from 'a meaningful happening' to 'gathered knowledge' or 'maturity', the connotational common thread lies in developing know-how. Development of know-how, and learning, to some extent is something that one could do individually. But when it comes to the acquirement of existing, explicit knowledge, and to the interpersonal component as discussed, *sharing* and *collaboration* are important. Gabbay and Le May (2004), for example, in a study among nurses and general practitioners, found that in collective decision-making both research findings and collective tacit guidelines jointly construct knowledge. In multidisciplinary teams, performances are dependent on unarticulated (or tacit) knowledge shared and reinforced among team members (Friedman & Bernell, 2006). Kothari et al. (2011) discovered that articulation of such implicit rules and knowledge often involves stories to share experience, and in the teaching profession, too, narratives can be used to carry tacit knowledge and experience among team members or colleagues (Krátká, 2015).

1.2   Organisational Context of Knowledge Sharing

Up to now, tacit knowledge has been discussed both theoretically and in context. This has illustrated how this knowledge is both a personal trait and a trait that is difficult to share – yet, sharing in some form is key to transferring knowledge. Although various options for exchange, such as apprenticeship and sharing stories, were mentioned, there still is a gap between the individual and others in terms of how and when sharing may happen. Roschelle and Teasley (1995, p. 94) illustratively conclude that communication and collaboration do "not just happen because individuals are co-present; individuals must make a conscious, continued effort to coordinate their language and activity with respect to shared knowledge." In plain language, the issue is that even if we know whom we should be interacting with, it remains unclear what actually makes a person (decide to) communicate and share with others. Most social effects arise from the evolution of a group as a social system (Salomon & Globerson, 1989), and this, more concretely, can apply to groups of education professionals such as teacher teams or departments too. Such groups develop their own habits and ways of doing and being, like any other 'compilation of individuals'. People within groups have their own beliefs and attitude towards the social structure they operate in. These beliefs, or 'perceptions of reality by people' (Edmondson, 1999; Van der Vegt et al., 1998), influence the behaviour of the group and its individuals (Cohen & Bailey, 1997). This happens through the behaviour of its individuals – changes in the state of a single group member change the entire team (Johnson et al., 2007).

This issue of individuals' behaviour and position within group settings requires to discuss and explore characteristics of interaction and their possible impact on processes of knowledge sharing (Barron, 2000). In the second and third part of the literature review, several factors relevant to that context that have been identified and discussed in the wider literature are considered in more detail. In the second part of the literature review, managerialism, management (approaches), and learning communities are discussed. In part three thereafter, professional discretion, power and status, interdependence, and issues of psychological safety and trust are discussed.

1.2.1 Role and Influence of Management and Managerialism

In the introduction, a context was provided which introduced the knowledge economy and learning organisations. Knowledge management and knowledge sharing are important features of this context. The political, economic, and social arrangements that neoliberalism fosters, emphasise competitive market relations and the need for comparison and assessment (Springer et al., 2016). Murphy and Skillen (2015) state that the functioning of professional practice in the public sector has implications for how governments are judged, for instance regarding financial efficiency, provision of public goods, and political competence. Covid-19, for example, put many governments and the way in which they initially managed the crisis under scrutiny. Judgement on their competence and actions during this global pandemic is linked closely with the performance of public services, and front line workers. Murphy and Skillen (2015) also describe how national and institutional governance, particularly in the public sector, operates based on a pressure to evidence accountability to the public. As "accountability is an essential requirement of public management in the democratic state" (Brodkin, 2008, p. 317), this accountability pressure has resulted in what Ball (2009) refers to as privatisation of the public sector, which includes organisational changes in public sector institutions, as well as new forms and modalities of governance, networks and performance management, referred to as 'new public management' (Hood, 2000), 'new bureaucracy' (Travers, 2007), or 'new managerialism' (Clarke & Newman, 2006).

For schools, this modern and globalised context also calls for "necessities of change, a new managerialist language and a kind of self-belief and self-efficacy – new organisational ecologies and identities" (Ball, 2009, p. 86). In education, and more strongly in higher education, the neoliberal condition is enforcing competition and fear of underperforming, which is "effectively proliferated through an authoritarian culture of so-called managerial transparency, accountability measures, and austerity policies within schools and society" (Darder, 2019, p. V). Nowadays, managerialism is a typical form of governance that originated in for-profit enterprises but can be found in many education institutions as well as other public and private organisations (Baines et al., 2011; Meyer et al., 2013). According to Klikauer (2015, p. 1105), managerialism "combines management's generic tools and knowledge with ideology to establish itself systemically in organizations, public institutions, and society while depriving business owners

(property), workers (organizational-economic) and civil society (social-political) of all decision-making powers." It includes a managing group that entrenches itself systematically in an organisation (Locke, 2011), justifying its dominant behaviour with their level of education, specific knowledge and their position in the line (Klikauer, 2015; Magretta, 2012). Such line management functions with formally higher level individuals setting goals and performance indicators, and lower level individuals and organisations to make it happen (Frederickson, 1996), assuming that "if performance indicators provide the equivalent of a bottom line and incentives (or penalties) are attached to them, then one can leave it to street-level organizations to determine how best to do policy work" (Brodkin, 2011, p. 254). Concrete developments are increased standardisation in human service organisations (Ponnert & Svensson, 2016), professionals in schools increasingly being held accountable to standards (Ottesen & Møller, 2016), as well as unintended outcomes such as professionals behaving risk-aversive to avoid negative assessment (Papadopoulos, 2010). In the light of these developments, a critical issue is raised by Brodkin (2008, p. 317), who poses the question how management can "promote accountability without deadening responsiveness and undermining the application of professional judgment on which management also depends?"

As for education of adults and professional learning, one of the models of managerialism that Ferlie et al. (1996) distinguish from research in UK public organisations, is that of the learning organisation, in which there is emphasis on cultural change, team-work, and employee empowerment. However, Ferlie et al.'s (1996) research showed how management experienced difficulties in making the changes, and how employees in general experienced little improvement in the areas concerned. Ball (2009) shows how privatisation responds to this, and describes the emergence of companies retailing policy solutions and 'improvement' directly to schools, which includes the selling of continuing professional development (CPD), training, and support. Such developments illustrate how neoliberalism and related forms of management both grow from inside the organisation, as well as how the organisation is being subjected to these.

In the light of performativity and accountability, Patrick et al. (2003) indicate some critical issues that revolve around the question whether CPD is meant to enhance professional autonomy and practice, or performativity. This ambiguity, they hold, implies tensions between competence and effectiveness, and between voluntary CPD and CPD that is compelled by the organisation. This raises questions about opportunities and content of

professional learning that are either available or compulsory within an organisation. Also in the Dutch context, professional development is found to focus on performance management and result-based cultures (Brouwer et al., 2016), with policy and management mechanisms influencing teacher autonomy (Honingh & Hooge, 2009). In the context of mandatory professional development initiated by the organisation, Zeggelaar et al. (2017, 2020) study design requirements for effective larger-scale professional development. Their research shows that professionals' tolerance for the complex context, contributions to professional identity, and team-based and collective participation are important elements of effective professional development programmes. These results, considered in the light of management and policy focused on performance and results, point at similar issues as raised by Patrick et al. (2003).

Aside from the aim of professional development, it can be assumed that organisations, in which learning is part of professional practice, support and stimulate their employees (Velada et al., 2007). Hislop (2002) argues that the success of knowledge management is highly dependent on employees' willingness to share personal information. When knowledge is an important element of a job or work context, employees' willingness to share increases with higher satisfaction and commitment to their organisation (Robertson & O'Malley Hammersley, 2000), which is related to a fair psychological relationship with the employer (Hislop, 2002; Scarbrough & Carter, 2000). This relationship partially is influenced by an employee's possibilities to find another job as opposed to a feeling of being exploited by the organisation (Scarbrough & Carter, 2000). The climate regarding sharing and learning also is strongly influenced by the organisation's characteristics and value systems, such as culture and reward systems (MacNeil, 2003), which impact on employee behaviour (Doyle, 2002). Given this context, some argue that line managers can influence employees' attitudes and job experience, and through that are able to influence knowledge sharing behaviour (e.g. Cunningham & Iles, 2002; MacNeil, 2003).

Adequate contexts of exchange also require dialogue spaces between the individuals involved (Decuyper et al., 2010; Slotte et al., 2004). Here, one might think in facilitative terms like time and an office to congregate and communicate, and in immaterial terms, such as a safe environment and trust in one another. Studies investigating the consequences of managerial governed organisations make clear how accounting for delivered performance requires a lot of time from professionals (Brown, 2007; Murphy &

Skillen, 2015; Sabelis, 2002). At the same time, these professionals are trying to perform well in less time. This leads to a close relationship between time compression and task suppression, affecting professionals' ability to complete what they consider core professional tasks (Murphy & Skillen, 2015). Other studies show that time constraints and a lack of time (e.g. Clarke, 2002; Vinokur-Kaplan, 1986), and a high workload pressure (e.g. Connelly, 1996) also result in a limitation on sharing opportunities, thereby forming a threat to intercollegial learning within organisations. Stenfors-Hayes et al. (2010), focusing on medical teachers, found that most perceived barriers are attributed to the organisation, with temporal issues being attributed to the team or department (i.e. direct management). This indicates how time management and space for prioritisation of tasks are at least partially externally attributed, while the perception of little time is mostly personal.

Although employees are often aware of the fact that the amount of time inevitably is limited, it is useful to consider the idea of 'protected time', as some research indicates that professionals can find time but have difficulties spending that time on the right matter (Zibrowski et al., 2008). Protected time would, for instance, mean that a certain amount of time is reserved and blocked for a specific task or activity. This also applies to teaching, since classes are included in rosters. Zeggelaar et al. (2020) show that consideration of timing and duration of mandatory professional development activities can enhance the effectiveness of professional development. Teachers participating in Kennedy's (2011) study reported major concerns related to timetable issues, as these pre-structure their agendas. As opposed to protected time, there is the non-protected 'loose time' that gets consumed by after-hours work, administration, preparation et cetera that put more limitations on individual flexibility.

Although time very well may be perceived as a constraining factor, Fleuren et al. (2004), investigating the healthcare sector, found that time constraints may be put forward as a significant barrier, while actually there might be a lack of clarity regarding the aim of collaboration in the first place. Without an aim of spending time collectively, doubts can trigger the idea that it would cost even more time to organise collaboration because nothing has been thought through and arranged yet. Moreover, why would one have or make time for something vague without clear goals, when there is other work to be done? Kennedy (2011) too indicates how 'time shortage' can be used as a scape goat for protecting the time one actually has (left), and Vollenbroek (2019) even found that time

allocated by the organisation is not a fundamental factor that affects an individual's behaviour in a groups of developing professionals.

1.2.2 Professional Communities and Knowledge Sharing

Based on literature referred to earlier, it can be argued that professional learning from tacit knowledge can occur when professionals work collaboratively and exchange experiences or ideas (e.g. Lam, 2000; Nonaki & Takeuchi, 1995; Polanyi, 1958). Over the past two decades, in which the concepts knowledge economy and learning organisations gained great attention, also much has been written about communities of professional learners, often referred to as 'professional learning community' (PLC)(e.g. Dufour & Eaker, 1998; Hord, 2004; Senge et al., 2000; Stoll & Louis, 2007; Toole & Louis, 2002), 'community of practice' (CoP) (e.g. Kimble et al., 2007; Wenger et al., 2002), or 'communities of learning' (Paloff & Pratt, 2003; Stacey et al., 2004). Definitions describing such communities share the idea that these communities are usually seen as vehicles for learning in groups and establishing collegial, educative and change making contexts within education institutions. Although PLC and CoP are often used synonymously or interchangeably, the two are not the same (Blankenship & Ruona, 2009; Enthoven & De Bruijn, 2010). PLC tends to refer to professional knowledge and identity, and to working and learning within learning organisations (Stoll & Louis, 2007), whereas CoPs tend to be formed by practitioners who share a common concern or interest and connect voluntarily and more flexibly (Kimble et al., 2007). Given both the context of the current study (schools) and the context of learning organisations, in the current study the term 'professional learning community' is used.

Because within PLCs, professionals share and interrogate their practice in an ongoing, collaborative, learning-oriented way (Toole & Louis, 2002), PLCs can be considered to be resourceful and fruitful learning environments for teachers' professional development (Vandenberghe & Kelchtermans, 2002; Verloop & Kessels, 2006). There are some assumptions underlying this. One is that the professionals involved see their group as a serious collective enterprise (King & Newmann, 2001). Additionally, it is assumed the interaction is *aimed* at learning, and more specifically, learning with and from others. This would imply some kind of purposeful organisation, whereas sharing can also take place

incidentally or more flexibly. Krátká (2015) describes how teachers view their ways of sharing tacit knowledge, and shows that this does not necessarily require an organisational or more formal setting.

Within the literature on professional development and learning communities, some form of collaboration is assumed to be fundamental, as learning in a group or team requires interaction (e.g. Stoll et al., 2006; Kruse et al., 1995; Van den Bossche et al., 2006). Sharing, collaborative learning in group settings, and application of knowledge are central components of the concept of collaborative knowledge building. Collaborative knowledge building, introduced by Scardamalia and Bereiter (1994), presupposes that schools can function as knowledge building communities in which professionals co-construct knowledge through social interactions (Lipponen, 2002; Stahl, 2000). For organisations, approaching professional communities from a knowledge management point of view, there are indications that for such a culture of professional development values such as openness and willingness to share are important, as well as integration of a structure with roles and responsibilities in daily business (e.g. Köhne et al., 2006; Van den Bossche et al., 2006). In the third part of this literature review such issues will be addressed.

When considering the learning of professionals, a distinction can be made between implicit and explicit learning (e.g. Eraut, 2000; Simons & Ruijters, 2004). Many learning processes and outcomes remain implicit (Doornbos & Krak, 2001; Eraut, 1998), as "a large part of learning is not conscious, directed or planned" (Simons & Ruijters, 2004, p. 210). Seagraves et al. (1996) would call this 'learning through work', similar to the commonly used phrase 'learning by doing'. While implicit learning might seem to 'just happen', it is important that it becomes clear *what* has been learned and *how* this can be used. If not, implicit learning results in 'hidden human capital' – knowledge remains implicit, which causes difficulties in the context of collaboration and exchange. For groups or communities, the progress and results of their members remain hidden instead of spread. And for organisations it encumbers the allocation of human resources. It is difficult to improve (ways of) learning, collaborative and organisational, when individuals do not know what they know and how they learn. Professional learning contributes more to learning organisations when learning becomes explicit, Simons and Ruijters (2004) hold, because awareness and recognition of learning enable professionals to share both outcomes as well as strategies and processes. This way, externalisation enables tacit knowledge to 'escape' the tacitness by fostering individuals' awareness and providing explicit

information that can be used in practice or further learning. Simons and Ruijters (2004) call this process of explicating and sharing 'externalisation', with which they indicate that professionals contribute to broader development and organisational learning by sharing their practical and theoretical insights.

The most commonly used method to explicate implicit learning is reflection. Reflection is a way to make meaning of experiences (Rodgers, 2002; Winter, 1988) by formulating relationships between experiences and knowledge. Dewey (1910) holds that these relationships should include consequences and a consecutive ordering of actions and outcomes so that one actually knows which behaviour causes what consequences. This way, reflection is aimed at conscious development while making experiences and outcomes of processes explicit. It results in "deeper understanding of relationships with and connections to other experiences and ideas" (Rodgers, 2002, p. 845).

In addition to explicating implicit knowledge and learning by reflecting, a pragmatic characteristic of collaborative knowledge building is that it largely relies on the creation and elaboration of conceptual artefacts. Conceptual artefacts can be written or otherwise concrete products such as manuals or procedures. But documented ideas, visions or frameworks for further learning could also be considered artefacts that are open for discussion. Research shows that collaboratively developing and documenting the results of professional learning consolidates learning results and leads to improved practice as well as future use of learning outcomes (Bereiter, 2002; Darling-Hammond et al., 2017; Tillema, 2004, 2005; Vescio et al., 2008). In the context of education, research shows that not only teaching quality may improve, but also teacher morale (Gore et al., 2017), indicating that collaborative professional development can change individuals.

These studies and concepts may give the impression that professionals should predominantly learn explicitly. Simons and Ruijters (2004) refer to this as the educationalising of professional development. The key however, they hold, is not to avoid implicit learning or focus on organising every single learning activity, but to exploit individual implicit knowledge and learning by explicating it and sharing results and insights. That way, individual professional knowledge can add to individual human capital as well as to a 'shared capital' among professionals and within organisations.

1.3 Relational Aspects to Knowledge Sharing

Despite the literature describing how the organisational context plays a role in the occurrence of intercollegial interaction and sharing, there is no reason nor evidence to assume that meetings and optimal organisational circumstances automatically result in professionals sharing their knowledge (see also Roschelle & Teasley, 1995). Ascribing such an influential role to the organisation would be to underestimate influences of the individuals that would be engaging in that process. The sections below examine relational aspects of intercollegial interaction and knowledge sharing to cast light onto professional discretion, power and status, interdependence, and psychological safety and trust as elements in a professional sphere.

1.3.1 The Significance of Professional Discretion in Professional Development

The managerial form of public management as described earlier, through setting performance goals and indicators and assessing processes, aims "to influence how street-level organizations work, in part, by 'steering' discretionary practices through performance-based incentives" (Brodkin, 2011, p. 253), that way mingling in what was "previously the domain of trusted autonomous professionals using considerable discretion" (Deem & Brehony, 2005, p. 220). As such, organisational contexts influence the domain and scope of action of the individual professional.

In analysing professionalism, Evetts (2009) applies a distinction between two forms of professionalism in the public sector, which are occupational and organisational professionalism. The former concerns the individual's expert judgement and collegial authority within a group. This authority is based on autonomy, discretionary judgment, and assessment. Control mainly is an internal matter organised by the group or a larger professional body. Organisational professionalism, on the other hand, more heavily relies on standardised procedures and practices to deal with external regulation and accountability issues. Organisational professionalism involves managerialist control to exercise rational forms of authority and hierarchical decision-making. According to Evetts

(2002), discretion rather than autonomy is the most important feature of decision making in professional life. Where autonomy, put simply, concerns working in the way and with the means one prefers, discretion enables professionals to assess situations and assert professional judgment in giving advice, acting and interacting, taking into account all factors relevant. Making such judgment requires discretionary reasoning, which is the cognitive activity that takes place when forming a professional judgment (Wallander & Molander, 2014). Professional discretion provides the professional with discretionary power and the power to take decisions on actions and communication (Molander, 2016). It is an important form of decision-making behaviour, and decision and power will not necessarily be informed only by formal or legal rules, enabling individuals to push towards certain courses of action or inaction (Hawkins, 1995).

Over recent decades, in The Netherlands and other northern European countries, both in education and in various other professions and branches, attention to quality-control and accountability has increased. This has expressed itself in "increased standardisation as a way to reduce uncertainty and enhance legitimacy for human service organisations, but at the expense of traditional professional discretion" (Ponnert & Svensson, 2016, p. 586). Ottesen and Møller (2016, p. 428) point at a discrepancy by arguing that "while management discourses continue to emphasise professionals' empowerment, autonomy and discretion, professionals in schools are increasingly held accountable for adhering to standards and regulations." Hence, neoliberal conditions and the importance of control and accountability, have resulted in managerial approaches and increased emphasis on organisational professionalism. Interesting, at the least, is that already in the 1980s, Jim Sweeney found that teacher satisfaction relates to the desire and opportunity to contribute to controlling curricula, policy and other influential areas (Sweeney, 1981). He also found that teachers experienced too few opportunities for and effects of contributions from their side, as opposed to contributions from administrators, and that this together with the risk of burn-outs formed a great problem for the education sector. Within the period between Sweeney's study and current study, a development regarding control can be noted, from a context of regulations combined with professional expertise, to a context of legal rules and standards combined with external inspections (Svensson, 2010). The rise of organisational professionalism, rules and external control implies more standardisation and frameworks from 'outside and above' and less space for occupational professionalism on the individual level. It is not clear how this develops

exactly, as this also depends on organisational culture and on individual perceptions and involvement. But the development seems to be heading in the way Sweeney (1981) has found to be problematic, challenging autonomy and self-regulation (Evetts, 2002) and with occupational professionalism being replaced by organisational professionalism (Evetts, 2009).

What standardisation does is explicating procedures and expectations and complicating the appliance of professional discretion. Notwithstanding these developments, more rules and procedures do not necessarily cause professional discretion to disappear, since discretion depends on the context and organisational culture, and can be carried out in different ways (Ellis, 2011; Evans, 2012; Høybye-Mortensen, 2015; Sanden & Lønsmann, 2018). Theoretically this context leaves space for derogation, although in practice one has to find that space and use it adequately. Dworkin (1978) compared this space for professional discretion with a doughnut, the hole being the area for discretion, the dough being the surrounding restrictions. Considering the condition in which organisations tend to manage and steer individual professionalism, the question arises where professional discretion remains and has value. Healy and Meagher (2004) argue that routinisation and loss of discretion signal de-professionalisation. On the other hand, the strength of discretion may lie in personalising and dealing with standardised issues ('poking holes in the dough').

It could be argued that professional discretion ultimately lies with the (teaching) professional – to some extent, teachers are autonomous and can make choices on how to (inter)act and with whom. If personal contributions and influence become rarer as opposed to organisational or external ones, individual influences and performances have to be effective in order to stand out and *be* that professional. Gilbert and Powell (2010) argue how space between rules and procedures is closed by professional discretion, making it a political activity – complex and uncertain situations allow for exercitation of power. Similarly, teaching professionals are able to use this space to discriminate between individuals, also when it comes to other aspects of work than student's progress. Personal knowledge amassed over the years plays an important role in making decisions when exercising professional discretion (Murphy & Skillen, 2015), but also might empower the professional's position in the organisation if deployed tactically. Viewing discretion and knowledge in the light of professional performance, the current study aims to investigate

what role discretion may play in the exchange of information and knowledge in organisations.

1.3.2 *Power and Status in the Professional Sphere*

The concept of power in social theory has a prominent place in educational research, not least because "educational institutions and their assorted sets of practices provide ideal environments for the interplay of multiple forms of power" (Murphy, 2013, p. 8). The sole fact that educational institutions distribute selected knowledge to vast amounts of people makes this link between power and education visible. Education institution employees are inherently part of the institutional power play, and their communication and knowledge are related to their work environment. As such, researching education and teaching professionals often involves looking at issues of power.

Approaching knowledge as if it is a way of embodying and exercising power, finds a foundation in Europe in the scientific evolution in medieval times, when knowledge and science were detached from religious and traditional roots and transitioned to a scientific, positivist-oriented base characterised by observation and a critical approach to assumptions. The frequently used adage 'Knowledge is Power' symbolises this assumed framework in which those individuals or entities possessing knowledge are able to manipulate social and institutional constructions more than those individuals or entities without.[1] By doing so, using knowledge is to exercise power. Hobbes (1668, p. 133) wrote that "Doctrinae quidem verae esse possunt; sed Authoritas non Veritas facit Legem", which translates as 'Doctrines certainly may be true, but authority, not truth, makes law'. Truth itself ensures no law, because truth is subjective and mouldable – truth is what one knows and accepts as a plausible (perception of) reality and their social environment. It follows that those individuals who know how to manipulate societal and communicational

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[1] The phrase commonly is attributed to Francis Bacon, who is widely accepted as its auctor, but was first written literally in Latin ('scientia potentia est') in Thomas Hobbes' 1668 *Leviathan*. Yet, the concept and quite similar phrases can be found earlier and across cultures, e.g. in the Hebrew book מִשְׁלֵי ("Proverbs") and the Islamic work نَهْج ٱلْبَلَاغَة ("The way of Eloquence"). Bacon, Hobbes and contemporary Wilkins wrote under the premise that knowledge to understand the natural environment can be used to foster one's status and influence, and thus power.

structures are able to influence and distribute 'truth', to mould reality and society, and to affect or set rules. As rules (which may be named 'the law') are powerful and manage the rights of others, knowledge can empower someone with the possibility to influence the lives of others.

One of the most prominent writers on knowledge, truth and power is Michel Foucault. Foucault has provided researchers over the past decades with a critical lens on societal structures and on the position of the individual in a greater social context (Allan, 2013). For Foucault, knowledge should not be considered a category of thought existing outside reality – on the contrary, knowledge is always related to reality and social relations. As a consequence, analyses of social contexts imply one of various approaches to reality and render a *possible* story about the present, a story that consists of various elements, such as ideas and views, with their own trajectories and emergence (Foucault, 1991).

According to Foucault, as argued in his well-known *Discipline and Punish* (Foucault, 1977), we live in a disciplinary society, with power to a great extent being exercised through disciplinary means in institutions such as prisons, schools, and hospitals. Central to Foucauldian thinking is the concept of 'discourse'. Although 'discourse' has many meanings and applications, a common thread can be found in discourse being related to communication through symbols and language (Boholm, 2016). In the context of knowledge and power, Foucauldian 'discourse' refers to "practices which systematically form the object of which we speak" (Foucault, 1972, p. 49). Burr (1995, p. 48) provides a definition that is a bit more concrete, writing that discourse refers to "a set of meanings, metaphors, representations, images, stories, statements, and so on that in some way together produce a particular version of events." Foucauldian discourse has come to refer to institutionalised patterns of knowledge in relation to disciplinary institutions and measures (such as can be found in schools) and power structures (such as hierarchy). These institutions provide the exercise of power through the communication of dominant (patterns of) knowledge by producing and constructing certain communication and events. Schools provide a clear example, with children being educated (or disciplined) the norms, values and knowledge that are dominant in the society they grow up in. Consequently, Foucauldian discourse analysis is concerned with hierarchies and corresponding fields or structures of knowledge, and the power relations and power structures related. Boholm (2016) concisely states that Foucauldian analysis concerns the *effects* that a discourse

produces, rather than that it focuses on what this discourse would exactly be like, and Mills (1997, p. 17) concludes that "in this sense, a discourse is something which produces something else (an utterance, a concept, an effect), rather than something which exists in and of itself and which can be analyzed in isolation."

A key Foucauldian principle poses that dominant entities (individuals, groups) tend to 'discursively' produce, reproduce and maintain their position of dominance (e.g. Van Dijk, 1993), doing so through imposing their truth onto others – a view similar to those of Bacon, Hobbes and Bourdieu who also acknowledge the creation and self-reproduction of a professional class with interest in keeping control over other groups and classes, partially through socialising institutions such as schools (Rodríguez García, 2001). Those individuals with power, act to retain it as much as possible (Magee & Galinsky, 2008); those individuals lacking knowledge or such power are subjected to the 'truth' and bandwidth of those that do possess knowledge and power. Foucault (1976/1980, p. 133) phrases this as follows: "Truth is a thing of this world: it is produced only by virtue of multiple forms of constraint." As a consequence of this dynamic, Foucault (1991) holds that 'regimes of truth' are patterns in which knowledge is an expression of societal power structures. Hence, in this view, knowledge and truth are subjected to procedures of obtaining and valorising truth (Bacchi & Bonham, 2014), and those with power or a powerful position can influence these procedures. Concrete examples can be found in societies strongly governed by a dictator that uses propaganda and censorship, in sects led by a leader imposing a truth on its sectarians while depriving them from other sources of information, and, recently, in the 'fake news cult' deployed by certain politicians and prominent individuals to spread or counter 'truths', 'facts' and 'the reality we live in'.

A parallel can be drawn here between this approach to truth on one side, and 'personal knowledge' which was 'considered to be the foundation of affirmation and the appraisal of truth, context and experience' on the other. This parallel exists in the subjective appraisal and valorisation of truth. From a discourse approach, those with the knowledge and power to use it, can influence the individual, personal sets of criteria that establish a framework for appraisal as mentioned earlier. Approaching teaching professionals and education institutions from such a perspective, raises questions concerning the degree of freedom versus constraint when it comes to sharing individual, personal issues and knowledge within a larger structure like a school. More specifically, an issue might be to what extent individual teacher knowledge can be exposed in the

organisational context and what happens when individuals have ideas and knowledge that may not coincide with mainstream or organisational ones. Also, it may point at issues of the exercise of power by individuals through sharing or withholding knowledge, for example to influence their (hierarchical) position among colleagues.

Following Cummins (2005), and Van Vugt and Tybur (2015), in the current study one's social standing in a hierarchy is defined as one's status. It refers to one's relative social position in a (work) context (Sorensen, 2014). Status is distinctive from reputation, which arises from prior actions and can be seen as the result of delivering a certain quality (of goods or services) over time, something that however contributes to status (George et al., 2016; Sorensen, 2014). The idea that issues of power are involved in knowledge sharing and exchange, and influence whether and how knowledge is shared, is not new (e.g. Krone et al., 1987; O'Reilly, 1978; Ipe, 2003; Mumby, 2001). Also, status has been identified as a factor that can affect both communication and collaboration between groups of professionals or individual professionals (e.g. Brown & Wade, 1987; Doosje et al., 1995; Eussen et al., 2017) as well as sharing behaviour (Andrews & Delahaye, 2000; Park et al., 2017). Often, beliefs and feelings of status exist within individuals towards individuals that belong to another group, whatever kind of group this may be. Beliefs regarding power and status become contested when working with others, especially others from outside one's own group, team, or subgroup of colleagues. In the context of education institutions, such groups are for example teacher teams serving different levels or programmes. People tend to classify themselves and members of their group as 'warm' and 'competent', which is why they confer a higher status upon themselves than they do on 'outsiders' (Benard et al., 2008; Fiske et al., 2006). Also, chances of competition between trusted 'insiders' are relatively low, because of similarities and warm feelings (Fiske et al., 2006). Contrarily, individuals that conceive organisation-overarching groups, or newly put together groups, as a change rather than as an improvement to the current situation, tend to have strong biases regarding the groups concerned (Van Leeuwen et al., 2003). Moreover, subcultures such as groups or teams often lead individuals to develop views regarding knowledge differently compared to other groups in the organisation, which can result in miscommunication and conflict (De Long & Fahey, 2000) and resistance when it comes to interpersonal communication and sharing of knowledge (Eussen et al., 2017). In line with the train of thought regarding the maintaining of one's power as described earlier, more research shows that mixing people or merging groups with the purpose of sharing and

collaborating causes resistance, especially among those with a higher status, who see their place in the hierarchy endangered (Sidanius & Pratto, 1999; Wright, 2003).

While interpersonal relationships and hierarchy impacting on (knowledge sharing) activity in a group may hinder some professionals, it also may stimulate others to share and collaborate. Bunderson (2003a, 2003b) for instance found that involvement in sharing and learning relates to one's proximity to and similarities with those colleagues with a high position. Enhancing status can be considered to be an individual motivation to share knowledge (Kulkarni et al., 2007; Lee et al., 2015; Park et al., 2017), which reflects the Foucauldian principle that sharing certain information or ideas can be used to influence hierarchies. Park et al. (2017) show how task visibility and significance are important elements in the consideration regarding what to share, and what to keep private. Flynn (2003) and Flynn et al. (2006) show how interpersonal support may be about status management, as collaborating with someone with a high status may enhance one's own status. This background may also encourage individuals to deploy tactics to retain or boost their position, for instance by setting rules, sharing or withholding specific knowledge, or influencing group dynamics in a way that makes sharing within a group (un)likely, (un)safe or (in)appropriate. Within a group or team, some professionals may intimidate others by their presence, knowledge or position. One way in which this could happen, is that those who perceive to be higher up in the hierarchy are more likely to participate and take the stage to share their views and (selected) knowledge, as research by Rehm et al. (2015) suggests. From the perspective of individuals with less power and status, such contexts do not appear to be very invitational. They might feel unwelcome, not clever enough, or underappreciated. Indeed, Mannix and Sauer (2006) found that hierarchy can pose such constraints on group interactions.

These examples scaffold the expectation that issues of power and status can influence the sharing of knowledge. The literature also suggests that decisions on what to communicate and with whom relate to managing one's position in relation to one's colleagues. This implies that professional discretion provides space for using knowledge as an asset that influences the position and functioning of oneself and one's colleagues. Discretionary reasoning that results in discriminating between individuals and knowledge that may be shared, then, is an exercise of power in the workplace.

1.3.3   Exchange and Collegial Mutual Dependence

Social exchange theory concerns exchange and sharing between individuals. It has become a known and influential framework for approaching relationships between employees and between employees and their organisation, and for understanding exchange behaviour in organisations (Cropanzano & Mitchell, 2005). Homans (1961, p. 13), one of the early researchers on the topic, defined social exchange as the "exchange of activity, tangible or intangible, and more or less rewarding or costly, between at least two parties." Here, cost does not refer to money, but to (future) action. According to Blau (1964, p. 91), a contemporary of Homan, "social exchange (...) refers to voluntary actions of individuals that are motivated by the returns they are expected to bring (…)," with these returns being unspecified obligations in the future (Blau, 1986). Where Homans focused primarily on micro-sociological processes, Blau developed a basis for a macro-sociological use of the theory, for which he identified collective action, conflict and collaboration to be involved (Cook et al., 2013). Blau (1964, 1986) and Emerson (1972a, 1972b) focused on the connection between these social structures and power, believing that the presence or absence of social exchange adds to power distribution, with power being an individual's ability to achieve a favourable outcome at the expense of another and depending on the value of the resources that the other persons needs or wants (Emerson, 1962).

In social exchange relationships, the exchanges between parties are not negotiated (Molm, 2003). An investing party, which in this study would be an individual professional, shares with someone else knowing there is a possibility that there will not be something in return. This requires trust in the other party that they will use the knowledge or material shared in a satisfying way and that there may be something in return, or that at least negative consequences will not follow (Blau, 1964; Cotterell et al., 1992). Over time, reciprocity has remained to be considered an important element of social exchange theory (Blau, 1964; Flynn, 2005; Kamdar et al., 2006), showing to moderate between exchange and trust (Shore et al., 2006) and to facilitate sharing if individuals see how sharing may benefit them (Hendriks, 1999; Weiss, 1999).

Such a relationship may lead to the development of commitment and feelings of trust over time if the other party shows satisfying behaviour, but also to feelings of uncertainty and awareness of risks, which explains why Shore et al. (2006) hold that social exchange also involves socio-emotional resources. Commitment refers to "the extent to

which an actor engages in repeated exchanges with the same partner over time" (Cook et al., 2013, p. 70), with partners being, for example, friends, collaborators, and colleagues. There is research showing that commitment is related to power-use (Cook & Emerson, 1978) and the distribution of power in a network (Lawler & Yoon, 1998), and within social exchange also to uncertainty (Cook et al., 2013). Bienenstock and Bonacich (1992) describe how actors, such as employees, may also form a coalition to increase weight and power, or exchange within that group. Social exchange theory has been found to be of relevance in the relationship between teaching professionals (Taris et al., 2001) and between teaching professionals and the work environment (Van Horn et al., 1999). De Jong et al. (2009) find that balance in exchange is important for Dutch workers. More specifically, studying a population of Dutch teachers, Van Horn et al. (2001) found that teachers perceive significantly more investments than outcomes or rewards, and that this has a negative effect on their well-being. As such, expectations and uncertainty can have an effect on the willingness to share knowledge and expertise.

In work contexts where individuals jointly operate, such as within education institutions, individuals tend to depend on each other's work and collaborate where necessary or useful. Both explicit material or work, as well as experience and individual knowledge, can be valuable input for colleagues working together to achieve a (common) goal. All teachers for instance rely on language teachers to ensure their students are able to absorb learning content and write assignments, and a curriculum is not made by one single person but requires a team for integrating subjects and content. As a consequence, professionals can benefit from as well as depend on colleagues exchanging their knowledge and work. According to exchange theory, sharing interaction occurs because of this interdependence (Renfrow & Howard, 2013).

Interdependence is studied in both educational and organisational sciences, with the frequently made distinction between task and outcome interdependence, both which affect professional's behaviour within groups (Gully et al., 2002; Van den Bossche et al., 2006). Task interdependence refers to the situation in which completion of a task of professional A is required for professional B to work on theirs. As an example, you may consider two language teachers working on a grammar lesson. Teacher B, designing more advanced lessons on subordinate clauses, waits for teacher A to finish preparations on foundational grammar on subjects and direct objects. Crawford and Haaland (1972) found that task interdependence fosters communication and information sharing, a finding more recently

confirmed by Van den Bossche et al. (2006) and Decuyper et al. (2010). Outcome interdependence on the other hand refers to the situation in which the completion of outcomes such as a curriculum depends on the compatibility of colleagues' performance. For instance, the construction of an entire new curriculum depends on teaching professional A designing a temporal structure, colleague B working on the coherency of subjects and colleague C aligning subject goals to the exam end terms. Such interdependence has shown to result in professionals being more open to arguments and desires of others (e.g. Johnson & Johnson, 1989). Hence, both outcome and task interdependence are thought to influence cooperative social interaction between professionals (Wageman, 1995; Van den Bossche et al., 2006).

Another distinction can be made here. Individuals may experience positive interdependence when they perceive "they can reach their goals if and only if the other individuals with whom they are cooperatively linked also reach their goals" (Decuyper et al., 2010, p. 126), whereas negative interdependence means that in order for a professional to reach a goal, someone else has to fail in reaching their goal. Positive interdependence stimulates people to promote other people's efforts and to help and share (Decuyper et al., 2010), and moreover, cooperative efforts lead to higher outcome levels than individualistic and competitive efforts (Johnson & Johnson, 2003). However, as a critical note it should be mentioned that being (inter)dependent might be perceived as a sign of weakness. Being dependent inevitably signals the need for help and the incapability of getting things done by yourself. This could reveal that an individual does not have the power or knowledge to cope individually, which may give rise to issues of power and status. Interdependence experienced this way, as well as negative interdependence, could also result in professionals avoiding collectives, groups, being supportive – and sharing.

An issue that has received limited attention in the literature on social exchange and interdependence concerns the actual content of that what may be shared with a colleague. Rather, it focused on the processes and context of exchange. Often, professionals have developed their knowledge or material during years of hard work. Gained knowledge and experience involves trial and error, many long hours, and growth through pain and struggle. In the case of teachers, it is not unusual to have built up personal documentation, techniques and material. Andrews and Delahaye (2000) describe that if individuals perceive their knowledge as a valuable 'item', knowledge sharing becomes mediated by decisions about what knowledge to share and with whom. Ownership, a term frequently

used in pedagogy and teacher education, might very well apply to teaching professionals too, with individuals considering their work to be their possession and protecting what they consider to be their intellectual capital. Hannabuss (2001, p. 117), describing the grey context of intellectual property within the educational environment, in his case the university, states that "employers cannot safely assume that they will own the copyright in everything produced by employees." Intellectual capital and material do not appear overnight, and adding to this the possible risks of being (mis)used, being thought of as underperforming, or exposing mistakes, the willingness to share might decrease. One might also consider the view that teachers are employed to teach, not to write manuals or unusual amounts of classroom material. Bainbridge (2004) explains how an organisation cannot assume that material written to support one's performance (for instance, a digital study environment or a guiding manual for a series of lessons) is the organisation's property. Relating this to power, Jarvenpaa and Staples (2001) note how in the knowledge economy concerns of power, gain, and trust can make people hide or hoard information and knowledge, and Markus (1984) explicitly pictures knowledge as an *asset* owned and controlled by individuals that can deploy it to influence their power and status.

1.3.4   Interpersonal Safety and Trust

To improve work processes and outcomes, learning from experience is necessary if not crucial (Argyris & Schön, 1978). However, the sharing of this experiential learning is not without risk. Even if the benefits or necessity of sharing may be clear, there also can be downsides to opening up and providing access to your 'self'. Homan (2001) describes how sharing experiences and trying to learn from one another in group settings can be threatening and tense, due to the possibility of making mistakes or the power games involved. Getting involved in activities aimed at sharing experience and expertise means taking individual risk, because such contexts may make someone look ignorant, incompetent or disruptive (Edmondson, 2002). The relevant question in such cases is whether or not individuals feel free and safe enough to open themselves up to others at the risk of losing face or status. This feeling is usually referred to as 'psychological safety'. Following Amy Edmondson, a leading researcher on the topic, (team) psychological safety can be considered to be the belief that the social context is safe for interpersonal risk-

taking, which "involves but goes beyond interpersonal trust; it describes a team climate characterized by interpersonal trust and mutual respect in which people are comfortable being themselves" (Edmondson, 1999, p. 354).

Considering sharing knowledge and experience as being the socialisation of individual intellectual capital, sufficient psychological safety and appreciation are paramount to collaboration and social interaction. Research shows that psychological safety and associated risks not only affect learning (e.g. Carmelli & Gittell, 2009; Edmondson, 1996, 1999; Kostopoulos & Bozionelos, 2011), but also innovation and achievement in teams and organisations (Baer & Frese, 2003; West, 2000). Carmeli et al. (2009) show that this has a base in the interpersonal relationships between colleagues and group members. The higher the quality of such relationships, the more psychological safety experienced by individuals involved and the better the learning behaviour, they conclude. Another factor that is related to (the degree of) psychological safety within teams is leadership. Complementary to the studies on interpersonal relationships within groups, there is evidence suggesting that "leaders who maintain a focus on developing members may enhance psychological safety" (Hirak et al., 2012, p. 113). Inclusive leadership, which aims at fostering openness by modelling accessibility (Nembhard & Edmondson, 2006), is especially important for less-performing groups or individuals (Hirak et al., 2012). This may be explained by possible feelings of failure and shame among them, which would hinder them from sharing and getting involved in order to avoid personal damage. Organisational positive influence also exists through pursuing procedural justice, which is concerned with (fairness about) procedures involved in the accomplishment of tasks (Lin, 2007). Hence, management that invests in openness and clear, fair procedures for task-related interaction between employees, fosters psychological safety and trust among colleagues.

Other research on safety and trust provides results indicating similar issues and effects. McAllister (1995) defined and empirically proved two forms of trust. These forms are affect-based trust, representing mutual care and trust between colleagues, and cognition-based trust, which represents co-worker reliability and competence. Holste and Fields (2010) find that both forms add to the willingness to *share* tacit knowledge. They also show that both are needed to make a professional *use* tacit knowledge. Closer examination revealed that affect-based trust has a stronger influence on the willingness to share than does cognition-based trust. This may be explained by the effect of positive

feelings that allow for safe communication. Cognition-based competence on the other hand has a greater influence on the willingness to use tacit knowledge. The better the perceived quality of someone else's contribution, the better one's own performance might be. But sharing happens before using. It can be concluded, then, that "unless affect-based trust of another co-worker is present, little tacit knowledge sharing may occur regardless of how competent the possible recipient may be" (Holste & Fields, 2010, p. 135). Similarly to these findings, Lin (2007) provides evidence that both instrumental and expressive ties (see Coleman, 1990) boost trust in co-workers. This trust, in its turn, has a positive effect on the sharing of tacit knowledge. This also implicates that interpersonal connections, and especially care, openness and clearness, are able to affect trust and psychological safety between colleagues.

On the face of it, it shows that collaboration and sharing are useful to accomplish work goals and improve performance. In the background, issues of trust and risk paint a disturbing sky. In order to share, professionals need to feel it is safe to make mistakes, and that they will not be penalised for asking and sharing information. A psychologically safe environment can increase the chances of effortful, interpersonally risky behaviour (Edmondson, 1999) and is likely to be characterised by strong, positive relationships (Edmondson, 2002). Such positive ties, on their turn, boost trust, which affects the sharing and use of knowledge. It can be concluded that sharing tacit knowledge not only is a matter of finding methods to share, but also of managing conditions and environments in which sharing could take place.

1.4   Conclusion

This chapter has explored key issues related to tacit knowledge; the sharing of knowledge and learning organisations; managerialism, professionalism and professional discretion; and interpersonal issues that may affect intercollegial communication and knowledge sharing. It commenced with exploring the concept of tacit knowledge, which has been framed as being rooted in experience and being applied in practice unconsciously. Because of this implicit, personal, and context-specific nature, tacit knowledge is difficult, if not impossible, to share explicitly. This background culminates in the definition used: "Tacit

knowledge is a non-linguistic, non-numerical form of knowledge that is highly personal and context specific and deeply rooted in individual experiences, ideas, values and emotions" (Gourlay, 2002, p. 2). However, in the knowledge economy, knowledge is believed to be a source and means of providing services and goods. Sharing knowledge in organisations is considered important in order to adapt strategies to accomplish desired purposes. With neoliberal conditions emphasising competition and the necessity of optimal performance, national and institutional governance now operates based on a pressure to evidence accountability to the public, particularly in the public sector. Managerialism has promoted standardisation and accountability procedures, which has resulted in increased organisational professionalism, changes in professional discretion, and time compression for teachers. Also, professional development and intercollegial sharing often concern issues related to organisational aims. This raises questions about professional learning communities: why and what would members convene and exchange? Furthermore, there are relational issues that may impact on knowledge sharing between professionals. The expected impact on one's status, intercollegial interdependence, and trust may affect willingness and reasons to engage in, or refrain from, intercollegial communication and sharing of knowledge and expertise.

Much research focusses on what could be considered a practical or pragmatical side of knowledge sharing, for instance by researching and describing characteristics of learning organisations and PLCs, the results and benefits, contexts and facilitative conditions for sharing, or methods and tools for collaboration. Notwithstanding the relevance of these topics, such an approach suggests that if conditions are met, then sharing will take place. The problem with this is that the environment may affect, but does not prescribe the individual professional's actions, and that this approach ascribes a principal role to 'the organisation'. Much professional knowledge resides in individuals that decide on their own communication. Taking this into account, the perspective may change: if an organisation communicates its ambition or intention to facilitate the development of employees, it *might be* a learning organisation; if this organisation provides resources like time and material, it *could be* a learning organisation; and if employees actually interact and make use of the resources provided, then it certainly *may be* a learning organisation. This study focuses on this gap within the literature by focussing on the position and influence of the individual within contemporary learning organisations.

The individual professional operates within the social context that is the organisation. This study aims at investigating issues that can influence the individual professional when it comes to sharing their (tacit) knowledge with others in this social context. To explore these issues and their possible interplays, a research approach is required that allows for the participating individuals to freely share their insights. As a consequence, a qualitative approach is adopted. In the following chapter, the research paradigm and methods are elaborated upon.

2   Methodology

The purpose of this chapter is to provide an account of methodological considerations, and the research approach and instruments used. This will explain why and how this study adopts a social constructivist paradigm, that combined with a micropolitical lens provided direction for conducting the data collection and analysis. It also details the participants that were interviewed in individual and focus group interviews. Finally, positionality and ethical issues related to the study are discussed.

2.1   Paradigm

The research question, as well as the theoretical background and concept of tacit knowledge as developed by Polanyi (1958), implies a personal component, and data that are grounded in experience. This creates some challenges for the notion that there would exist one single truth or interpretation concerning knowledge and knowledge sharing. The contextual, personal nature of the concept does not fit a positivist paradigm, but requires interpretation and a framework that acknowledges the role of human diversity and interaction, and relationality with a strong social component. This study, therefore, evolves out of a social constructivist paradigm.

An influential philosopher of science, Thomas Kuhn wrote *The Structure of Scientific Revolutions* in 1962, in which he, among other concepts, elaborated on the idea of paradigms. Foundational in his line of thinking is a disciplinary matrix that consists of key theories, approaches and instruments or methods that establish a discipline. Central to a paradigm is the consensus on extraordinary and exemplary pieces of research that exist within a disciplinary matrix. Such crucial and appraised pieces of work, Kuhn's (1962) point of view holds, contain both adequate theories and the correct application of disciplinary matrix elements, and offer solutions to problems, such as new formulas or valid methods. The importance other scientists attach to such work, lifts the matrix used up to a paradigmatic status. Guba (1990) provides a more hands-on formulation, yet one that clearly shows parallels with Kuhn's philosophy, when describing that a paradigm is an

action-guiding basic set of beliefs. When expanding this into more plain and pragmatic words, a paradigm can be seen as an interpretative framework containing epistemological, ontological, and methodological premises related to beliefs and feelings about the world and ways to understand and study this world (Denzin & Lincoln, 2008, p. 31).

The diversity of views on the world, reality and approaches to research investigation not only resulted in the previous century's paradigm wars (which still continue), but also in the need to consider and choose an approach to research (Reid et al., 2014). Choices are affected by the aims of the research, and by beliefs associated with core philosophies of science that relate to these approaches, such as ontology and epistemology (Creswell & Poth, 2007; Hays & Singh, 2012). Ontology relates to beliefs about the existence of a (universal) truth and objectivity, with a spectrum ranging from 'objective reality and shared truth' to 'subjective, contextual truths with embedded realities'. One's ontological beliefs influence one's epistemological beliefs, being concerned with the process of knowing and the ways in which we (can) know what we know. For research, this is important as the process of knowing or coming to know is at the core of what research is. The researcher and research subject may be considered independent of one another, or a researcher may adopt an understanding of knowledge as being actively constructed by the researcher and research subject – in the latter case, the interaction between the researcher and research subject is central in capturing the contextualised experiences (Spencer et al., 2014).

The current study focuses on personal knowledge, interpersonal knowledge sharing and the social nature of knowledge. In his book *Personal Knowledge*, Polanyi embarks on an enquiry into the "nature and justification of scientific knowledge" (Polanyi, 1958, p. vii). Scientific knowledge, in his view, was *not* impersonal and universal, nor objective. I consider this to be a plausible interpretation, because of the impossibility for individuals to always notice or receive the same stimuli or information ('data') as others do, not to mention the capacity to perceive and process these stimuli in the same way. Personal characteristics and individual history, with its effect on current psychological processes, differ notably between people. Previous experiences shape interpretative frameworks and these frameworks are the lenses through which individuals perceive, process and deploy data. In other words, *the* truth is not 'out there' – what there is, is a world to be discovered that includes individual differences. The guiding principle for the current study is that truth and objectivity are personal and of subjective nature, which is why a (post-)positivist

paradigm with 'a reality', universal truths and laws, and often mathematics-related methods, would contradict the approach to social research and not serve the aim and goals of this research.

A paradigm that coincides with the standpoint described above is constructivism, which assumes that meaning is constructed by individuals, so that individuals construct the reality they participate in (Appleton & King, 2002; Charmaz, 2014; Spencer et al., 2014). However, constructivism alone does not adequately encompass the approach. A subjective take on reality needs to be embedded within a more social context.

Berger and Luckmann, in their valuable 1966 book *The Social Construction Of Reality*, conclude that given social and cultural differences, humanness is socio-culturally variable – what is considered real in one culture or social context, may not be so in another. With that, they indicate that social and cultural variations and conditions shape individuals. As such, the individual and the human 'self' must also be understood in relation to "the social process in which the natural and the human environment are mediated through the significant others" (Berger & Luckmann, 1966, p. 67-68). Because most of one's time is spend in the presence of such significant others, it follows that "our doings are likely to be, in the narrow sense, *socially situated*" (Goffman, 1963, p. 2, italics in original). The exchange of individual perspectives and knowledge is at the core of social constructivism, which suggests that knowledge is constructed in social context (Eggen & Kauchak, 2004). In society, ideas and facts are both contested, objectified and institutionalised forming a collective body of knowledge, as well as adopted and used by individuals that draw upon this body (Schütz & Luckmann, 1979). Formulated differently, individuals adopt ideas and knowledge that appear outside of them, and after having internalised these into their own perspective, externalise ideas and knowledge again in society, where others also draw from the collective body of knowledge. Therefore, as time passes and interaction takes place, this social construction of reality and knowledge is "an ongoing activity, performance and process; it is not the intentional outcome of any individual effort, but rather an effect of everyday action and interaction" (Keller, 2006, p. 227). Based on these foundations and core beliefs, and the importance of social context to the current study, the paradigm for this study can be specified more accurately as social constructivism.

Just as Polanyi in his theory attaches great importance to awareness, for Berger and Luckmann too, consciousness is an important element in acknowledging being present and

perceiving a reality. Here, consciousness serves the human mind by enabling it to distinguish contexts individuals live in. As such, people are able to realise that the world exists of multiple contexts, perceptions, and so, realities. But among all the realities, world views, or perceptions there may be, the personal realities of everyday life of every single individual transcends all others. These individual realties are what Schütz (1962, p. 230) calls "finite provinces of meaning", which are sets of consistent and compatible experiences. By giving meaning to experiences that cohere in a meaningful way, one forms a personal reality. According to Berger and Luckmann (1966), one's everyday life realities are *shared* with others, living in their own everyday realities. As a consequence, 'the reality' is, both literally and philosophically, *intersubjective*.

Realities exist within and between individuals that have their own perceptions and meaning of those realities, while also sharing parts of those with others. Individuals share their everyday life and reality through interaction. In social contexts, communication and interaction are continuously present. When people engage in a social situation, they enter a web of realities and meanings and expectations, which all may ask for adaptations to either their own framework and realities, their behaviour, or both (Raab, 2019). This way, social situations contest one's own realities or perceptions. Such excursions to other realities and their possible influence on an individual's reality form the foundation of social constructivism, as realities are shaped not only within, but also between individuals. Hence, sociology of knowledge has to do with the social construction of reality (Berger & Luckmann, 1966).

Considering the social nature of knowledge and the (inter)subjectivity of facts within realities, it is interesting to contemplate to what extent knowledge is either private or personal. While personal appraisal of truth and appropriation by individuals adds 'personality' to individuals' realities and perceptions of facts, the input, whether it be speech, sound, symbol, text or any other form of articulation, generally comes from outside the individual. This raises the question what exactly is personal: the knowledge, or the processing and 'warehousing'. Approaching this question from the other side, that of an 'objective reality' with objective facts, the social and variable nature of knowledge becomes even more striking. The objectivity of the institutional world, that appears to be vast, still is collectively produced. Despite the process of objectivation, which causes human activity to be seen as objective – a process happening within and between humans

itself too –, everything in the social world, including the institutional world, falls within the same ontological stance (Berger & Luckmann, 1966).

Within constructivist epistemology, reality is constructed by individuals assigning meaning to their world, influenced by those around them: significant others, such as family, neighbours, or colleagues. The idea that environment and individual reality are shaped and mediated by others is phrased strikingly by Berger and Luckmann writing that "everyday life presents itself as a reality interpreted by men [sic] and subjectively meaningful to them as a coherent world" (1966, p. 33). The social constructivist paradigm, as does Polanyi's theory on tacit knowledge, questions the existence of an objective truth that can be measured or captured through research enquiry (e.g. Crotty, 1998). Jacobs (2000) even holds that Polanyi presaged the constructivists. If there is no external, objective reality independent of an individual from which knowledge may be collected or gained (Breckenridge et al., 2012), data do not reveal anything themselves, and data and findings do not have any meaning until they are interpreted (Gergen, 1996). As such, what research renders "is not a truth that is revealed, or rather it is *a truth*, the truth that the researcher, given his or her experiences and knowledge, *created* while interacting with the social environment" (Spencer et al., 2014, p. 85, italics in original). Therefore, there is a need for methodology that enables empirical data collection leaving room for variations stemming from individual realities, as well as for an approach to analysis that respects the individual within a larger social context.

As mentioned, the social constructivist nature of reality creates an intersubjective component as a cornerstone of this study. This is significantly scaffolded by the way Polanyi depicts knowledge: *personal*, and (to an extent) sharable *in social interaction*. A second cornerstone stems from the expected role of power within the context researched. A generally accepted tenet in the sociology of knowledge is that knowledge is related to power, because individuals construct, contest and confirm 'realities' through selectively distributing knowledge in their social context. Also, if as suggested by the literature knowledge is a form of power that can be used to influence the social environment and steer processes within this environment, the working realities of professionals are created and maintained by themselves and their colleagues.

These cornerstones coincide in a micropolitics perspective, which influences the research approach deployed in this study. Micropolitics (Ball, 1987/2011; Blase, 1991; Townsend, 1990) concerns formal and informal power and the way it is used by individuals and groups to achieve their goals in organisations. This power is exercised by individuals in situations of conflict and cooperation through actions and processes that are influencing others and protecting the individuals themselves, with some aimed at retaining the status quo, and others at change. The opportunity for individual discretion provides space for micropolitical interaction, and brings to the surface different views on aims and ways to achieve those aims (e.g. Mangham, 1979; Powell, 2012). In organisational contexts, this exposes itself as individuals and groups that are "at one and the same time co-operators in a common enterprise and rivals for the material and intangible rewards of successful competition with each other" (Burns, 1961, p. 261).

Hargreaves (2000) points out implications for research that adopts a micropolitics approach. First, it asks for a critical approach to teams and collegiality, as individual colleagues have different beliefs and approaches. Second, it raises questions about the rights and position of the individual, and of the protection of individuality within social environments such as groups and organisations. A micropolitical perspective questions implications of collegiality for individuality. Third, there may be situations in which collaboration becomes co-optation. Group members may discriminate and distribute knowledge and power in ways that benefit certain individuals, but not necessarily the collective as a whole. Such situations touch upon the question whose goals the effort is made for, namely personal, or external goals. Consequently, forms and ways of collaboration are of interest. Hence, a micropolitical approach to research focuses on the position of the individual within an organisation, the individual's work-related interaction with colleagues, the intercollegial exchange of information and knowledge, and ways in which individual employees exercise power either individually or jointly to achieve goals and protect their position.

2.2 Data Collection

As mentioned previously, individual experiences and realities are important both in Polanyi's theory on tacit knowledge and in social constructivism. The private and personal appropriation of knowledge and information, makes knowledge tacit and hidden for the outside world, and neither tacit knowledge nor the ways in which it may be shared can be unearthed without involving personal realities and context. The social nature of knowledge as well as the focus on the sharing of tacit knowledge also point at the importance of research instruments that allow research subjects to elaborate on their views on knowledge and social interaction. As a consequence, this study requires methods that facilitate the 'extraction' and gathering of personal information from the research subjects.

The core method used in this study is interviewing. Interviewing as a qualitative method for collecting data is one of the most used forms of data collection in qualitative social science research. One important benefit of interviewing is that it adds to uncovering the individuals' private and sometimes incommunicable social world (Edwards & Holland, 2013). The method, through establishing an interpersonal conversation, allows for gaining insight in research subject's stories and experiences and supports the iterative nature of qualitative research (Creswell et al., 2007). Compared to, for example, questionnaires, interviews provide more flexibility and options for explanation and clarification, especially when they are less structured. Questionnaires do not provide much space for exploring and describing complex experiences or personal topics, as questions are pre-set and in some cases, answers are too. Furthermore, the rigidity of questionnaires imposes some kind of reality or framework, which is a more positivist approach to research, at the expense of social constructivism. Moreover, acknowledging diversity in experience and realities, interviews make it possible to gain insight into alternative assumptions and ways of seeing as they present the researcher with a variety of views and contemplations related to specific topics. Because of these reasons, and the personal context of tacit knowledge, interviews can be considered the most appropriate method of data collection for the current study. Because interviews take the form of conversations and social interaction, and

because research subjects enable the researcher to (re-)construct social processes and contexts they are involved in, the term 'participant' is adopted to refer to research subjects.

This study is built on the data of ten individual interviews. Complementary, and consequently, to these individual interviews, two focus group interviews were conducted. At the time of the interviews, the participants were teachers in upper secondary vocational education (middelbaar beroepsonderwijs, MBO) in Amsterdam. Prior to their careers within the sector, they had worked in the healthcare sector as a nurse or dental assistant, in primary education or other education institutions, in media design, or in child care or social work. More detailed information on participants can be found in the following paragraphs.

The aim of the group conversations was to test preliminary insights and results against a broader population of participants, aiming at refinement and deepening in the final report. In order to be able to do so, insights and perspectives gained during the individual interviews were analysed and used to depict focus themes for the group interviews. In general, the use of focus groups is appropriate and quite common within social and educational research (Curtis et al., 2014). The decision to conduct focus group interviews was informed by several beneficial characteristics of the instrument as described by Curtis et al. (2014) and Litosseliti (2003). For one, focus groups enable the collection of a vast amount of data on individuals' beliefs, perceptions and thoughts on a topic. Second, by conducting focus group interviews, the researcher is able to examine (shared) understandings of (everyday) realities, and of shared habits and interaction. The group dynamics during the group interviews provided additional data on social interaction, such as about the language and jargon used and the degree to which certain experiences were recognised by other participants (which on its turn sometimes rendered options for further exploring). Morgan (1997) puts it stronger by stating that for focus groups, interaction within the group based on research topics is crucial. Although interaction between participants within an interview setting was not the key concern for data collection, such interaction added to collecting rich data because participants can stimulate and support each other's awareness and cognition in finding answers about their own learning and use of tacit knowledge.

2.2.1 Data Collection | Individual Interviews

A total of 10 individual interviews were conducted for the research. At the time of the interviews, the participants were teachers in upper secondary vocational education (middelbaar beroepsonderwijs, MBO) in Amsterdam. The participants were employees within the same institution, but were working for various departments and teams within that institution. Out of these 10 participants, 7 are woman and 3 are men. Ages range from 26 to 64, with an average age of 41 (average age female participants 43, average age male participants 35). All participants had at least two years of experience in the vocational education sector.

Table 1

Characteristics of Individual Interview Participants

Participant	Gender	Age	Role
Irene	F	59	Experienced Teacher
Saskia	F	38	Experienced teacher and remedial coach
Tony	M	36	Early career teacher
Ågnes	F	28	Early career teacher
Marthe	F	64	Experienced Teacher
Thomas	M	34	Early career teacher
Mira	F	57	Experienced Teacher
Robin	F	26	Early career teacher
Khalid	M	34	Experienced Teacher
Nora	F	32	Teacher and coordinator

2.2.2 Data Collection | Focus Group Interviews

Two focus group interviews were conducted for the research. Participants in the focus groups were different to those who took part in individual interviews. At the time of the focus group interviews, the focus group participants were teachers in upper secondary vocational education (MBO) in Amsterdam. Within each focus group, employees were colleagues within the same institution, but they were working for various departments and teams within that institution. Out of these 8 participants, 5 are woman and 3 are men. Ages range from 30 to 64, with an average age of 47 (average age female participants 43, average age male participants 55). As with the individual interviews, all participants had at least two years of experience in vocational education.

Table 2

Characteristics of Participants of Focus Group A

Participant	Gender	Age	Role
Majken	F	30	MBO and higher education teacher
Ché	F	31	Early career teacher
An-Nah	F	62	Experienced teacher and educationist
Lauim	F	38	Experienced teacher and coach

Table 3

Characteristics of Participants of Focus Group B

Participant	Gender	Age	Role
Ronny	M	54	Experienced Teacher
Van Dijk	M	64	Experienced Teacher
Nique	F	52	Experienced part-time teacher and entrepreneur
Jereno	M	47	Teacher and team coordinator

2.2.3   Data Collection | Questions and Topic Lists

To allow for participants to discuss what they considered valuable within the research context, the choice was made for semi-structured interviews as these allow for flexibility and pre-set topics (Boeije, 2014; Curtis et al., 2014). Both of these characteristics are important to the current research, as one helps establishing an open approach to the interview conversations, while the other helps maintaining some level of direction in the questioning.

This study builds on a specific topic and a theoretical background. As such, previous studies and literature on tacit knowledge and knowledge sharing have provided input for themes and formulating questions. A list with topics and themes for the individual interviews, which can be found as appendix A, acted as basis for the interview conversations and framework for reference during the conversations. The areas included are background information on the participant; articulation of tacit knowledge and expertise; interaction and sharing with colleagues; status; power; interdependence; trust and psychological safety; and risks. Background information was discussed to initiate the interview, create a context for the conversation, and to be able to allocate and contextualise information and quotations in the Results chapter. The other areas are derived from the

literature review. First, interaction and sharing with colleagues were discussed in a more general sense to allow the participant to share their point of view freely. After, topics about status, power and safety were approached more directly to interrogate more closely issues identified in the literature and to gather richer data in these specific areas.

As indicated, insights from the individual interviews served to depict themes for the focus group interviews. These insights came from notes made during the individual interviews, from transcribing, and from a first, brief analysis. The themes that appeared to be needing more data on were Communication and formulation of knowledge; Facilitation (that is, facilitation of sharing and interaction by the organisation); and Appreciation of colleagues / Influence of character. In general, questions during the focus group interviews were asked to confirm or contradict preliminary findings and to elicit more personal views and stories relating to the issues discussed. Such questions, for instance, are "Do you recognise this?" and "What differences do you see compared to your own context?" Next, more specific questions aimed at deepening the themes were asked. Examples are "Do you think people use tacit knowledge as a mechanism for distinction?" and "How do you judge on whether or not to share?" The preparation for the focus group interviews can be found in appendix B.

Questions were considered carefully to find ways that serve the study, while also being informed by the theoretical input of Polanyi. From a social constructivist perspective, I calculated that the questions should guide participants towards their experiences within social settings (such as (study) groups or collaboration), especially because this study focuses on (knowledge) sharing. Therefore, interview questions were formulated "sufficiently general to cover a wide range of experiences and narrow enough to elicit and explore participant's specific experience" (Charmaz & Belgrave, 2012, p. 351). The degree to which questions were open or specific has been carefully thought through, aiming at creating open-ended questions to start a topic with and more specific probes to guide the conversation without being judgmental or steering answers. This applies to the topic list with exemplary questions, and more strongly to the questions as they were actually asked during the interviews.

For topics and issues of a more personal, and possibly sensitive, nature, I made use of vignettes to embed the prepared questions in a context during the interviews. Vignettes are short stories about characters and context that reflect the participant's own context by

providing clues and a (hypothetical) situation or context (Finch, 1987; Törrönen, 2018). They can be useful to explore topics that are potentially sensitive or difficult to discuss, as commenting on a story is less personal than discussing direct personal experience (Barter & Renold, 1999; Skilling & Stylianides, 2019). Criteria for the hypothetical situations used included plausibility, relevance and recognisability (Neff, 1979; Hughes & Huby, 2004), avoidance of extravagancy and disastrous events (Hughes, 1998), and sufficient context yet open enough for participants to resonate and adapt to their own experience (Barter & Renold, 1999). As some vignettes were used in both individual and focus group interviews, these can be considered to be piloted and improved. As individual interviews informed the focus group themes, vignettes in the focus group were increasingly relevant, realistic and recognisable, which adds to the validity of the instrument (Gould, 1996).

The interview theme 'Interaction, sharing and learning' serves well here to illustrate how theory and previous research resulted in questions and vignettes. The literature provided insight into how, in the knowledge economy, learning from one another and sharing knowledge are considered important. Polanyi and the concept of tacit knowledge show how knowledge sharing can be difficult if the knowledge is personal. This emphasises the role of interaction in the exchange of knowledge and skills. The paradigmatic approach to the study reflects the relationship between interaction and development, as social constructivism reasons from the idea that knowledge is constructed in interaction with others. At an early stage, 'interaction' and 'learning from others' were two separate themes in the topic list, but this background informed the change to one theme, 'Interaction, sharing and learning'. The literature review also provided indications for areas to be covered by questions. For instance, if knowledge is constructed in interaction, it has to be investigated what interaction may take place, where this may be, and through what channels (e.g. physical or virtual, formal or informal). Therefore, 'Do you share about your teaching experiences? When? And do you have opportunities for sharing?' was formulated. Another important area concerns the content of this interaction, that is, what may be shared and constructed between individuals. Such considerations resulted in concrete questions regarding the role and content of intercollegial interaction, such as 'How and when do you interact with colleagues?' and 'What work-related topics do you talk/communicate about with colleagues?'

One of the questions under this theme was 'What do you need to learn from others?' This straightforward question may be too open to answer suddenly, and also can

be perceived as being inappropriate – am I suggesting that the participant is not a good teacher? In such cases, depending on the course of the conversation, sometimes a vignette was used. Participants were told a story of a teacher working with a difficult group, which they were teaching the entire morning. That same afternoon, a team meeting was planned. In the interview, the participant was asked what they would discuss and ask their colleagues about that morning's experience if they were in that meeting. Because this vignette provides a context that implicitly points at issues such as pedagogy and classroom management, the question and vignette might render similar (biased) responses among participants. Therefore, in such cases, the interviews continued to explore further, using questions such as 'Can you think of other areas you might ask your colleagues for advice?'.

2.2.4   Data Collection | Recording of Interviews

All interviews for this study have been recorded. Without exception, all participants have agreed upon having their interview recorded. The recording of interviews appears to be almost indispensable for thorough qualitative research. Audiotapes of interviews and, later on, transcripts, are commonly used as a main source of qualitative research data in educational contexts (Tilley, 2003). Considerations to record the interview included the idea that it is impossible to remember, or even write down, *everything* discussed during interviews, and that recording conversations enables the researcher to keep in contact with the participant during a conversation. Apart from this, intonation disappears if not recorded, meaning loss of emotional expressions and specific reactions. Also, recordings allow for reconsideration and re-visitation of the conversation, which can decrease concerns of missing out on important statements or hidden messages.

2.3 Analysis

The main activity in qualitative data analysis is coding (Boeije, 2014; Curtis et al., 2014; Leavy, 2014), and also the current study's data have been subjected to a coding process. When coding, a researcher distinguishes between themes and categories in the raw data by interpreting the message and meaning of a fragment, then to label the fragments with codes (often words, or small phrases).

A clarification has to provided here that concerns the interpretation involved in the assessing of fragments and organising of themes. This interpretation was driven by theory on tacit knowledge and knowledge sharing contexts, as well as by the notion that knowledge in socially constructed. As such, codes and themes tend to reflect this framework that scaffolds the study. Especially the reviewing of initial codes for the construction of themes was informed by this framework, predominantly Polanyi's work and theory on professionalism and knowledge exchange. Possibly, a different research approach would render different themes and findings, as those in the current study are meant to serve current aims and research questions.

Two strategies were used to consider how fragments and codes may interact and relate: interrelating and reasoning (Saldaña, 2014). I sought for connections within, between, and among codes. Partially, this was a rather analytical approach, as connections sometimes were found by comparing concrete content. Also, there was reasoning involved to find causal probabilities, to summarise, and to evaluate, for which the theory and notion of social constructivism provided guidance. As more data was added to the analysis, assigning codes to fragments alternated with categorising and reconsidering codes. To provide an example: a talk over coffee may initially be coded as 'talk' or 'break'. With other participants subsequently adding fragments that include 'talk' as well as 'sharing', reconsideration of this results in changing the code to 'sharing interaction', adding meaning to a, at first sight, seemingly random conversation. This process reflects the use of and need for revisiting the data in a second phase (e.g. Costa et al., 2019).

To provide another example using the theme 'learning organisation', below are provided two (translated) transcript excerpts.

Well it is not so much that I necessarily want to share my knowledge, but I also find it interesting to create that system, that it is present in an organisation, because I think that can be of added value. So it is not so much about me, that I would like to share, but more that I think that if you are an education organisation, that should be present.

I saw the image of a VOC ship, heavily loaded with silk, cinnamon, everything – the hold was full. What I became aware of recently is that there are very few people, or actually I believe no one, who knows what this hold contains. So there is knowledge that is not being tapped.

Some fragments are coded 'organisation': 'if you are an education organisation, that should be present', and the entire second excerpt. Some are coded 'sharing': 'So there is knowledge that is not being tapped', and 'that system, that it is present in an organisation, because I think that can be of added value', yet another with 'communication': 'Well it is not so much that I necessarily want to share my knowledge, but I also find it interesting to create that system.' Approaching the codes thereafter with a knowledge and social constructivist informed lens, the content shows connections that concern the sharing of knowledge (interrelating), and a causality that could be summarised as 'no organisational system leads to no sharing' (reasoning).

2.4   Positionality

Research represents a shared space, shaped by both researcher and participants (England, 1994). Considering that most educational research today is designed in a way that involves the researcher in the context, field and data handling, these issues are important to consider. This presents a condition that requires reflexivity and criticality from the researcher (Curtis et al., 2014), which converge in a consideration of positionality (Bourke, 2014). This may even more strongly apply to qualitative research and interviewing within social science, where reality and experience inherently interfere with one another. Durkheim (e.g. Durkheim, 1982) acknowledged this through his concept of 'social facts' in social science, which he considers are both social constructions as well as empirically observable elements within reality. Foucault (1991), too, recognises the constructive nature of social science, declaring that research and analyses provide one possible story about the context researched, as an accidental construction composed of elements with different directions and different historical trajectories. This constructed nature of social reality and social science necessitates a rejection of epistemological innocence (Bourdieu et al., 1999). To avoid such innocence, Bourdieu (2004) suggests that when casting a gaze on the social world that unveils, uncovers and unmasks, a researcher cannot avoid casting this gaze on their own self to use sociology to make a better sociology and social science. Therefore, it is necessary to locate oneself reflexively as a researcher in both the academic and research field, aiming at awareness and controlled subjectivity.

Positionality, then, concerns the position and stance of the researcher with regards to their approach, and their personal connection to the context. Among other aspects, this includes ethical issues, the care for the interviewee, the interaction between researcher and interviewee, and personal involvement of the researcher. My position as the researcher of this study not only affects contact with participants or data analysis, but affects everything from worldview and research interests to research questions and research design. The stance undertaken in this research accepts the existence of multiple realities that come from individual, personal processing of experiential stimuli and information. This also signals the reason why this stance has to be considered and explicated: social interaction and the sending and receiving of stimuli bring about multiple interpretations of reality. The

researcher's interpretation is one of those. It may be informed by multiple others individuals and realities, making it less isolated. It may be formed through a carefully considered theoretical framework, to provide guidance and structure. And it may be controlled by awareness of history, attitudes and principles. In any case, it will remain an interpretation of the social context researched in which the researcher also is a social entity. Clarifying positionality supports others to position and interpret the research and its results (Martin & Butler, 2001).

Earlier in this chapter, a reflection on paradigm was provided which appreciated "how the phenomena we study are seen through our ontological and epistemological lens and thus acknowledges our assumptions – about the world and about knowledge – and their implications for the research and its findings" (Corlett & Mavin, 2018, p. 379). This reflected how my stance may influence the research approach in general. A methodological reflection was also provided to describe the rationale for deploying the interview as core method, to illustrate the formulation of interview questions and vignettes, and to describe the analysis.

In the current study there is a positional reflexive note needed due to the fact that part of the research context and population concerns a previous employer and previous colleagues. As such, I am familiar with some elements and contexts of the environment researched, both as a former employee and as a former worker in the field. Given these circumstances, my experience can, for instance, colour the interpretation of data, or influence the focus during interviews. The danger in this is that a researcher may substitute observations and data by their own evaluations or conclusions. The other way around, the researcher might fill in gaps or interpret participants' articulations using their own framework. The reflection exercised beforehand, at least decreases my colouring by increasing my awareness. Nevertheless, it remained important keeping in mind this personal experience and (shared) history within the research context, because conducting research is a social act that has unavoidable limits to objectivity (Meighan & Siraj-Blatchford, 1997).

Another positional reflexive note concerns the role of the interviewer, which entails more than asking questions to elicit stories or make participants talk. It is also about keeping a close eye on the data analysis and outcomes while interviewing, and more concretely about managing the conversation as a whole. Both verbal and non-verbal

communication, intonation, silences and mimics are part of human interaction and this, for me, is one of the reasons why interviewing is significantly different from for instance questionnaires or other more pre-structured forms of data collection without much personal interaction. A constructivist approach views interviews as emergent interactions (e.g. Charmaz, 2014), and during such interviews a researcher's position requires to establish not only contact but also interaction with the participant – interaction that allows for sharing of understandings and experiences, rather than just collecting answers to questions and finding what was searched for.

When contemplating the interplay between hosting interview conversations to collect data on the one hand, and having a theoretical background and paradigmatic position on the other, there may exist a 'tricky dualism' between these. Holding on too much to the themes and topics prepared for research, could make a researcher less receptive for cues in interviewees' stories – cues that very well might lead to new, relevant themes or that provide a valuable perspective unknown until then. This awareness resulted in two important issues in the current study's interview process. The first was attending to the participants being interviewed and being receptive to anything they were sharing. The second was to position participants' responses into the theoretical framework that originated in the literature that scaffolds this study. These issues relate to the iterative nature of qualitative research: a continuous alternation of data collection and data analysis, mediated by conscious processing of information, constitutes the opportunity to deal with the iterative nature of the research process (Boeije, 2014). It may be seen as a continuing evaluation and assessment of the (relationship between) collection and analysis of data, in which the relevance and adequacy of the data within these stages is key. This evaluation and assessment, however, were done as critical as possible, based on participants' data and previous literature, striving at excluding my own framework created as a former employee in one of the participating organisations.

This study used theory to scaffold data collection and research instrument, in particular the topic lists and interview questions, which raises questions about how my epistemological stance influences my use of this theory. Informed by the adopted social constructivist approach, the research question 'What factors impact on collegial sharing of knowledge in organisations?' assumes that knowledge in general can be shared, whereas Polanyi (as a prominent theorist in this study) excludes the possibility of sharing tacit knowledge. Such a formulation may define or limit what can be found, as the research

question provides direction for conducting the research. A critical reconsideration of this has resulted in formulating interview questions that aimed at collecting broad data concerning sharing, content of sharing and ways of sharing, while paying attention to the various types of knowledge as discussed in the theory. An example of this is that in the interviews, participants were asked about both what sources of knowledge they recognise as well as their interaction with colleagues, and about the combination of these. To limit the effect of bias, this way different perspectives in the research design were included. In a similar manner, in presenting and describing theory on tacit knowledge and its possible transfer, it was tried to present the theory as formulated and presented by the original author, only after that adding perspectives that offered a more constructivist point of view.

2.5 Ethical Issues

To strive at creating a context for conversation that is free of fear and open to all articulation, the positions of the participant and researcher both during the research as well as afterwards are of significant importance. Ethics applications were submitted to the University of Glasgow's College of Social Sciences Ethical Committee, which granted ethical approval for this research project. A participant information sheet was presented to all (prospective) participants, as was an informed consent form. Both these documents can be found as appendices to this dissertation. All participants have signed the consent form with the possibility to withdraw from the study at any time before completion of the study.

2.5.1 Ethical Issues | Anonymity

What lies within reasonable reach to prevent the disclosure of traceable and personal information has been done. In addition to the inaccessibility of the raw data, names of participants have been changed in the research report. In some cases, participant quotes have been only referred to with gender, age and/or function to decrease recognisability. Remarks regarding conservation of data and of (possible) recording of interviews were part of the participation information sheet and consent form (see appendices). Participants were being made aware of the issue of anonymity and confidentiality in spoken and written form, and they remain 'owners' of their securely stored data. This was being emphasised by the possibility the withdraw from the study whenever prior to the reporting of the research in the form of this dissertation.

Focus groups have downsides with regards to anonymity, partially for obvious reasons like the inescapable presence of other participants in focus group interviews. The situation in which multiple individuals are gathered as a group, prompts the presence of group dynamics and group bias that may prohibit the sharing of different views and perspectives, for instance when someone dominantly takes part in the conversation (Curtis et al., 2014). The group's composition in terms of characteristics like gender and experience can also impact on what is shared and how it is shared, and on the opportunity

for individual participants to genuinely share their own version, because being part of a group influences anonymity and safety (Gibbs, 1997). In the participant information sheets that belong to this study, the case of loss of anonymity has been explicitly mentioned to create awareness among (the, at that time, possible) participants relating to the possible influence a group interview can have on their position and anonymity.

2.5.2 Ethical Issues | Safety

Beforehand, the locations where the interviews were to take place were visited. This provided me with knowledge about where best to have a conversation in terms of privacy, while also having a sense of safety and tensions that could have existed, and knowing possible escape routes, would those have been necessary. Moreover, contact details of emergency and assistance services were available.

To foster the psychological safety and wellbeing of participants, the preparation of the current study involved an analysis and plan concerning options for (mental) support, in case participants were to feel distressed. Both within the organisations as well as externally, options for support and help were known. Recorded contributions (recordings) and notes taken from the interview are used in accordance with the wishes of the interviewee.

2.5.3 Ethical Issues | Language

As the data collection took place in Amsterdam and all interviews have been conducted in Dutch (which is my first language), whereas this dissertation is in English, I consider it appropriate to pay explicit attention to language. For obvious reasons among which means of communication, language plays a central role in qualitative interviewing (Charmaz, 2014). Tarozzi (2013) notices that while some languages are analytic, others, such as Italian and Spanish, are more inflectional, meaning the form of words alters to change their role within a sentence. By contrast, Dutch, as is English, is quite an analytic language. That means it is a language that primarily conveys relationships within sentences and between

words, by way of helper words and placement of words. Such languages usually do not make much use of declensions.

The organisations that participated in this study have very diverse workforces in terms of languages and ethnocultural backgrounds. Many employees, for example, are multilingual or have a first language that is not Dutch. Therefore, I remained aware of how in interview conversations language can affect the transfer of experiences and views. What Tarozzi (2013) essentially indicates, is that word order and choice of words may signify specific meanings. For example: word order might indicate emphasis or importance (especially within analytic languages), or on the contrary, word order may be less important than the actual form of a word used (presumably mostly for those participants with a background in which an inflectional language is spoken). Especially for multilingual individuals, the order, form, and choice of words may be either intentional or habitual, depending on the language used to think or to speak. Although this is not a linguistic study, this realisation underlines the importance of recording interviews and carefully interpreting these. Intonation, emotions and choice, placement and form of words constitute the message and value of what is said. Adopting the principle that data collection is more than extracting plain answers, and having experienced in conducting previous research that collecting different kinds of communication during an interview can be a difficult task, I have recorded conversations and have taken notes of all interviews.

Additionally, I would like to make a short note on translations. Fragments were translated to have them included in this dissertation as quotes. Translations may cause loss of information, for example due to the availability and existence of words and meanings in different languages. Previous experiences with translating texts (such as legal documents) into English, have provided me with consciousness regarding the importance of conserving the meaning of the original text. Every effort was made to translate based on two principles: translating as literally as possible, and preserving meaning as interpreted based on recordings and notes.

3   Results

This chapter presents and describes this study's key results in relation to professional knowledge and its exchange, and in relation to the individual professional and their position regarding colleagues and the organisation. Based on the literature review and topic lists prepared, the individual and focus group interviews covered a range of topics relevant to circumstances and processes of knowledge sharing. Most topics concern knowledge and experience, or intercollegial contact. Preparations for the interviews can be found as appendices.

First, this chapter will provide results with regards to the participants' knowledge, and how they formulate and communicate this knowledge to de-tacify (that is to unpack, or explicate) personal knowledge. Second, results concerning organisational issues as identified by the participants are presented. Finally, interpersonal matters that are considered to influence the communication, attitudes and exchange between individuals are discussed. Implications and critical remarks regarding these results are discussed in the next chapter.

3.1   Professional Knowledge and Communication

Before describing what the process of formulating, detacifying and communicating knowledge may look like, it is useful and supportive to cast some light over the areas of knowledge that were identified in the data. Both from the individual interviews as well as the focus groups, it shows that the kind of knowledge embodied by professionals can be divided into two categories. The first category could be described as being factual, content-based knowledge, that is, knowledge regarding what to teach and what to do as tasks on the job. The other category is knowledge of a more experiential, skill-based nature. This concerns the how to teach and operate. This distinction can be framed as content versus process, a common distinction within pedagogy and education. A significant finding is that although the two categories are distinctive, they are interwoven. Participants distinguished between the two, yet mentioned various domains and areas they possess knowledge on in a

seemingly random order. They also tended to combine examples of both types of knowledge within one and the same example from their practice.

Referring to the category of content knowledge, participants mentioned themes such as curricula structures and course content, which are concerned with qualification frameworks and their operationalisation into the curriculum they engage in every day. The category clearly contains knowledge about rules, procedures, and other forms of habitual structure that facilitate everyday work and care for students. Knowing the requirements and end terms for examination enables them to design courses and lessons. In relation to this, lesson content is a topic, as the content of courses and lessons is closely related to the curriculum and end terms. A third factual area of knowledge concerns software and student tracking systems. The professionals that participated in this study spend a significant amount of time on administrative activities such as logging student progress and behaviour, and submitting marks and other results and notes, as well as on working on the curriculum and lessons using SharePoint and other digital environments. A fourth area concerns planning and schedules. Here, one might think of rosters, examination planning and agendas for trimesters. These themes can be seen as knowledge that forms the foundation of the programmes and education available. They revolve around the core needed to help students fulfil the requirements and to proceed through the programme they are enrolled in.

When it comes to process knowledge, participants discussed knowledge about pedagogy, didactics, classroom management, and teaching methods. Such themes are more closely related to the professional performance of a teacher and to interpersonal communication, of which teaching is a clear example. These themes are of a professional nature and the knowledge concerned is partially used consciously, for example when preparing lessons. Yet, the deployment of this knowledge during performance often is implicit and unconscious. Pedagogy and didactics often were mentioned as two separate themes, yet in a single breath. The manner in which participants talked about these themes indicates the relatedness of pedagogy and didactics. The choice for a certain technique or didactical approach often entails pedagogical considerations, as content and reaching didactical goals cannot be separated from the effects the pedagogical approach used has on students. This insight provides an explanation to why 'teaching methods' can be assigned to process knowledge, more than to content knowledge. Although within programmes aimed at obtaining a teaching qualification in The Netherlands time is spent on teaching

techniques and instructional design, practising these is not something that can simply be learned from a book. Teaching methods are closely related to didactics and pedagogy, and it requires experience to assess possible effects and outcomes of different methods and combinations. Participants indicated how teaching experience grows over the years and how this enables them to be better in their job.

Data show that the participants interviewed often referred to their formal education and training, such as initial teacher education ("my studies") undertaken in higher education, when talking about their content knowledge base. Indeed, books and lectures aimed at transferring explicit knowledge are dominant in this context. Apart from initial, formal education, participants mentioned other trainings and education, for instance master degree programmes, internal trainings organised by the organisation, and the reading they do by themselves. Furthermore, knowledge about the organisation, like procedural knowledge and information regarding qualification structures and examination, often comes from management or other colleagues, especially those that are more knowledgeable on the matter. This may take, for instance, the form of a presentation during a meeting, or a manual for using software.

Process knowledge, as one might expect, has a less explicit and concrete source. Certainly, a foundation can be found in initial teacher degree programmes, readings and other sources offering explicit advice and examples. Theories about pedagogy, and didactic approaches and techniques, for example, are thought to be scaffolding performance, especially when early in a career. That way, knowledge gained in studies and other forms of training often acts as background knowledge and referral framework, participants indicated. It is the foundation for experiences to build on. Later on, experience itself becomes a source of knowledge. Insights in one's pedagogical performance or classroom management skills are often gained when actually working as a teacher, as a result of interaction with students and colleagues. This speaks from participants' remarks about their development over time, and about how practice nurtures their development. Participant "Mira", who had been teaching for approximately ten years, explained: "When I came here, I had no knowledge of didactics at all, but I did know how to reach adolescents, because that was the population within nursing where I worked and carried out observations." Results show how teaching and professional performance often are processes carried out with limited or no awareness of the knowledge and skills being used while doing so. Participant "Ågnes" shared her view on this as follows:

And a lot happens on autopilot, when I am absolutely not busy with what I could do

better or not – a lot just happens on autopilot. And that goes fine. And when I am

on autopilot and things go wrong, then I will reflect.

None of the participants indicated not to be learning 'on the job' – on the contrary, many expressed how they keep learning from what they do. "Marthe", a long time teacher and coach, responding to the question if she learns at work, illustratively explained that she learns "every single day. By reflecting on what I have done. I also learn about new subjects and what didactic methods someone uses, I can still be impressed by those as it is not one of my strengths." Experiences in the work context are found to provide important impetuses for learning regularly. In many cases mentioned by participants, this learning is preceded by or based upon negatively perceived experiences. Here, you may think of difficulties with classroom management, or pedagogical issues with a specific student. Data show that sharing experiences, for instance the experience of teaching a difficult class, scaffolds interpersonal (learning) conversations by providing input for reflection. Reflection as a technique is used to unravel and explicate contexts and processes, and by this to elicit a professional's process knowledge.

Learning from one's own experiences as well as from someone else's knowledge often takes place during interpersonal conversations, indicating that language and verbal communication are important vehicles for knowledge sharing. In such conversations, a colleague's or friend's thoughts, ideas and experiences allow for comparison and a critical lens. As participant "Tony" put it, "it's a form of reflection of course, and it is like a mirror you need in the form of the other person." Participants believed this 'reflecting mirror' is able to lift up the blanket that is covering the knowledge, that way exposing elements of tacit knowledge. However, some participants also indicated that reflection during interpersonal conversations not always is used consciously, but that reflective conversations may provide insights they become aware of afterwards. In addition, formal education, literature and other explicit sources were mentioned as being used as input for conscious reflection, as they allow for critically approaching a case.

Aside from verbal communication, some participants mentioned observations as a method for gaining insight and developing themselves. Most participants considered it to be a very valuable method, both to learn from someone else's performance ('mirrored'

learning by doing), as well as to compare a colleague's performance to their own performance. Interestingly, they also talked about how rarely observations take place. It appears that neither participants, nor colleagues they referred to, use observations as a method for learning. Based on what they shared in the interviews, it appears that hardly anyone in this study goes into a classroom to observe a colleague that is teaching, or videotapes themself to analyse their own performance.

When asked about their development during their teaching career, participants hinted at awareness of the existence of tacit knowledge. As mentioned before, many participants explained how knowledge they developed early in their career, be it content or process knowledge, is foundational for their current day professional performance. Discussing his development and growth over the previous years, one teacher explained how over time more tasks were delegated and trusted to him. Looking back, he stated:

> I am very conscious of what I have built up in the past, which is the basis I now work with. It is where my knowledge is based upon. I also notice how working in primary education has made me better in didactics, for example. (Participant "Khalid")

Results from the individual interviews show that communicating about knowledge, or articulation of tacit knowledge, often involves segmentation of the information or concept concerned. Many participants elaborated on their attempts to unearth knowledge which include compartmentalising the matter they want to convey. Some do this unearthing in a 'constructive' way by identifying and elaborating on elements that together form their concept, some prefer an 'unravelling approach', first providing the concept and then breaking this down into pieces in front of the audience. Examples appear to play an important role to support the transfer of the content. This may take the form of everyday life examples that relate to the content on the one hand and the conversational partner(s) on the other. Such examples connect previous experience to a new context and allow for the comparison of situations. Sometimes, more practical, hands-on methods and examples are used, such as during "the course Sports and Movement. I am quite lucky to be able to use the students' musculoskeletal system. So if I wanted to explain theory, I do so guided by examples. That is just really practical" (experienced teacher, male). This example shows

how both observation and examples can scaffold the transfer of knowledge, as it provides a clear example that can be copy-pasted by the recipient.

The actual communication with others, which may allow for the sharing of knowledge, takes place either at work or outside work hours. Depending on the interpersonal relationship colleagues maintain, exchange and communication may take place during a short break or lunch, at home, or over dinner or drinks. Important in this context is the factor 'time', which is considered to be limiting communication between colleagues during work hours. Further on in this chapter, more results concerning the issue of time are discussed.

3.2   Organisational Factors Impacting on Intercollegial Communication

This part of the chapter explores the institutional factors that are found to impact on knowledge sharing. The three key institutional factors found that are covered in this part concern the influence of management on intercollegial communication and professional development, temporal issues experienced by professionals, and organisational memory.

3.2.1   Management: Direction and Content of Professional Development

Concerning the organisational attempts to initiate and provide learning opportunities, a significant finding is that are differences between teaching professionals' demand on the one hand and organisational supply on the other. The 'study day' was regularly mentioned as an example of how resources, organisational policy, and employees' needs clash. Study days are an example of structured, facilitated opportunities for intercollegial professional development, and eminently a chance to exchange, share and discuss experiences and knowledge. They are pre-planned quite some time ahead and often included in year rosters and shared agendas. The content and structure of study days often are prepared by management, with the teachers and other staff joining in later on. Data suggest a certain kind of resistance to study days. Besides the perception such meetings come on top of the

already busy work lives of teachers, data provide two interrelated mismatches between employees and management.

First, participants' comments and critical way of talking about top-down ways of preparing and designing gatherings, point at a discrepancy. This discrepancy concerns a distance between staff's motivations for meeting up with the goal of communicating and sharing on the one hand, and organisational motivations for and facilitation of having all staff together on the other. Referring to a study day proposal prepared by colleagues within a team, participant "Nora" illustrated:

> We had prepared it nicely and easily, so that we could have learned well from each
>
> other, and then we are told top-down it should be like this and that, well, then… I
>
> believe that the board should listen to teams more to make it attractive to learn from
>
> one another.

The feeling of not being heard or being involved in directing and scaffolding their own learning, makes these employees feel less motivated. Also, doubts about the adequateness and possible individual gains of attending an arranged gathering may enforce the perception there are other, more urgent and important, things to do than attending such a meeting.

A second difference between management and teaching staff with respect to learning opportunities concerns the actual content. Nora's remarks above also concern the actual content of said-to-be learning-oriented meetings. Indeed, this is related to the top-down approach and participants' doubts about the use of spending time on issues that might not be on top of their own list. Participant "Saskia" added to this by describing how the expected themes of professional development, combined with top-down management techniques, has led to a culture in which "system-atic learning is stimulated – so: all the rules, codes, policy aspects… But if it actually concerns nourishing the mind, inspiring, and discussing educational innovation and the field, I consider it very to be very limited." Due to continuing developments and changes in the educational sector and schools, there is quite some learning to do regarding, amongst other issues, procedures, curricula, and student tracking systems, participants recognised. New nation-wide examination criteria have to be learned and translated into coherent curricula that fulfil the requirements. Developments in the field require changes in the content of lessons. Mergers between

teams or departments lead to situations in which new organisational (sub)cultures have to grow – often guided by change professionals, management or other forms of support from outside. All these themes frequently find their way into study day programmes, as those are the moments most colleagues are together. Implementing reforms and gaining knowledge about systems and procedures automatically detracts from communication time, while also getting in the way of mind-nourishing topics, exchange of expertise and discussions like mentioned by Saskia – moments that would allow for intercollegial communication and sharing of personal knowledge to happen.

Both during individual interviews and the focus groups, participants indicated they consider time and structure necessary to facilitate the sharing of knowledge and experience. However, when provided with these, it appears they keep their distance. If facilitating gatherings would be sufficient to scaffold intercollegial sharing and learning, one might expect the time that remains on study days would be used wholeheartedly for the purpose of intercollegial communication and sharing. Instead, frequently that time is consumed for (overdue) regular work. This suggests there not only is a distance between organisational attempts and staff's wishes as indicated, but also a discrepancy between what participants say they need and want, and how they actually act. This may indicate there are other reasons for teaching professionals not to make use of the possibilities offered, even though these opportunities may be limited.

3.2.2   Temporal Issues: Time Constraints and Planning

The most mentioned cause that participants attributed to little communication and limited intercollegial interaction, let alone consciously spending time on knowledge sharing, is a lack of time. Daily issues and tasks absorb a lot of time, and many participants stated that it is already difficult to fit these regular activities in their agendas. There not only is teaching to be done, but also mentoring and coaching students, correcting and marking, administration and reports, and preparations for teaching, coaching and meetings. These tasks are usual tasks and often do not come as a surprise, but are supplemented by unexpected work, for instance when students need extra care, colleagues become ill and need replacement, or new courses have to be developed. As the perceived workload already is too much for the time available according to the contracts and for the teaching

professionals' agendas, participants were experiencing time squeezes regularly, if not continuously, and had to make choices on how to spend their time. Several participants discussed what has been phrased pointedly by participant "Ronny": "If you already work more than five days a week, you are not just going to do more voluntarily. If it is scheduled, it would be a different story, but there is very little space to do that." As such, temporal issues are found to be a significant and crucial factor in the context of intercollegial communication and knowledge sharing. As increases in workload consume more time generally, they also detract from time available with colleagues.

In his remark provided above, participant "Ronny" indicates two things. One, as just mentioned, is the perception that the amount of work that has to be done is too big for the time available. As a consequence, little time is left for contact with colleagues. Second, he implies a lack of structure that would allow professionals to include intercollegial communication in their agenda and professional life. In various ways and formulations, participants have provided data that indicate that such a structure is considered essential, yet missing. Many participants made remarks on their need for such a structural approach to intercollegial sharing, because it would clear their agenda and enable them and their colleagues to convene since they all would be available for that gathering.

When discussing temporal issues, many participants referred to the management and the organisation they work in. The management would be causing inflexibility by imposing rosters and meetings. The amount of work and tasks is judged not to be in balance with the available time in real life, and there would be a lack of structure or structural approach to professional development within teams. Whether this is accurate or not, it appears to be a common perception among the participants that this context with little time and heavy workload causes serious limitations on intercollegial communication. Considering the status quo that tasks and rosters are created and delegated 'by the organisation', as sources of the obstacles they point at the managing board and management as these embody the organisation.

The image that might appear now is that the participants are tight onto their chairs all week carrying out tasks, only leaving their flex desk to teach prescheduled classes and attend meetings. Yet, none of the participants indicated that there is no time left at all, nor that they are given no opportunities to exchange knowledge with colleagues. On the contrary, participants indicated to connect during a coffee break or in the hallway. This raised the question that if a scheduled meeting or opportunity is considered important, why

wouldn't the professionals set up a meeting themselves? Responses to this include busy days and heavy workload, supplemented by the experience that individual influence on one's own agenda is limited, especially because of the rosters that are provided by the organisation. This issue was mentioned during the individual interviews and confirmed during the focus group conversations by participants discussing how they would use extra time if available, and adds to the difficulty experienced when it comes to arranging a meeting or conversation with colleagues. As expected, based on the wish for more interaction, participants expressed the intention to connect and interact with colleagues more frequently. Paradoxically, however, some stated that regular tasks would still be on top of their priority list instead of meeting with colleagues – as evidenced by participant "Majken", hoping "next year. It always comes in the last place, because, well, often it actually is the survival mode."

As a consequence of the limited 'spare' time available, the amount of work, teaching, and pre-set meeting agendas without sufficient time reserved for sharing, this 'rudderless' sharing environment results in a more individually planned or coincidental communication culture, in which it "depends on where your desk is, how much you like to talk, and how easily you talk about your experiences" (early career teacher, female). Ad hoc conversations appear to be the most common type of intercollegial conversation, even more than a talk over lunch. Other frequently mentioned moments for contact are team meetings that are rostered regularly and so-called study days, but these too have their limitations. During team meetings, a lot of time is consumed by either the sharing of content information and practical issues, by evaluating students' progress, or by discussing curricula and examination issues. Although some participants would appreciate it if there would be some sharing of experiences and knowledge during such meetings, the space for other types of exchange is limited by regular topics, work-related issues and questions about for example curriculum design and administrative procedures, pretty much in the same way as it happens with or between individuals. And despite what the term implies, even study days, which are days *without* teaching and *with* all colleagues together, in terms of time often do not provide much more opportunity for sharing and exchanging. Sometimes, on such days there is some time reserved for conversations about experiences and insights, for instance during a workshop. However, during study days, it is not unusual for teachers to have their minds occupied with that what already hindered intercollegial communication in the first place: regular, sometimes overdue, work. Not unusual, "that

means that study days become… about curricula, next year, how do we do... And training as you organise it has to be during the evenings" (teacher, male).

3.2.3   *Organisational Memory*

Participants remarks regarding the organisation and their management, as described so far, are related to either facilitation of time and opportunities, or things that complicate these. Without underestimating participants' perceptions, it should also be noted however that there *is* exchange and communication taking place. As described earlier in this chapter, learning does not always happen consciously, and even a small chat could be a vehicle for transferring insights and knowledge. Yet somehow, the sense that interpersonal professional learning does not happen enough exists. This sense contributes to the feeling that there is knowledge and experience everywhere throughout the organisation, yet within individuals, rather than between them or within teams. As participant "Marthe" described, it is considered both a missed opportunity and a waste of resources and capital:

> I saw the image of a VOC ship, heavily loaded with silk, cinnamon, everything – the hold was full. What I became aware of recently is that there are very few people, or actually I believe no one, who knows what this hold contains. So there is knowledge that is not being tapped.

The position held by most participants that it is a shame that intercollegial knowledge sharing is limited, also translates in feelings of seemingly uselessness of gained knowledge when considering the team or organisation. Especially knowledge developed or gained outside of the organisation by a member of staff could, or according to various participants 'should', be used to mentally nourish and enrich other employees. Despite the value attributed to fresh ideas and insights, and despite the intellectual capital there already is, some participants believed that their organisation lacks the means to collect and deploy what its employees have to offer. Participant "Ché", who shortly prior to her interview had finished a degree and as a consequence had up to date, specialised knowledge in the field, shared that "if you follow a training or are doing a master's or something else, you are not

being told to pick up a role or take the lead." The issue with this, she explained, is that, "it is not the case that there will be a next step." A next step could take several forms, ranging from writing an article or blog to arranging an informal informative talk over lunch. The experienced shortage, or sometimes even absence, of such forms of communication, results in the metaphor of the ship as drawn by participant "Marthe", which represents individual capital on the one hand, and insufficient institutional memory on the other. Concluding a passionate argument on the topic, "Ché" stated: "Nowhere, it gets secured. While the organisation itself could benefit more." The data collected, hence, suggests that the (shared) knowledge there is, largely remains within the individual professional, and only to a limited extent finds its way to the organisation. Participant "An-Nah" sharply formulated this situation from her point of view:

> For example, when you go to a study meeting, you should be told 'do something with it, bring in into the team', and this link never is there. Now it is like you can go out for a day and no one ever hears of it again. And this applies to studies too. It should be embedded much better.

Participants emphasised the importance of a "knowledge hub", with that referring to an infrastructure that allows them to 'deposit' their knowledge and 'tap' that of their colleagues. A significant finding here is that teachers feel the need for knowledge that in nature is tacit and related to skills, while they prefer concrete and explicit ways to achieve this. Based on participants' remarks that indicate interest in colleagues' experiences and performance, it appears that teaching professionals feel the need to exchange information that influences their practice in a way that helps them prevent from discovering everything themselves. Participants identified various advantages of a knowledge hub or platform. For one, it would enable sharing knowledge without the necessity of face-to-face interaction, providing more flexibility. It could also act as an encyclopaedia and address book, allowing employees to find information and colleagues to get in touch with. This way, a infrastructure or hub could not only stimulate sharing, but also prevent colleagues from re-inventing the wheel. As the demand for a practical infrastructure indicates, convenience is important to save time and to easily find what is needed. By not securing individual knowledge in the organisation, it may be that personal, implicit knowledge develops, but

that this either remains personal and implicit, or disappears with the employee(s) it belongs to when they leave the organisation.

3.3 Professional Factors Influencing Intercollegial Communication and Knowledge Sharing

This part of the chapter presents what was found with regard to (inter)personal factors. Some of these appear to hinder sharing, yet others to stimulate interaction, or even both, the overriding issue here being inter-professional relations. Findings show there is a large degree of autonomy when it comes to individual knowledge management, in which individual preferences and feelings impact on the willingness to communicate and share. Sometimes, participants were a bit reluctant in sharing their views on these topics, making remarks such as 'but I can strongly imagine this would apply to my colleagues,' which suggests cautiousness and awareness of underpinnings of their reasoning behind sharing. Central to this is professional discretion, which will be discussed first. The key areas that follow describe the roles of protectionism, hierarchy, trust, and fear of failing.

3.3.1 Professional Discretion

Professional discretion is found to be an important mediating variable in the context of intercollegial knowledge sharing. The individual decisions of a professional regarding communication, sharing and being open to others, strongly affect both the occurrence and the content of interpersonal knowledge sharing. Because sharing involves two-sided communication between individuals, the issue was approached from two angles. Participants' views on both their own sharing as well as on their colleagues' sharing were investigated. To explore this further, some questions focussed on advice and information shared by colleagues, and participants' responses to this. This paragraph discusses results from this perspective.

The data suggest that communicating with a colleague and accepting information and advice depends on three factors. First and most important, the content has to be useful

and adequate; second, the colleague has to be 'a good employee'; and third, the colleague concerned has to an affable person. Teacher and special needs coach "Saskia" summed this up, describing that she is open to sharing and advice "if it is someone I hold in high esteem, I feel like 'you do a good job, you're inspiring, pleasant to work with, I think you are a proper teacher or professional'."

Regarding factor one, participants indicated to be interested in useful advice they can benefit from and that supports their performance. There appears to be a (broadly shared) principle prescribing that shared knowledge carries value if it has a base in adequate experience. The value of what is shared by a colleague "depends on the topic. If it concerns knowledge related to their position, then it matters" (participant "Robin"). During her interview, "Irene" indicated that she considers it important that someone "is able to convince me that it will bring me something" – she prefers proof and results over "just another story". Other participants, too, used words like "effective", "functionality" and "applicability" when explaining how they judge on a colleague's advice. If experience or adequacy are lacking, the message sent by a colleague loses power and meaning, suggesting that 'what' outweighs 'who'. Another notable result in this context supported by many participants' remarks is that this combination of content and messenger is more important than a colleague's hierarchical position. Put differently: what is said by person X matters more than X's position in the organisation. Asking "Khalid" if he makes different judgements on knowledge provided by an 'equal' colleague versus a director, he answered:

> I am inclined to say 'of course not!', but I think that would be heads in the sand politics. I think you actually classify your superiors' knowledge higher, although I must honestly say I am becoming less and less sensitive to that, which is because I more often notice I am on the right spot and that I have expertise.

Although the expected value of the shared content is considered the most important aspect, participants also indicated that accepting advice and, more strongly, the initial willingness to communicate with a colleague also depends on feelings towards the other. Factors two and three are of a more personal, subjective nature, factor two referring to perceiving someone as being a good professional, and factor three concerning sympathy or

friendliness. One participant illustratively indicated that what she is willing to listen to or to accept, simply "depends on who says it" (female, experienced teacher).

As for factor two, findings show that shared content is accepted more easily when the colleague providing it is perceived as a 'good professional'. Interestingly, being such a 'good employee or colleague' is defined by participants as working according to *their own standards*. As such, the perception of a well-functioning professional differs and is quite personal. Characteristics that play a role here are reliability, mutual collaboration and thoroughness. A good colleague, for instance, supports others and "offers help", "is serious", "keeps promises", "teaches well", "shows involvement", and delivers in time, minding deadlines, the participants described. Although these characteristics are shared amongst most participants and may seem not very unusual criteria, it differs from person to person when and how they are met. What is considered to be good teaching, for instance, and how does one express involvement in the 'right' way? The characteristics share a common ground which could be described as collegiality, revolving around cooperation and sharing responsibility. Although teaching professionals spend many hours teaching without their colleagues next to them, education and care for students are a shared endeavour. These professionals depend on their colleagues to reach their ultimate goal to see students leaving the institution – educated, with a diploma. In order to achieve this, teachers have to rely on each other. Participant "Mira" illustrated:

> It is something I face more and more often. If I think about the students I coach, and the many marks not being on their list, then I just don't know how they are doing. I cannot see that, sometimes they do not know themselves either. That kind of being dependent from one another.

Different people have different views on work ethos, as evidenced by the various characteristics and criteria mentioned by participants. Combined with the dependence participants experience, every now and then this causes friction, which influences their judgment on colleagues. One participant shared: "It is just so frustrating to me: why don't you just do your job, why do I have to ask you the same thing three times – I cannot finish my job, because you have not done this one thing" (female teacher). Both through the judgment as well as practical inconveniences that can arise from being dependent on colleagues, interpersonal relationships between colleagues are found to be regularly

affected by everyday work. Participant "Nora" considered "that to be a unpleasant form of dependence. (…) You just notice it is unpleasant, because you have to chase others, and the interaction is not benefitted by this."

Such situations not only are related to the judgement on colleagues (are they 'a good colleague' or not), they also directly affect communication, as Nora shows. This is where factor three exposes itself, which represents personal attitudes towards the other person. From the data it speaks that simply liking a colleague plays a role, although it appears to be of less importance than factors one and two. It is not unlikely that judgement on someone else's professional performance is related to the judgement on the same person as a human being, and this factor adds more subjective and personal weight to the issue. This could not be more clearly formulated than by a male participant who said:

> There may be some colleagues you may criticise in advance on what they tell you.
>
> That might have to do with taste. In the sense of… DNA, in a way: I don't like you,
>
> or I don't believe you, or you are not honest to me.

This indicates that engaging in a conversation with a colleague partially depends on what could be described as a baseline attitude towards the other. Although the majority of the participants stated that the estimated worth of the content is more important in their decision to communicate with a colleague or take on their advice, this baseline attitude might actually influence them more than they are aware of. Apart from a more general human tendency to avoid contact with people one does not really like, this attitude towards a colleague also adds to the reference framework used to assess whether the colleague is a good professional.

In situations that involve two colleagues like the hypothetical one above, it appears to be a case of whether or not one feels like communicating with the other, similar to social interaction in everyday social life. This mechanism of discretion, on a larger scale, appears to also apply to (sub)groups of colleagues. Participant "Nique" described: "Issues with subgroups… are you part of it or not? Do I concede you my information or not?" Subgroups of co-workers functioning like this, show similarities to groups of insiders: trust and sharing are more likely to appear within a group of people that are appreciated. Although such a mechanism can foster sharing between certain colleagues, it can also obstruct sharing with others. The example of "Nique", therefore, is a concrete illustration of how knowledge may be kept not only within an individual, but also within an entity

consisting of colleagues that consider each other worthy of sharing experience and knowledge with. This raises issues for larger entities such as an entire team or organisation that may be experienced as being one, or as consisting of sub-entities, and regarding the scale of knowledge sharing and the possibilities for learning organisations. This will be returned to in the Discussion chapter.

A significant finding in this context is that participants in general were open to their colleagues sharing knowledge, but cautious to share their own knowledge. If asked 'Would you like to share your knowledge?', initially all of the individually interviewed participants responded in the affirmative. As participant "Khalid" shared: "your own backpack with tools will increase, causing your range and problem-solving work opportunities to increase." Participants acknowledged all kinds of benefits of exchanging ideas, tips and tricks, and techniques, such as not having to reinvent the wheel and developing more complete courses, by making use of each other's expertise. Yet, when thereafter asked 'Always and with anyone?', most participants started to show signs of doubt or promptly said 'no'. The positive side of this seems to be the *initial* positive attitude towards knowledge sharing. But the finding that actively sharing knowledge apparently is not an obvious and axiomatic thing to do, indicates that there are causes – or in case of consciously refraining from sharing: reasons – not to do so. This, too, suggests that within a so-called team or group of colleagues, (inter)personal processes impact on the ties between individuals. In the next paragraph, interpersonal issues found to be affecting professionals' discretion and knowledge sharing are discussed.

3.3.2   *Interpersonal Social Behaviour*

Interpersonal relationships between professionals are found to play a role in intercollegial communication and knowledge sharing. In the following, results are detailed in relation to four areas: protectionism, hierarchy, trust, and fear of failing.

The finding described in the previous sections – that engaging in opportunities for communication and knowledge sharing is optional and voluntary instead of natural or obligatory – symbolises and represents the space for owning and protecting what is considered individual possession. Results indicate that protectionism affects the

willingness and decision to share knowledge. This finds a base in the "huge investment in your job" (participant "An-Nah"). Participants often used words like 'I' and 'my' when discussing knowledge and certainly when mentioning teaching methods, products and other material they had produced. As participant "Thomas" mentioned, "when exchanging teaching material or knowledge, there is a chance that teachers say 'I developed this, so it is mine'." Most teachers teach one or, often in the case of vocational education, several subjects, which they have grown into over the years. Content and teaching techniques have become intertwined and, as mentioned earlier, sometimes professional performance such as teaching is a matter of autopilot based on experience. Although material and products used in class are often concrete and explicit, their appropriation is a matter of skilful performance, making the act of teaching a personal matter. Moreover, the material used and the lessons developed are often results of hard work and personal investment. This is why participants spoke in terms of 'my lessons', or a 'part of the curriculum I developed'. They identified themselves with their subject, techniques and material, and showed proudness of what they have developed. Their materials and products are their brainchild, and providing access to those is not a straightforward thing to do.

Although products and work delivered may belong to the organisation, participants clearly expressed a sense of ownership and, when colleagues are involved, a protective attitude. The main reason for this protective attitude is that shared knowledge, experiences and material can benefit someone else at the expense of one's hard work. Although such improvements, according to the participants, hypothetically are considered a positive and beneficial effect of knowledge sharing, participants also indicated that they do not want others to benefit from their work when they believe the other person does not deserve it. The following example shared by participant "Nora" portrays how the principle impacts on decisions professionals make on whether or not to share: "Material, for example – nowadays I do it more often – but actually I never put it on the website. (…) I find it irritating to share, because I know that some people do nothing, and benefit from my material." Here, the 'good colleague-judgment' as discussed previously returns. Sharing with colleagues who do not do their job properly is unlikely. The general proposition that arose from the data is that exchanging gets obstructed when 'the other person' is understood to be in some way lacking in their role. Both providing and accepting information and advice is affected by both one's judgment on the other person as well as on the value in the work context one attaches to that what might be shared. Especially on a

larger scale like an entire department, such risks of colleagues making use of someone else's work may exist. This can result in professionals withholding from sharing their knowledge, "because of a sort of rivalry towards each other, maybe, that you tip your hand" (participant "Ché").

Also, findings indicate the presence of what could be seen as a risk/reward mechanism. When the environment is perceived as safe to share knowledge or to be less protective, a reciprocity principle arises as another barrier on sharing. Essentially, participants explained, there are colleagues that produce material and products, and colleagues that consume what has been produced. The consensus on this topic, both mentioned in individual interviews as well as discussed and confirmed in the focus groups, appears to be that it is unfair to use someone else's knowledge or material, when there is little or no 'quid pro quo', that is, return or reward for work delivered. If "someone has worked with heart and soul and thinks 'well, nice, and what do I get in return?'" (participant "An-Nah"), it adds to discretionary choices, often with a negative effect.

Key findings regarding hierarchy are that both seniority as well as one's perception on being looked at as a knowledgeable person affect knowledge sharing. More specifically, it is also found that some new teachers prefer not to share their knowledge. Although their knowledge may be valuable, they are hesitant to share because they are aware of their position as a junior colleague, having less experience and knowledge than others (at least, that is the perception). Participant "Jereno" explained how sharing knowledge or experiences can be perceived negatively by colleagues:

> I was afraid that if I would have done that… Look, there are people who have been
>
> working here for over 20 years, and then this corporate guy shows up, follows a
>
> study, carries out some research, and tells us how to practice our teaching.

With 'that' referring to sharing his knowledge, "Jereno's" main concern underlying his consideration is that he does not want to be seen as a know-it-all while being new. As his remark indicates, when one is 'fresh' and 'new to the stage', they might experience feelings of inequality in terms of what their knowledge is worth. The feeling of possessing insufficient or inadequate knowledge or considering others to be more knowledgeable – which is a personal perception rather than a confirmed condition – this way puts a brake on knowledge sharing, as a beginning teacher confirms in her interview:

If I wouldn't have graduated from my studies, I think people would think 'well,

what is she saying, she has no knowledge of that, why does she bring this up?' So

in that way, I think my knowledge on pedagogy and education makes people think

'alright, she's not talking about nothing'. (participant "Robin")

Data also provide examples of participants involved in the sector for much longer. It seems that on both sides of the seniority-spectrum similar thoughts establish a setting in which hierarchy affects knowledge sharing. Participant "Irene" pointed out the friction she observes between 'younger colleagues' and 'us' by differentiating explicitly: "I think the youngsters are quite self-confident which makes you think 'My my, you've only got your diploma for one year now'". Other participants added to this how they are less likely to take on advice from a junior colleague compared to someone who has been around for some time. On the contrary, being on the other, more 'senior-side' of this spectrum seems to allow for sharing. Having a higher education degree or certain expertise provides the self-confidence to speak. One male participant illustrated this by telling: "For me it is about that what comes from me has effect. It matters. And I think, without being arrogant, I often have that. That if people ask something, I have the solution to it."

These results in the context of hierarchy indicate that seniority and expertise impact on the exchange of knowledge among colleagues. They also suggest that awareness of positional differences are a matter of status rather than organisational hierarchy. This interpersonal hierarchy partially is based on perceived seniority as just explained, but also finds a foundation in the more concrete, functional information and knowledge one can have. In this context, status also "consists of knowledge and overview" (participant "Mira"), that is, possessing or being perceived as possessing knowledge about a certain topic. Various participants indicated how their factual knowledge provides them with a position in their community, a position in which colleagues take their advice and come to them when they are in need of something. Actually 'knowing things' carries weight. Regardless their age, various participants indicated how possessing useful, practical knowledge empowers them in their team and transforms them into a more prestigious employee.

Furthermore, trust is found to impact on the willingness and choice to communicate with others. Various participants elaborated on how sharing personal knowledge, especially in the form of experiences and real-life examples, means opening up to others and exposing oneself. During one of the focus groups, participants discussed this risk in the hypothetical case in which colleagues share their experience with a certain teaching technique. In such cases, what is shared is someone's personal experience and performance rather than explicit, more concrete knowledge. This personal component that accompanies the sharing of personal knowledge creates a situation in which it is not simply information, but also the person, their performance and capability, and professional life which is focussed on. As put by participant "Thomas", if you are willing to share and converse, it requires you to be receptive to feedback and to be vulnerable. It is not realistic to expect no response, as others are likely to react, even if it is just nonverbally. Participant Lauim expressed what could occur in one's mind:

> Doubts about yourself. Scared to be exposed. As a teacher, you are quite a king on
>
> your own, so when people gain insight into what you do, then they also have
>
> thoughts about that. Feedback and the like. You have to dare to cope with that.

As Lauim indicates, the act of exchanging experiences and personal knowledge for many involve psychological considerations. Professionals tend to avoid situations in which they might expose themselves to becoming subject of gossip or doubt. The environment in which the sharing takes place matters from a psychological perspective, which is shown by participants' statements about sharing within a subgroup or with colleagues they trust and feel safe with. Trust in those colleagues one shares with, hence, is an important factor in the occurrence of knowledge sharing, because sharing implies taking a risk.

Related to issues of trust, a key finding is that fear of failing forms a barrier to communication and knowledge sharing. As discussed earlier, status partially depends on 'knowing things'. When colleagues might discover you know less than they thought, blundering might impact on your status and affect your position in the community. Participants agreed upon the fact that the risk of failing or blundering, for which the previous paragraph's provided context, impedes individuals and makes them refrain from engaging in a conversation in which they could share their thoughts and experiences. Participant "Nique" told about her experience in her team, where "if you share things in our team that didn't go down smoothly, you get a sort of label," and other participants

mentioned similar cases. It is not clear if it matters whether there are actual repercussions, such as annotations or impact on a job performance appraisal, or whether downsides are just perceived repercussions. However, none of the participants has mentioned any of such 'actual repercussions', suggesting it mostly may be a psychological and interpersonal issue. From the examples provided and the formulations and mimics expressed when participants discussed this theme, the way colleagues judge each other may be considered most influential, as this directly can influence one's position within the community or subgroup that is their daily work context. Either way, the effect of the thought about repercussions appears to be equal, not in terms of size but in terms of direction: the thought of being punished or damaged makes professionals refrain from sharing.

As a consequence of the risks described, learning from experiences that are considered failings tends to limit itself to the individual involved (for instance through reflecting) and is less likely to reach the stage of interpersonal sharing in a group of colleagues. The participating professionals often "more easily share success than failures" (participant "Ronny") and consider whether "is this a success story, or a debacle" (participant "Van Dijk"). Although failings could be useful and a source for learning, especially for others that have not experienced or learned similar matters before, it appears there is a significant amount of learning opportunities being put aside, and with that, knowledge not being developed and tapped.

3.4   Summary of Results

This chapter presented results focussed around three themes: professional knowledge, organisational issues influencing intercollegial communication, and professional issues that impact on interaction and sharing.

First, a distinction was made between content and process knowledge. The first category concerns, for instance, curricula structures, protocols and software. Most participants referred to formal education and explicit knowledge sources such as books when discussing this type of knowledge. The second type relates to performance, such as knowledge about didactics and teaching strategies. Sources include explicit ones, but experience and performance were also indicated as important sources of knowledge and

development. Data suggest that many participants are not always aware of their professional knowledge, nor of the way in which their experience and personal knowledge influence their performance which can be seen as an 'autopilot mode'. Sharing personal knowledge and expertise involves techniques to unveil, or at least express, these. Reflection was often mentioned as a method to unearth knowledge and render insights. Observation is recognised as a fruitful method, yet this study's participants rarely were using observation for professional development.

Concerning the second theme, several organisational issues and influences regarding the sharing and exchange of information and (tacit) knowledge were identified. Data related to management revealed a discrepancy between professionals' needs or wishes on the one hand, and organisational supply and initiatives on the other. This concerns both the approach to knowledge sharing and learning opportunities – according to participants too much top-down – and the content of professional learning and development initiated by the organisation – too much focus on procedures, systems, and criteria, and too little on professional practice and performance. Furthermore, participants pointed at a lack of organisational memory. Knowledge, they indicated, is not exchanged enough and the knowledge there is often remains within individuals instead of within a team or (digital) platform, and as such, the organisation and colleagues could benefit more than the case is so far. Furthermore, time is a significant factor when organising and realising knowledge sharing, or more fundamentally when considering communication between colleagues in general. Time plays an important role in the occurrence and durance of interpersonal communication, therefore also influencing the exchange of expertise and sharing of knowledge.

Finally, having described results on practical and organisational matters, the attention shifted towards more personal conditions that participants indicated to be influencing their engagement in interpersonal communication with colleagues. Professional discretion, implicating the decision to communicate and share with others or not, strongly impacts both the occurrence and the content of interpersonal sharing. Results shows that engaging in interaction with a colleague is impacted by expected usefulness, judgement on a colleague's work ethos, and personal attitudes and preferences. A protective attitude towards knowledge and created products adds to reluctance to share. Also, reciprocity coincides with a fear of others benefitting from someone else's efforts. Results also show that individuals' relative hierarchical position to colleagues affects

willingness to communicate, with expertise and seniority being elements of concern. Participants indicated they do not want to be seen as being pedantic and to consider job experience as a justification to share insights and ideas. Furthermore, results point out psychological risks and a fear of failing, which hinder communication and sharing and, consequently, learning from 'mistakes'.

A social constructivist, micropolitical perspective as deployed in this study approaches these results from a certain angle. Important are issues that relate to the interplay between knowledge and communication, to the individual and its position within its social environment, to collegiality, and to the interplay between individual objectives, shared goals and collaboration. The approach also concerns ways in which individual employees exercise power either individually or jointly to achieve goals and manage their position. This analytical approach has resulted in a number of themes that require further reflection and that will be discussed in the Discussion chapter that follows. The Discussion chapter commences with a critical examination of the nature of professional knowledge and its possible detacification (unpacking), a relevant issue given the results that indicate the importance of process knowledge and the difficulties of articulating experiences and performance. Thereafter, five key issues will follow that relate to the interplay between individual professionals, knowledge management and knowledge sharing, and the (learning) organisation, and therefore require further explanation of the results. These key areas are the role of management; the significance of professional discretion; the importance of the intersubjective domain; the relationship between discretion, knowledge and power; and implications for learning organisations.

4   Discussion

The previous chapter described that individuals can learn from each other's personal knowledge and that this interpersonal learning includes, but is not limited to, practical issues. The results strongly indicate the presence of issues of discretion, power, status, and other intersubjective factors that impact on the willingness and degree of sharing. The purpose of this Discussion chapter is to interpret these results and explore their implications in light of relevant debates and the results of previous research.

This chapter proceeds as follows. A number of issues is put forward to be examined in more detail. The degree to which tacit knowledge and personal expertise can be shared is found to be debatable as a process itself, and this will be discussed briefly first. However, beyond this, there are issues that have significantly more consequences for debates about knowledge sharing in organisations. Therefore, the influence of management is discussed, followed by the significance of professional discretion. Individual decisions concerning who to communicate and collaborate with, and possibilities to influence one's own position and that of others, are key elements in the micropolitical environment that was analysed. Related to this are issues in the intersubjective domain that impact on this discretion and individual behaviour, which are examined before putting results in the perspective of the relationship between power and knowledge. This chapter concludes with an exploration of implications for management, learning organisations and learning communities.

4.1   The Nature and Expression of Professional Knowledge

In this first part of the analysis, the focus lies on professional knowledge. A clear distinction between content and process knowledge speaks from the results. The key difference between the two appears to stem from a level of concreteness, ranging from explicit data such as protocols as opposed to tacit, intangible knowledge, for instance knowledge related to professional performance. This distinction corresponds to a common distinction within pedagogical knowledge (e.g. Smith et al., 2013). Content knowledge, on

the one hand, is believed to be quite explicit and concerns the individual possessing information about structures and procedures. As Nonaka and Takeuchi (1995) point out, this kind of knowing (which they refer to as cognitive tacit knowledge) involves cognitive activity, in the first place because of the absorbing and remembering of factual information. In Rylean theory, this is the theoretical component, the 'knowing that', which often consists of rules and regulations (see Ryle, 1948) – exactly those things that participants provided as examples of content knowledge. On the other hand, the current study undoubtedly provides support for the existence of a more implicit, personal and embedded kind of knowledge existing within the individual. As discussed by the participants, without exception this personal knowledge concerned performance as a professional.

Although it appeared difficult for participants to depict or describe specifics of their process knowledge, they provided many examples of their performance in which they believed to be using this knowledge base. This way of working indeed may be seen as skilful performance as framed by Polanyi (1958): it concerns teacher's personal knowledge and rules, unconsciously applied to their professional performance in form of, for instance, teaching techniques and communication styles. Viewed this way, the prefix 'technical' before 'tacit knowledge' (see Nonaka & Takeuchi, 1995) seems fit, as performance as found in the current study relies on skills and rules that form the foundation of techniques used to establish the process (teaching). The difficulties found to express and define such personal knowledge, and to provide examples of it, provide support for using the word 'tacit' in front of 'knowledge': difficult to depict, strenuous to describe, yet surely present within the individual. Participants elaborately discussed (the importance of) experiences in developing their process knowledge, but found it difficult to provide details and explicit examples of how experience translates to learning for future practice.

The results support Lam's (2000) proposition that it is experience that scaffolds and underpins this personal knowledge which she calls embodied knowledge. The relationship between experience and personal knowledge also is supported by the effects participants indicated to experience during their performance. Experiences help them to develop their understanding of their performance. This happens partially unconsciously – what remains afterwards are impressions and feelings about the performance, or an improved 'embedded understanding' (Lake et al., 2009), sometimes referred to with 'intuition'. Referring to Gourlay's (2002) definition of tacit knowledge used in this dissertation, findings therefore

support the claim that experiences influence tacit knowledge via emotions and values. However, according to Ryle (1948), performance also involves contemplations and mediating between action and theory, which implies consciousness. The current study does not provide support for the existence of consciousness during performance, and therefore sides with the term 'skilful performance'. Related to this, Herbig et al. (2001) hold that as a consequence of the limited or absent awareness, and the application of tacit knowledge 'in the moment', individuals do not reflect upon or examine tacit content. Theoretically, this can only be correct, as 'tacit contents' indicates implicitness and covered content that cannot be reflected upon. What was found, however, is that mediating between action and theory certainly is important, yet that this often takes place in between performances by reflecting on the relationship between actions and outcomes, with the purpose of developing a "deeper understanding of relationships with and connections to other experiences and ideas" (Rodgers, 2002, p. 845). Reflection, here, does not directly focus on tacit content, but on explicated effects of performance such as feelings or student remarks. As a consequence of reflection, professionals might alter their choices for future performance, thereby mediating between action and theory when not performing.

Being responsive to the performance environment involves receiving and processing stimuli, such as those mentioned by Lonergan (1957). Lonergan points towards active learning using stimuli as input material. Yet, before that is possible, these stimuli constitute the performance's context. In a group or classroom, ordinary stimuli such as frowning or one's hand under their chin may inform the skilful performer about how they are doing and whether things develop according to plan. Such stimuli can be processed unconsciously – an idea supported by the autopilot-effect mentioned by participants, and also found by Welsch and Lyons (2001) who found that well-performing professionals possess the 'sense' to detect normalities and abnormalities in their work context, and by Niedderer (2007) who claims that tacit knowledge and expertise are required for positive achievements. As such, this 'sense' or intuition is not just random, but grounded in previous experiences that result in familiarity with stimuli. Herbig et al. (2001) suggest that this sense originates in social interaction, and this can be confirmed by the current study given the value participants attach to practice as impetus for developing their teaching skills.

It is found that professional performance often is an unconscious process. Participants talked about "autopilot mode", and about the need for reflection afterwards to

unearth what happened when things went 'wrong', with this underlining how reflection helps making meaning of experience (Dewey, 1910; Rodgers, 2002; Winter, 1988). Techniques, knowledge, assumptions et cetera have become intertwined and developed through experience, and this experience enables professionals to cruise on autopilot. This implies that professionals are able to respond to a variety of contexts and to anticipate accordingly, without consciously analysing the context and adapting their way of working. When there are no explicit considerations, yet there is adequate professional performance, it is plausible to assume that it is tacit knowledge that scaffolds and fuels the performance.

As indicated in the Results chapter, most participants initially have a positive attitude towards knowledge sharing and they (verbally) share stories and experiences. Asked how they formulate their expertise, concepts or ideas, participants started describing ways in which they formulate and compartmentalise those. It is relevant to question the degree of tacitness of such sharing, given Polanyi's standpoint that tacit knowledge can *not* be shared. He holds this principle because the combination of skilful performance and effable knowledge would make skills and personal knowledge unspecifiable, and so, non-sharable. To clarify on this, I would like to emphasise a distinction between the content of what is shared as opposed to the tacit, personal knowledge behind it.

It was found that when trying to share personal knowledge, the sender tries to express their version of an experience or concept, rather than underpinnings or rules. Despite participants' difficulties in expressing themselves, they were able to indicate when they believe to be using their tacit knowledge, and to talk about their conversations with colleagues in which they focussed on experience and knowledge. During such conversations, it is context, feelings, impressions and other explicated information that is shared. Although the sender's tacit knowledge is built up of such (experiential) elements, that tacit knowledge is not simply presented as a whole. Referring to tacit knowledge as being non-linguistic and non-numerical, arguably if it was presented and shared clearly and completely, it would be linguistic and explicit. Therefore, it appears that professionals share elements and ideas, or explicit knowledge *about* their knowledge, instead of their actual tacit knowledge. This resembles Polanyi's (1958) writing about the unspecifiability of skilful performance: the performance itself and the tacit knowledge behind it remain implicit.

In practice, it appears that professionals are quite able to find satisfying ways to exchange what they depict as experiential or personal knowledge. Partially, this is because of the effectiveness of communication techniques used, such as stories. By sharing stories, participants try to share their experiences and expertise. With that, results align with existing evidence (e.g. Kothari et al., 2011; Krátká, 2015) that indicates that metaphors, analogies and stories carry tacit knowledge, with the side note that stories that express ideas, feelings et cetera *represent* an individual's experience and contain 'wrapped' tacit knowledge, rather than *present* tacit knowledge as it is. Furthermore, communication can consist of or be improved by gesturing and demonstrating.

This communication provides space for what could be seen as 'observations in re-wind' and allow for reflection and analysis. Similar to what Lonergan (1957) describes, seeing, feeling and hearing during professional performance provide the professional with material for inquiry. During reflective conversations, participants find the time and critical feedback that enables them to reassess and reorganise information and relationships related to the experience – for Polanyi (1958), these reassessing and reorganising are key to human learning, and the current study supports this assumption. This, again, implies that it is not tacit knowledge being shared, but rather elements and information that foster analysis of the experience observed and result in explicit learning as meant by Eraut (2000).

Although he believed tacit knowledge cannot be shared, Polanyi (1958) attached great value to apprenticeships as a way to transfer skills and to learn from one another. Assuming that collaboration is a way to transfer skills and knowledge, practice supplemented with other individuals' input would open up possibilities for exchange. Current results provide support to believe that apprenticeships are convenient vehicles for transferring skills. Participants especially mentioned observations as a fruitful and adequate instrument, even though admitting they hardly ever use it aside from teacher training. Particularly for novice teachers, it is considered a significant source of learning and always is part of teacher education. In that context, observations and reflection are literally part of internships and endorse Neuweg's (2002) claim that tacit knowledge is coachable.

Considering the principle strongly held by Polanyi (1958) and Gourlay (2002) that tacit knowledge is highly personal and contextual, it is important to note that the stories shared by participants, as expected, all differ and display unique individual curricula vitae.

Differences in experiences, locations, contexts, trial and error make it understandable why tacit knowledge is a personal matter. Nevertheless, the degree to which knowledge is personal is questionable, as many colleagues have had the same or similar (formal) education, and work within the same context for years. The interpretation and appropriation of information and knowledge certainly differs from person to person, but tacit knowledge may be less than 'highly' personal and individual due to similarities between colleagues. At least, such overlap is expected to smoothen communication because of, for example, the development of a shared mental model within a team (Nonaki & Takeuchi, 1995), although it can be questioned to what extent such a shared mental model actually is represented equally within different individuals. While underlining and defending the existence of personal and contextual components of knowledge, I would however argue that shared contexts and interpersonal ties do decrease the personal, individual character of knowledge. This is evidenced not only by results that indicate stronger ties between colleagues with similar ages and years of experience, or between participants that have had the same formal education, but also by participants expressing relief and recognition when they talked about a colleague that understands them and has experienced similar situations. These examples imply that having something in common supports understanding and communication, and at the same time signal that a shared context decreases the individuality of personal knowledge.

From a philosophical point of view, there is no evidence to contradict Polanyi's (1958) claim that personal, contextual thoughts and ideas cannot by transferred one-to-one as a result of human complexity, individual perception, and limits of communication. Nor does this study provide evidence that tacit knowledge itself can be shared – rather, it is stories, experiences and personal expressions that are shared. Notwithstanding these parameters, considering that participants appear to be satisfied with what they are able to share and discuss, how vital is it that tacit knowledge could be transferred exactly as it is? Although this issue strikes at the heart of Polanyi's work, the significance of it in daily practice might be limited, as there are means to share personal views and insights to a satisfying extent. Moreover, literature and the current study's results show that professionals are able to interrogate and alter their performance making use of someone else's experiences and knowledge. The conclusion seems to be that the principle that tacit knowledge itself cannot be shared holds ground, but that *personalised versions* of knowledge can be shared in the

form of stories, metaphors and expressions of emotions, that way enabling individuals to transfer some of their knowledge.

4.2   The Role of Management in Communication and Sharing

Line management in a managerialist organisation assumes that "if performance indicators provide the equivalent of a bottom line (…) one can leave it to street-level organizations to determine how best to do policy work" (Brodkin, 2011, p. 254). The results show a context that is in line with this principle, which signals how managerialism has entered this education sector. Participants mentioned how policy and ideas 'from above' have to be implemented and operated, such as internal policies for learning material, nation-wide examination criteria, and policies concerning the occupations for which they educate their students. To fulfil the government's requirements, be able to withstand audits and comply with organisational benchmarks, teachers are expected to adapt content and performance following prescriptions and guidelines. Participants indicated how the organisational focus on policy, guidelines and systems distracts from intercollegial learning and occupational professional development. This provides a straightforward example of how institutionalised knowledge is rolled out from the top of a hierarchy, and disciplinary measures are implemented in society.

    Patrick et al. (2003) question whether CPD is meant to enhance either professional autonomy and practice, or performativity. The results provide support for both, but suggest a gap between individual CPD and collective CPD. Results show possibilities and options for individual professionals to follow formal education free of choice, such as a short training or a master's degree programme. Participants regret that there appears to be little attention to their learning and acquired knowledge within in the organisation. Often, this attention does not reach further than close colleagues or a small group. On the other hand, various participants commented on how learning and CPD organised and encouraged by the organisation tend to focus on procedures, codes, policy and the organisation itself. This suggests that learning for professional practice, which usually takes place outside the institution, is valued less than learning for performativity and organisational aims stemming from a managerialist approach.

The focus on performativity and accountability in both daily work as well as in CPD has implications for these individuals regarding their professionalism. For teachers, curricula and teaching are at the heart of their profession. Managerialist approaches to curriculum development and content, but also to professional development regarding these matters and regarding teaching and interaction with students, are setting norms and standards. These norms and standards are found to curtail the autonomy and self-regulation of teachers by providing them with frameworks for their professional practice. As such, these results build on the existing evidence claiming that discretionary practices are steered and partially taken away from the individual professional (Brodkin, 2011; Deem & Brehony, 2005; Evetts, 2002, 2009). Brodkin (2008, p. 317) questions how management can "promote accountability without deadening responsiveness and undermining the application of professional judgment," and these results provide insight in how preferably this should *not* be done: by making professional learning and CPD about the organisation and organisational professionalism. Results show that teaching professionals are aware of how the organisational professionalism and managerialist learning objectives push away their occupational professionalism and professional being. Participants complained about how management tends to organise meetings and learning events in a top-down manner and make these about organisational topics. Audits and examination criteria, team mergers and organisational culture, policy changes, and alike themes frequently find their way into study day programmes. Not seldom, meetings or trainings are guided by change professionals, management or other forms of support from outside, in accordance with one of the privatisation dimensions as described by Ball (2009). Such a typical top-down management approach emphasises the distance between staff's motivations for meeting, communicating and collaborating on the one hand, and organisational motivations for convening employees on the other.

Hislop (2002) holds that the success of knowledge management strongly depends on employees' willingness to share personal knowledge and expertise. The current study provides support for Hislop's (2002) claim, as is shown by the impact of individual considerations and decisions regarding whether or not to share. Previous research shows that this willingness increases with satisfaction and commitment to the organisation (Robertson & O'Malley Hammersley, 2000), and a fair psychological relationship with the employer (Hislop, 2002; Scarbrough & Carter, 2000). Data collection for the current study did not focus on commitment and relationship regarding the employer explicitly. It did

focus on relationships between colleagues. Results provide evidence to assume that individual willingness to share is influenced by satisfaction, commitment and a fair psychological relationship *between individual employees*. Results also indicate how discretionary reasoning includes assessment of colleagues in terms of safety and trust, fairness concerning possible use of the knowledge shared, and the degree to which one feels connected to the colleague(s). In the participants' view, psychological relationships and trust are issues between colleagues. If that is what they perceive as their reality, than it is reasonable to state that in this research context, psychological safety is intersubjective by nature. Given the participants' view, the current study does not provide direct evidence to support the claim that management is involved in fostering psychological safety, as implied by previous studies (Doyle, 2002; Hirak et al., 2012; Lin, 2007). However, results provide support for Hirak et al.'s (2012) assumption that leadership is especially important for underperforming groups or individuals. It was found that particularly new colleagues, such as interns or recently graduated colleagues, are on their guard and hesitant to share as a consequence of their perceived lower status and limited experience. They sometimes value their knowledge lower than that of more senior colleagues and with that, classify themselves as low-performing. However, they often possess recent and adequate knowledge that could be of interest to colleagues and the organisation. Management efforts to provide equal sharing opportunities may support those employees that are hesitant. These results implicate that management and leaders should pay attention to such intersubjective issues that affect behaviour and feelings between colleagues, with extra attention to employees that are relatively new.

When participants were asked what might hinder their intercollegial knowledge sharing and learning, often the answer included a version of 'I do not have enough time'. Clearly, there is a widespread perception that there is a) too little time in general, which is mostly caused by b) a heavy workload, the two combined resulting in c) scarce opportunities and moments for sharing knowledge and experiences. Regarding a), without judging on its validity, it has to be mentioned that this is quite a common concern in education. It also corresponds to evidence provided by Fleuren et al. (2004) and Kennedy (2011) who encountered participants expressing the experience of not having much time at work. Based on both the current study's results and the evidence of other studies on this issue of time (e.g. Brown, 2007; Sabelis, 2002), it shows that administrative tasks and accounting

for performance take up a lot of time. In the current study's research context, there is a precarious relationship between time and the amount of work, with participants describing how time-consuming administrative tasks, student progress reports, and curriculum development are, and how these can interfere with what they referred to as 'the primary process', that is, teaching and marking. Also, time spent on implementing reforms and learning about systems and procedures results in real time constraints. The work within a specified amount of time often causes a perceived workload that is considered to be, at best, acceptable, and forces teachers to make choices on how to spend their time, supporting the relationship between time compression and task suppression Murphy and Skillen (2015) show. As expected based on the work by Clarke (2002) and Vinokur-Kaplan (1986), also in the current study's context limited time is found to compromise learning and sharing opportunities. This is also the case for the experience of workload pressure mentioned by Connelly (1996) and Murphy and Skillen (2015). Workload occupies both the mind and the agenda at the expense of the perceived flexibility and space to undertake activities outside the designated teaching and tasks.

Another complicating factor frequently mentioned by participants concerns the timetable issue that was also raised by Kennedy (2011). The rosters they receive at least once, but often multiple times per year, set strict boundaries to agendas. Due to the pre-made imposed schedules with classes, meetings and other tasks, flexibility decreases and the sense of being busy increases. Similar to respondents in the studies by Zeggelaar et al. (2017, 2020), participants in the current study indicated the need for frequent gatherings or another kind of practical structure to enable intercollegial exchange. Such 'protected time' (Zibrowski et al., 2008), it is believed, would support them. Nevertheless, rostering such meetings and opportunities adds to the denseness of rosters and the limitation of individual agenda management, which are believed to be a cause of little intercollegial communication. To complete the circle, providing professionals with more protected time, in a way adds to the time squeeze while at the same time, it is unclear whether or not they would use for intercollegial communication and sharing or for other tasks. Hence, although participants ask for allocated, protected time, it is debatable whether providing that time increases knowledge sharing.

The current study sheds a different light on a study by Vollenbroek (2019) who indicates that time allocated by the organisation is not a factor that affects an individual's behaviour in a professional community. The current study shows that allocated time affects

professionals' perception of time and time pressure and also affects decisions on how to spend allocated time. Allocated time can serve as protected time for communication and sharing, but also limits flexibility, adding to the timetable issue. Moreover, considering the top-down approach discussed earlier, participants doubted the adequacy and purpose of allocated time, as it is regularly used collectively and its deployment often is initiated by the management. This type of allocated time frequently is experienced as inadequate or as inappropriately time consuming. The time used in those occasions insufficiently adds to their professional development and intercollegial learning, but does add to the tense relationship between time and tasks. Furthermore, although this study shows that issues around time as discussed in the literature exist, it is quite literally a matter of 'limited time', not 'no time'. There are weekly meetings. There are study days. There are weeks without classes. As described in the Results chapter, colleagues sometimes do find the time to communicate and share, either during or outside (scheduled) work hours. This suggests that participants either do not experience the available time as actually being there, or that there may be other reasons to mention a lack of time as cause for limited intercollegial communication and sharing. Considering the aversion expressed by various participants to attend organised meetings, and the intercollegial communication that does take place outside of those moments, it rather appears to be a matter of choice and prioritisation. This idea is strengthened by participants' answers when asked how they would use extra time. Some would spend it on intercollegial learning, yet others on their regular tasks. Hence, expectations of allocated time affect individual behaviour by affecting decisions on how to spend time. With work increasingly governed by organisational professionalism, rosters and procedures that prescribe agendas and occupational professional performance, 'no more time' (suggesting 'no more space in agenda') may be used by professionals to protect themselves from 'wasting' time while having other priorities. 'No time', then, becomes either a scape goat for not willing to participate – supporting Kennedy's (2011) research – or for holding on to the influence on one's own agenda. As such, in the current study, and contrary to results by Vollenbroek (2019), time allocated by the organisation is found to be a factor that affects individual behaviour in a professional community, as it influences discretion and prioritisation of work and interpersonal interaction.

To summarise, time compression, a perceived overload of work, and doubts about allocated 'learning time', led participants to enunciate insufficient opportunities and time

to exchange and learn from each other. An implication of this is that attempts to scaffold a learning organisation by arranging meetings and allocating time can be impeded by professional discretion regarding how to spend time. Considering this and the participants' remarks about how they use the moments they do have during breaks or in between classes, 'no time' and a heavy workload may result in professionals protecting their time and autonomy by keeping their distance to tasks and activities initiated by others. It also points out how individual professionals may deploy the concept of time as a cornerstone of their professional autonomy and agency, as it is symbolic for the relationship between their daily work performance and the tasks they are expected to fulfil. For an organisation, these results should raise questions about the appropriateness of learning meetings organised from higher up in the hierarchy, or at least emphasise the importance of investigating the relationship between organisational intentions on the one hand, and expectations, needs and motivations of their employees on the other.

4.3 Significance of Professional Discretion in Knowledge Sharing

As discussed so far, the perception of the available time, combined with the expected use and relevance of activities and meetings, impacts individual willingness to engage in intercollegial communication. This study shows how decisions of the individual professional form a crucial factor impacting on the communication and knowledge sharing between professionals. If the question is 'who or what makes knowledge sharing happen?', clearly the answer is not simply to be found in facilitation, nor in policy or managerial directions. Although these certainly are part of the answer, the key lies in 'the individual'. It is the individual professional that possesses and guards knowledge, and it is that same individual that decides on both the occurrence and content of intercollegial communication and sharing.

As described in the Results chapter, within the school contexts researched standardisation processes are taking place. This standardisation largely concerns procedures at the organisational level such as criteria for students' progress and administrative procedures, relating to organisational professionalism. Observations add evidence to the existing research that claims how line management sets the standards to

which professionals adhere and are held accountable (Brodkin, 2011; Frederickson, 1996; Ottesen & Møller, 2016). The development is found to form the impetus for several changes within the professional domain of individual employees. First, in line with research by Ponnert and Svensson (2016), findings indicate that participants' perceived autonomy decreases while managerial influence through alignment and standardisation increases. Second, a clear distinction is found between the individual and the organisation when it comes to the nature of knowledge. Results shows that within the organisation, explicit knowledge is important as it forms the foundation of standardisation, procedures and material. Individual professionals however show more interest in practical, performance related knowledge that relates to expertise and skills. As learning is concerned, participants often made a distinction between their development as a professional on the one hand, and learning and knowledge about procedures and systems on the other hand. Third, the change to more organisational professionalism involves a shift of authority and control. As individual autonomy and occupational professionalism decrease, collegial authority within a group decreases as well as a result of less opportunities for an individual to take in a prominent position amongst colleagues. Instead, managers take that role, exercising authority and control, and changing the social structure and hierarchy in the team.

The developments found in this study picture a context that shows significant resemblances with the context Evetts (2002, 2009) describes, in which professionals' autonomy and discretion are challenged by the criteria, norms and procedures imposed through organisational professionalism. As such, the current study provides support for the broader development regarding occupational professionalism being replaced by organisational professionalism as described by Sweeney (1981) and Evetts (2009), and for research indicating how occupational professionalism – including professional discretion – is impacted by managerialist forms of management (Brodkin, 2011; Deem & Brehony, 2005; Klikauer, 2015). Participants' remarks about the focus of professional development and learning expected by their organisation (for instance "system-atic" learning) underline the way in which routinisation partially results in de-professionalisation, supporting the results of Healy and Meagher (2004). However, nuancing Healy and Meagher's results, it should be noted that this mostly applies to *occupational* de-professionalism – something that is also found by Ponnert and Svensson (2016) who found that standardisation movements cause loss of professional discretion regarding work methods and routines.

For the professionals that participated in this study, the focus on standardisation emphasises differences between the organisation on the one hand, and their own professional views, knowledge and expertise on the other. Results discern a mistrust in the perceived use and adequateness of arranged learning meetings, similar to what Fleuren et al. (2004) refer to as the lack of clarity concerning the aim – although the organisational aim may be clear, the individual benefits and personal aims may differ. As a consequence, expertise and personal knowledge are pushed into the area of the individual professional, while explicit knowledge and standardised issues take the front stage of professionalism. The question raised in the literature review to what extent individual teacher knowledge might be exposed on the institutional stage and how knowledge sharing is valued within the organisation, seems to be answered by this discrepancy: limited, and less valued than explicit knowledge and organisational professionalism. Contemplating this condition, it is not surprising that many participants experience a lack of time for sharing their knowledge and limited influence on professional development. Evetts (2002, 2009) holds that the most important feature of decision making in professional life is professional discretion, and results indicate a decreasing space for individual influence and discretion. This situation even points towards an opposite outcome of organisational attempts to professionalise. While the organisation imposes disciplinary measures to professionalise its employees, professionals themselves feel less professional and feel the need to focus more on their occupation and performance, which they consider endangered.

Professionals value their professional discretion because it constitutes their professional performance and their added value on top of shared organisational professionalism. As control and the space for decision-making are contested by the boundaries that managerialism sets, occupational professionalism and professional discretion are being 'pushed' towards the space remaining: the individual and interpersonal context at a level below 'the organisation'. This development has some consequences. One is that personal knowledge and expertise symbolise the professional's being, because it contrasts with general and generic procedures and organisational standards. Working in a standardised environment makes personal knowledge and experience distinctive from prescribed, conventional ways of working. Personal knowledge may provide opportunities to act differently from others and so, if used adequately, to excel. Yet, if shared, one's personal knowledge and experience may lose value, as others may use it to their advantage too. Many participants expressed their concern that a colleague could take credit for

someone else's contributions. Also, sharing personal knowledge and experience may result in handing over control to colleagues, or to 'the organisation'. Insight in one's ideas and ways of working could decrease the discretionary space left, which some participants referred to as a teacher's "kingdom". Moreover, if all colleagues were to share all their knowledge that easily, either out of free will or being obliged to do so by their management, what would be the difference between them and any other colleague, and what would be left of their profession and individual position? As a consequence of the standardised work environment, contested occupational professionalism, and decreasing professional discretion in daily performance, discretion is deployed to manage one's professional position. It provides the individual with the ability to make decisions about their performance as an employee and as a colleague – decisions not only about *how* to work (be it within boundaries), but also about *who* to work with and *what* to communicate and share. In this way, professional discretion affects the intercollegial communication and sharing of knowledge.

Previous research indicates that although standardisation explicates procedures and complicates the appliance of professional discretion, more rules and procedures do not necessarily make professional discretion disappear, since professional discretion depends on the context and organisational culture (Evans, 2012; Høybye-Mortensen, 2015), and can be carried out in different ways (Ellis, 2011). The current study shows that professional discretion has implications for communication and knowledge sharing between professionals, as individual professionals are cautious to share and take deliberate decisions about exposing their occupational professionalism and sharing their knowledge. The next two parts of this chapter discuss how deliberations in the intercollegial sphere relate to these decisions, and provide an examination of discretion related to the exercise of power.

4.4   Importance of the Intersubjective Domain

What has become clear in this chapter so far, is that individuals are often aware of their position in their team and organisation, and that this awareness affects their behaviour and decisions regarding knowledge sharing. This asks for further evaluation of individual

behaviour and individual positions within a group setting. Barron (2003) suggests a discussion on characteristics of interaction and their possible impact on social processes, and given this study's paradigm and micropolitical, social constructivist approach, I will now consider such elements of social interaction. The foundations that are found to impact on discretionary reasoning and interaction, and by extension knowledge sharing, that will be discussed hereafter concern status, trust, protectionism, and interdependence.

In the literature review, status was framed as a relative social position (Cummins, 2005; Van Vugt & Tybur, 2015) and it was distinguished from reputation, which arises from prior actions and can be seen as the result of delivering quality over time (George et al., 2016; Sorensen, 2014). Participants indicated that in their context, one's social position is based on both knowledge and seniority. Results on status and hierarchy show that possessing knowledge about organisational and/or practice-related knowledge raises one's status among colleagues. On the other hand, sharing mistakes or inadequate information is believed to decrease one's status. Awareness of this mechanism clearly speaks from the data and the participants' remarks, both ways. Colleagues that 'know things' are able to provide useful advice and are respected, whereas colleagues that share ungrounded or irrelevant information are perceived as poorly performing professionals and risk being left aside. Hence, status is partially based on the quality of advice and knowledge, which is reputation, implying that reputation scaffolds status. However, status is also influenced by seniority, which participants did not relate to delivered quality. This implies that status and reputation are related, but not the same, supporting the claim that the two are separate concepts (George et al., 2016; Sorensen, 2014).

The results confirm the general claim that issues of status affect communication and collaboration between professionals (Andrews & Delahaye, 2000; Doosje et al., 1995; Eussen et al., 2017; Park et al., 2017), which most clearly is evidenced by the reluctance of junior colleagues to share their insights, and the expressed considerations concerning the possible effect of sharing on one's position and image. However, where Eussen et al. (2017) found resistance when it comes to interpersonal sharing of knowledge because of fear regarding one's position in comparison to *another* group or team, the current study shows that this also may apply to individuals *within* a team. Awareness of their own status causes professionals to consider what sharing would do to their social position within their direct work environment.

Although this study's results build on the existing theory to the extent that awareness of status impacts social interaction and sharing of knowledge, they do not directly fit the premise that individuals strive at *enhancing* their status. As such, results do not support existing literature that claims that enhancing status is an individual motivation to create or share knowledge (Kulkarni et al., 2007; Lee et al., 2015; Park et al., 2017). Rather, it is found that professionals try to maintain, or at least not decrease, their status. It appears that professionals tend to introvert instead of expose and share their knowledge. A plausible explanation for this could be that the estimated risk of losing status is greater than the possible benefits. Indeed, it shows that professionals being afraid to come across as stupid or unknowing, tend to withhold from sharing with direct colleagues in order not to weaken in their social environment. This especially applies when in doubt, or in case of sharing less successful experiences that might affect their colleagues' judgment on them. However, regarding the relationship between sharing knowledge and status, a nuance can be made. Sharing knowledge would not decrease the actual amount of knowledge one possesses, but it could change colleagues' perceptions about that person's knowledge. Indeed, exposing knowledge that is not valued by others is what constitutes the fear participants mentioned, and therefore, sharing can carry the risk of exposing knowledge of less quality than expected. This confirms the expectation expressed in the literature review that contexts for knowledge sharing that include colleagues with a higher position in the hierarchy, are not invitational and make individuals doubt their value. It also provides support for Rehm et al. (2015) who indicate that those who perceive to be more senior are more likely to participate and take the stage to share their views and knowledge. Additionally, it seems less to be the case that individuals refrain from sharing because of the possibility to enhance the status of a colleague, suggesting they are more concerned with their own position than that of others.

Status is found to be more important than one's formal position in the organisation. A colleague's social standing and the advice or knowledge shared are often mentioned as the criteria for judgment on that colleague, whereas formal position in the organisation is not. Hence, it shows that social position outweighs organisational position. This implies that hierarchical structures in an organisation not simply build on formal organisational structures, and that intersubjective social processes play a role in this. This emphasises the importance of individual professionals and their relationships with colleagues with regards to knowledge management, more specifically the distribution of knowledge. For

organisations that aim at professionalising and managing knowledge, these results signal the necessity to focus on informal structures of communication and interaction within and between individuals, teams and departments, and to identify and involve employees, who carry the weight and status to influence these social structures in the organisation, in knowledge sharing and knowledge management.

Similar to how Homan (2001) and Edmondson (1996, 1999) describe the psychological circumstances of learning in group settings, this study found that knowledge sharing in a group setting is not without psychological risks. An important aspect is trust between colleagues, most clearly expressed in the perceived safety to share mistakes and difficult experiences. Edmondson (2002) holds that participating in sharing activities means taking individual risk. Such contexts may make someone look ignorant, incompetent or disruptive, and colleagues' reactions are uncertain: "People's beliefs about how others will respond if they engage in behaviour for which the outcome is uncertain affects their willingness to take interpersonal risks" (Edmondson, 1999, p. 376). Current study's results support Edmondson's (1999, 2002) studies, with participants explicitly elaborating on how sharing is believed to involve psychological risks and that these possible risks and colleagues' responses strongly affect their willingness and decisions. Various participants shared examples of their considerations related to such situations, and these considerations have a common thread which can be summarised as 'What may happen to my image and feelings if I open up to my colleague(s)?' The participants, in various formulations, indicated that fear of failing is the central issue. Failing, more precisely, is seen as 'being thought of by the other(s) as having failed'. As one might expect with psychological contemplations, it concerns the *perception* of being a failure in the eyes of others. Exposing personal knowledge or thoughts makes one vulnerable, and subjects one to the possibility of being perceived to be exposing ignorance or vapidity.

The fear of failing contains an element of repercussion. One participant explicitly shared how they noticed that in their team people get labelled in such cases, with colleagues doubting about one's qualities. Additionally, other forms of repercussions, such as not being asked to collaborate with certain colleagues anymore, add to the wariness. Nevertheless, from the data, it is not completely clear if it differs whether there are *explicit* repercussions, such as annotations, or whether downsides are *perceived* repercussions. It is debatable which category would be worse, as the way repercussions and experiences are

dealt with is quite a personal matter. Building on the examples and the formulations ('labelling', for example), and mimics (raised eyebrows) when participants discussed this theme, perception of the way colleagues judge each other may be considered most influential, as this directly might impact on one's social position within a team or subgroup.

The assessing of the sharing context shows clear parallels with Edmondson's (1999) definition of psychological safety, as the assessment is meant to decide on taking the risk of sharing personal matters based on the perceived trust in a colleague and the expected consequences. The overall quality of the interpersonal relationship – or affect-based trust (McAllister, 1995) – was found to play a key role in assessing the safety to take the risk, adding to the existing evidence provided by Holste and Fields (2010) who hold that affect-based trust adds to the willingness to share tacit knowledge. Findings show that individuals are more likely to share with colleagues they like and feel comfortable with, than with colleagues they normally would not interact with either. Because the psychological effect of risks (feelings of fear) was found to act as a significant barrier to sharing knowledge, not only are the current study's results in line with research showing that psychological safety and associated risks influence learning (Carmelli & Gittell, 2009; Edmondson, 1996, 1999; Kostopoulos & Bozionelos, 2011), but also they provide support for the conclusion that "unless affect-based trust of another co-worker is present, little tacit knowledge sharing may occur regardless of how competent the possible recipient may be" (Holste & Fields, 2010, p. 135).

The quote above concerns the act of sharing. In the Results chapter, it was stated that for individual X who engages in a conversation with a colleague who shares their knowledge (that is, when X is a recipient), content and collegiality appear to be more important than whether or not this colleague is trustworthy. In the case of actively sharing, however, this appears to be contrariwise: although content may influence one's confidence and willingness to communicate, trust in the other(s) is necessary in order to actively share in a conversation. These insights underline differences in considerations between active sharing and being a recipient of shared knowledge. This insinuates that affect-based trust is a significant factor if aiming for the sharing of valuable and truly personal experiences and knowledge, rather than information that carries little risk.

Andrews and Delahaye (2000) found that for individuals that perceive their knowledge as a valuable 'item', knowledge sharing becomes mediated by decisions about content. Similarly, current analysis revealed an issue with regard to ownership, which concerns intellectual property of (possibly explicit) knowledge or material. From the data it speaks how professionals often possess knowledge, expertise or material they treat as if it were private and special because they developed it. In such cases, even if colleagues or team could benefit, they may withhold from sharing. This issue reveals a discrepancy between what participants say they want or would do if provided with the right conditions for sharing knowledge, and what they actually do – participants claim to find knowledge sharing important, but they do not necessarily act to that.

This ownership and protective attitude exist in the grey area Hannabuss (2001) and Bainbridge (2004) describe, and is possible because of the unclarity regarding the possession of material. Hannabuss (2001, p. 120) shows how in education institutions copyright can be is dubious, with practice often depending "on the interpretation of 'in the course of employment' and 'in the course of normal duties', 'using the employer's resources' and 'being commissioned to carry out a task'." He and Bainbridge (2004) agree that an organisation not necessarily is the owner of material written to support one's performance. The participants appear to hold the same position, and prefer to protect their knowledge and products, even if their colleagues and the organisation would benefit from having access. Most examples concern practical material like a course outline. At the same time, such explicit material without explanation or knowledge of its appropriation has its limitations, and so both material and personal knowledge are regularly kept private by the individual or a small subgroup of trusted colleagues. The fact there always will be the type of colleague that develops and shares anything that may be missing, allows for preservation by others. Protection of personal knowledge and products consists of keeping these close and deciding carefully who to trust it with.

Partially, the protective behaviour results from proudness and time invested. This is evidenced both by participants literally stating why they are protective, as well as by the proud way in which they talked about their material. Another reason found to doubt that sharing personal material and knowledge is an obvious thing to do, is that professionals tend to protect their work and knowledge in the light of the risk of a colleague making use of what would be shared at the expense of the sharing party. Participants explained how sharing can be shooting yourself in the foot, as someone might take advantage of your

ideas or materials. As noted earlier by Jarvenpaa and Staples (2001), also in this study's context concerns of gain and trust make people hide or hoard information and knowledge.

The findings revealing the existence of a reciprocity mechanism that influences contemplations regarding sharing, build on social exchange theory. The considerations as discussed by the participants at this point reason from the same grounds as stated by Blau (1964, p. 91) writing that "voluntary actions of individuals (…) are motivated by the returns they are expected to bring." With that, results support Blau (1986) and Cotterell et al. (1992) holding that someone with the opportunity to share and invest, does so being aware of the possibility there might not be something positive in return. The current study thus adds to existing evidence base (e.g. Blau, 1964; Flynn, 2005; Kamdar et al., 2006) concerning the importance of reciprocity as element of social exchange. It contributes to this the finding that expected *negative* rewards, such as someone else claiming credit for work done by others, also affect exchange. As does the expected absence of positive rewards, such possible 'negative reciprocity' forms a barrier on exchange.

Based on participants' elaborations, it shows that the reciprocity mechanism adds to discretionary reasoning as a consequence of being rewarded, or not, for sharing and supporting a colleague. The results in the Van Horn et al. (2001) study showing that Dutch teachers perceive significantly less rewarding outcomes than investments in their relationship with colleagues, are tempting to confirm based on the remarks from current study's participants regarding protection and reciprocity. Yet, in the current study, none of the participants has indicated an overall imbalance of investments and rewards. Besides, it has been found that investments and outcomes are not always an individual matter. Data reveal a more nuanced picture: some colleagues invest more than others, some colleagues 'consume' more than others, and aside from personal experience with a specific colleague decisions on actively sharing are also based on that colleague's image. In some cases, the effect is direct, when colleagues that have rewarded too little in a one-on-one relationship receive a direct 'interpersonal demerit'. Yet, participants indicated how sometimes they are conscious of certain colleagues who have the image of consuming unfairly or contributing too little. In those cases, there is no individual 'damage' or lack of reward, but the demerit is conferred nevertheless as the result of that colleague's image. The fact that a clear imbalance was not found in the current study, nor negative effects on well-being, may be explained by the protective attitude as discussed. Possibly this attitude, through limiting their exchange, prevents professionals from perceiving an imbalanced relationship.

The most profound implication of the protective attitude that was found is that it can curb intercollegial knowledge sharing and with that thwart the development of learning communities and learning organisations. The importance of expected positive rewards from intercollegial sharing found also suggests that the sharing climate may be related to the organisational reward system, as claimed by MacNeil (2003). Although participants referred to colleagues in the context of rewards and risks, some also indicated to fear that this colleague may take the credits somewhere else in the organisation. This suggests that some form of reward or recognition from the organisation may influence discretionary reasoning regarding knowledge sharing, and that indeed the organisational reward system could play a role in the sharing climate.

During the interviews, various participants spoke about their own performance being dependent on their colleagues fulfilling tasks or sharing information and content, for example when they take over a cohort or course. Illustrated by participants' remarks on not being able to finish their own work due to colleagues that fail to deliver, this pictures a working environment in which interdependence is common. As such, the results reflect existing theory about interdependence in teams (Decuyper et al., 2010; Van den Bossche et al., 2006).

Task interdependence as just described is believed to affect professional's behaviour within groups (Gully et al., 2002; Van den Bossche et al., 2006). The current study provides support to this, as will be evidenced by the following example. A professional needing support is depending on a colleague to fulfil the task concerned. Since participants have shown to be aware of the consequences of being interdependent, it is likely that a colleague's interdependence also is related to discretionary reasoning concerning what to share, and when. Results show that participants are more willing to share and cooperate with colleagues who are considered 'good professionals' (reliable and worthy of receiving support), who may provide positive rewards, and who pose little risk. In an interdependent context, this translates as 'I will support you reaching your goal by sharing my knowledge, if I judge you to be reliable and worth my investment'. This way, an interdependent relationship creates a playing field for the exercise of discretionary power by means of sharing or withholding knowledge, and can influence professional behaviour. It also implicates that, as a colleague proofs to be trustworthy over time, exchange and sharing with that colleague could increase. The finding that individuals

prefer sharing with trusted colleagues and may engage in collaboration with specific colleagues, not only indicates developing commitment, but also support Lawler and Yoon (1998) who state that commitment is found to be related to the distribution of power in a network. After all, if sharing occurs between certain individuals, while leaving out others, this affects the distribution of knowledge and influence.

Regarding the type of professional behaviour, previous research found that task interdependence fosters communication and information sharing (Crawford & Haaland, 1972; Decuyper et al., 2010; Van den Bossche et al., 2006). At first, results may seem to support this, given the examples in which participants indicated to be depending on their colleague's input. However, the fact that professionals apparently have to ask some colleagues multiple times for input, suggest that communication may increase, but that sharing not necessarily follows and increases too. For instance, in the case of task interdependence, the success of individual A depends heavily on the input of individual B. Yet, B makes a decision on sharing. B, for instance, may consider A not worth of receiving support, or considers A not to be a priority. Depending on the task of and attitudes towards A, B may decide to withhold information partially or entirely, or postpone providing support. Hence, although named 'task *inter*dependence', it may be a situation of one-sided dependence. Examples have been provided by participants mentioning not being able to fulfil *their* task because a colleague did not provide the necessary *input* to do so. They also notice how this has an effect on the relationship with such colleagues in a negative way, which on its turn may negatively influence future communication. Hence, results provide evidence for the claim that task interdependence affects professional's behaviour as earlier shown by Gully et al. (2002) and Van den Bossche et al. (2006), but also show that communication and information sharing do not necessarily co-exist and that these may be negatively affected by the dependent relationship.

The frustration participants expressed regarding task interdependence (in case they are the dependent party) implies their awareness of the importance of cooperation. The results provide partial evidence for the claim that interdependence affects cooperative social interaction between professionals (Wageman, 1995), although this seems to apply to outcome interdependence mostly, not necessarily to task interdependence. In the case of outcome dependence, all colleagues depend on each other to reach a larger goal. From the interviews it shows that this especially applies to the construction and operation of curricula. These backbones of the work context are what all colleagues contribute to and

build their daily business upon. Participants appeared eager to discuss curricula and lessons with their colleagues, both regarding content and pedagogical or didactical approaches. Considering the pivotal nature of shared issues and goals, the discussions found to be involved on collaborative study days, and the wish for more opportunities to collaborate and discuss daily practice and the professional context, the current study provides support for the study of Johnson and Johnson (1989) who concluded that outcome interdependence results in colleagues being more open to arguments and desires of others.

4.5   Professional Discretion, Knowledge, and Power

The changes in professionalism and professional discretion present the interplay between one's position amongst colleagues and within the organisation on the one hand, and the possible consequences of whether or not sharing personal knowledge on the other. Providing access to one's personal knowledge implies putting one's position in play. Sharing knowledge also might impact on the position of colleagues. This not only applies to tacit knowledge, but also to more explicit knowledge such as concrete material. At first sight, this may always have been the case. In the context of occupational professionalism, one's position is related to autonomy and authority amongst individuals in a group or team setting. But adding the increased attention to organisational professionalism, that position is also contested by managerial authority and limitations to autonomy and discretion. What does this context imply for the relationship between knowledge and power in the professional context?

Burns (1961, p. 261) describes how in a micropolitical environment, individuals can simultaneously be "co-operators in a common enterprise and rivals for the material and intangible rewards of successful competition with each other." Focussing on the sharing of personal knowledge and products, current study provides clear examples of this duality. Participants repeatedly expressed their awareness of the benefits of sharing (for instance, not having to reinvent the wheel, and creating better education), yet out of fear to be personally disadvantaged in any way, often are reluctant to actively share what is necessary to reap the benefits of collaboration.

As indicated by Ellis (2011), professional discretion can expose itself in different ways. Analysis of current study's findings rendered several possibilities for using discretionary power. Most straightforward are contexts in which a colleague could benefit from the knowledge they search for. From a Foucauldian perspective, knowledge and the ability to decide on its distribution inevitably imply having power (Foucault, 1976/1980), and in these contexts, providing a colleague with knowledge is a direct way of distributing knowledge and power to another individual. Indeed, withholding knowledge also implies the exercise of power as it limits distribution of knowledge. Second, the application of discretion can be found in making conscious decisions on what is shared and what is withheld. According to Murphy and Skillen (2015), discretionary reasoning requires contextual and personal knowledge that serve as a basis for contemplating and judging. Building on this principle, sharing or withholding specific knowledge can influence the discretionary capacities of others, because doing so has an effect on someone else's contextual and personal knowledge needed for their discretionary reasoning. Hence, such manipulative discretion can influence colleagues' abilities and knowledge base. It might for instance add to the formation of a (sub)group that serves one's own goals, or to the obstruction of colleagues trying to reach their goals. Also Hawkins (1995) shows how discretion enables individuals to push towards certain courses of action or inaction. A third form of using power via professional discretion finds a base in the grey area that remains between the rules and procedures in a standardised environment, and daily practice. Standardised procedures and material can be seen as what Polanyi would call explicit knowledge, or what Ryle would consider to be the 'knowing that'. Often, it concerns explicit models or guidelines and theoretical activities, which in the end result in rules that can be distributed throughout the organisation. However, as Ryle (1948) points out, 'knowing that' has to be applied in practice, presupposing a component of choice and consciousness in applying formats, protocols et cetera. In line with research by Høybye-Mortensen (2015) and Sanden and Lønsmann (2018), it follows that professional discretion can act as a mediator between rules and procedures on the one hand, and daily practice, interaction and performance on the other.

The implications of professionals using professional discretion in such ways, evolve around the principle that discretion is not simply a decision-making tool for professional performance, but also a means of exercising power (see also Hawkins, 1995; Molander, 2016). Sharing or withholding personal knowledge is found to be serving as a

defence method to protect one's own position, as well as a tool for selecting those colleagues that are judged to be worthy of possessing more knowledge and means than others. As discussed, participants consciously and purposely share or withhold information and knowledge, being aware of their considerations regarding who they share knowledge and expertise with, and why. Their remarks indicate their insights into possible consequences to position and status within their team as a result of distributing or withholding information, and awareness of the existence of subgroups that play a role in knowledge distribution. As such, discretionary reasoning takes the form of decision-making about who should have access to what knowledge and information, that way deciding on knowledge distribution thus exercising power. This view on professional discretion strongly corresponds with Gilbert and Powell (2010), who consider professional discretion a political activity that allows for exercise of power, and supports the position of Bienenstock and Bonacich (1992) who hold that actors may form a coalition to increase weight and power or exchange within a specific group.

It shows that the possession of knowledge combined with the conscious distribution of that knowledge provides one with the opportunity to influence colleagues by manipulating both their knowledge and their access to knowledge. As discussed, results indicate that knowledge about organisational structures and procedures raises one's status, and that individuals with a higher status are more likely to be sharing knowledge and to be followed. This combination of knowledge and status can explain why professionals, at first, are prepared to share knowledge, but are more reluctant when they start thinking about whom they would share with – sharing knowledge could mean transferring power.

The way of deploying discretionary power, can make the difference between being either an executor of organisational standards and procedures, or being a professional that controls the grey area and utilises their discretion in the organisation. In this context, knowledge acts as the currency of professionalism. Those individuals that not merely work as any other employee under managerial conditions, but also possess the knowledge and expertise to influence others via their professional discretionary power, show *how* knowledge is power. Their knowledge is more easily accepted as valuable and true, than that of colleagues without a degree, with little experience, or with little knowledge about for instance organisational standards. A colleague that is considered knowledgeable, appears to be in a position in which they not only function as an intersection of communication streams, but also as a distributor of information, and by extent, of

institutional discourse. Van Dijk (1999) describes how entities tend to 'discursively' create and maintain a desired position of dominance through imposing their truth onto others. In a similar way, employees that have both valuable knowledge as well as knowledge on how to deploy this, are able to produce and influence organisational practice and discourses. Their decisions on the sharing and distribution of knowledge and information stimulate and constrain the power of others – not necessarily direct colleagues or peers only, but possibly also management. Therefore, although Foucault (1991) holds that a professional is like a pawn in the organisation's regime of truth, a professional may take in a place more influential than a pawn.

In relation to the theoretical expectation that those with power or a dominant position act to retain these as much as possible through imposing their knowledge onto others or constraining others (Foucault 1976/1980; Magee & Galinsky, 2008; Rodrígez García, 2001; Van Dijk, 1999), from the data and analysis it shows that the professionals that participated tend to constrain rather than impose knowledge. The caution and discretion involved in knowledge sharing often result in limited communication and withholding knowledge (either partially or completely). This may be explained by the participants' situation in which their position as a professional is being curtailed by the organisation's disciplinary structures. Building on participants' remarks implying how their professional space becomes limited, retaining a position under such circumstances can feel like protecting this space. As results show, the reaction of many of them is to become introverted and refrain from sharing, suggesting a tendency to constrain others rather than impose.

These results provide insight into a dimension of professional discretion that reaches beyond issues of autonomy and decisions regarding teaching or other daily performance. Individual professionals are able to influence their colleagues' professionalism and functioning through the degree and content of their sharing and distribution of knowledge. Perceived decreases in autonomy and discretion regarding everyday work and performance significantly impact the position and reality of individual professionals, who can experience their identity and professional position being endangered. Personal knowledge and expertise are worth protecting, as they become symbols of the individual professional within a standardised environment that does not necessarily asks for individual influence. These insights should be taken into account when analysing organisational structures or

when organisational changes are at hand. While research often focusses on how to facilitate knowledge sharing and how to organise knowledge management and knowledge exchange, these results demonstrate that there are issues more profound than practical ones. Notwithstanding developments in organisational professionalisation, the results imply that individual professionals may impact more on the organisation and its functioning than may appear at first sight. For organisations, this indicates the necessity to consider the position and professionalism of employees within both the organisational structures and more informal structures and hierarchies. It also underlines the importance of seriously taking into account the discretional influence of individual professionals on colleagues and teams. Individual discretion can influence both the distribution of knowledge and streams of information within the organisation, as well as the performance of employees, teams and other organisational entities.

4.6   Implications for Learning Organisations and Learning Communities

Having discussed the significant role of the individual professional and the potential impact of their discretion, it shows that organisations cannot assume that individuals act according to standards and act according to the organisation's modus operandi. Individuals not only impact on intercollegial communication and knowledge sharing, but by extension also on the (learning) organisation. In the literature review, the proposition was made that PLCs can be fruitful learning environments for teachers (Vandenberghe & Kelchtermans, 2002; Verloop & Kessels, 2006; see also Hord, 2004; Senge et al., 2000) and that schools can provide opportunities for such communities in which professionals co-construct knowledge through social interactions (Lipponen, 2002; Stahl, 2000). Two main assumptions underpinning this were explicated, and these assumptions will be examined below.

The first prerequisite concerns the social interactions that are needed to take place 'within a collective enterprise' (King & Newmann, 2001; Toole & Louis, 2002). King and Newmann (2001) more specifically hold that professionals involved in knowledge sharing have to see their group as a collective enterprise. Earlier in this chapter, the complexities of social interactions have already been discussed, which showed how intercollegial social

interaction depends on various factors and does not simply occur. Social interactions certainly take place, but due to individual decisions, the locus and type of interactions may be different than the ones the organisation has in mind when aiming at PLCs. Results do provide evidence to assume consciousness of connectedness, for instance regarding student's proceedings and coaching. Awareness of interdependence as discussed earlier supports the idea that participants know about the collectiveness involved in their job and work environment.

However, analysis suggests that despite this collectiveness – which may better be framed as interdependence –, the perception of one's 'group' may cause obstacles. Especially in larger organisations like those involved in the current study, it can be questioned what individuals experience as their group, given the presence of various departments, teams and subgroups. Participants made distinctions between their team and other teams within the organisation, as well as within their team, for example based on specific courses taught by groups of colleagues. Considering these views of groups within the organisation, it becomes less clear what the collective enterprise or a PLC is. None of the participants, for instance, has referred to other teams or departments when discussing collectiveness, interdependence or (sub)groups, indicating distance between individuals and units in the organisation. This distance not only causes reason to believe that what is considered 'the group' or 'the collective' is not the organisation, but rather a cluster of individuals at a lower level, such as a subgroup of befriended colleagues. It also allows for bias concerning other 'groups' within the organisation. Indeed, some participants indicated how subgroups of co-workers function as groups of friends, with sharing and communication taking place more often within than between such groups. Some also mentioned how being part of a subgroup may provide you with the opportunities to communicate and share as opposed to being excluded. Where Van Leeuwen et al. (2003) find that individuals that have been put together as a new group perceive this as a change and tend to have biases regarding the original other groups, here a similar picture appears. Partially, the resistance is grounded in the top-down way of organising study days. In line with previous research (Magee & Galinsky, 2008; Sidanius & Pratto, 1999; Wright, 2003), current analysis shows that mixing people or merging groups *with the purpose* of sharing and collaborating causes resistance. However, considering professional discretion as well as the participants' perception of groups (illustrated by their descriptions of

interdependence and subgroups), it appears that the resistance and biases may also exist at the individual or subgroup level.

It shows that 'collective enterprise' does not automatically have to be neither the organisation as a whole, nor another formal unit. This may help to understand the resistance found to study days that include entire teams or the entire organisation. Hence, if individuals have to experience collectiveness for PLCs to function, those same individuals play a critical role in forming the community. A PLC may very well consist of different individuals than a group or team that was formed by the organisation. An implication is that effective PLCs are difficult to form top-down, or by outsiders such as external consultants. For the concept of learning organisations, this means that the sharing of knowledge throughout the organisation is likely to be hindered by a lack of perceived collectiveness among employees, and that creating PLCs requires involvement of its future members.

The second assumption for creating PLCs is that the interaction is *aimed* at learning with and from others. A question here is: *who* is aiming at learning to happen? The results indicate that organisational attempts to compel employees to learn from each other can be counterproductive. By imposing aims or modes of learning, the organisation may nourish resistance to interaction between its employees. Data has provided various examples of demotivation due to such attempts. Next, considering collective learning opportunities on the one hand, and content and themes for development on the other, a mismatch was found. Study days often are about organisational professionalism, whereas participants expressed the need for occupational professional development. The opportunities for occupational professional development are being limited by this, and complicated further by individual cautiousness and discretion regarding knowledge sharing. Moreover, as time already is scarce, arranged meetings are added on top of regular work, and instead of facilitating protected or allocated time (see Vollenbroek, 2019; Zibrowski et al., 2008) for sharing knowledge and interrogating practice, the organisation is perceived as putting its own interest first. These insights shed light on the discrepancy found between participants' eagerness to have knowledge shared on the one hand and not exploiting opportunities on the other. In the case of organisational attempts, participants do not easily find what they look for in terms of professional development, which is why they sometimes disprove such opportunities and experience too little 'real' opportunities. From the perspective of the learning organisation that organises collective learning activities, the answer to the

question who aims at learning is likely to be 'the organisation' – not necessarily 'the learner'. These results imply that the content and aims of collective learning opportunities should be formulated in cooperation with (a delegation of) community members, to strive at a 'collective' in which members are on the same page as each other and as the organisation.

The positive claim made by, amongst others, Lipponen (2002), Stahl (2000) and Verloop and Kessels (2006) that schools provide opportunities for PLCs, with professionals co-constructing knowledge through social interactions, to some extend can be validated by current study's results. Yes, the professionals are there, social interaction could take place (either arranged or ad hoc), and there are aims of learning. However, individual decisions and the differences between organisational and individual aims as discussed complicate the matter. Considering the issue more literally, it can be argued that schools can provide opportunities, being activities or meetings, but that their attempts not necessarily do provide those opportunities adequately in terms of 'possibilities for learning and co-construction of knowledge'. Various researchers hold that PLCs and CoPs can establish collegial, educative and innovative contexts within education institutions (Dufour & Eaker, 1998; Hord, 2004; Senge et al., 2000; Stoll & Louis, 2007). This, however, assumes the presence of such a community and thus, convening individuals that interact and share. The current study suggests to approach learning communities reversely and from the perspective of the individual professional: individual perceptions of collegial and learning-aimed contexts in an organisation can scaffold or hinder the establishment of learning communities and learning organisations.

Participant Marthe sharply formulated her view on organisational learning at her workplace – a view shared by most participants within that organisation. She visioned a ship loaded with precious knowledge that largely remains unpacked. Other participants too, regardless of their organisation or team, indicated a lack of an organisation wide structural approach to developing and guarding knowledge. Various examples and remarks point in the direction of a context with limited scaffolding for and use of individual learning and development, and little retainment and development of knowledge in the organisational context. What does this imply for organisational learning and knowledge management?

As a starting point one can question where knowledge resides and where learning takes place. An organisation is a conceptual, intangible entity and therefore incapable of performing the act of learning. It consists of employees operating in a certain structure. It is these employees that can develop cognitively and influence the environment they work in and refer to as 'the organisation'. Participants repeatedly showed awareness of their perception of knowledge being stored at the *individual* level, whereas they experienced too little *collective* knowledge being present in their organisation. The distinction between individual and collective knowledge has also been made by Lam (2000). Lam (2000) also differentiates between embodied knowledge, including expertise and personal knowledge, and embrained knowledge, which is explicated. Explication results in collective knowledge "stored in the organisation's rules, procedures, routines and shared norms which guide activities and patterns of members" (Lam, 2000, p. 491). Here, a curious difference with the current study can be noticed. On the one hand, participants paint a picture in which individual, embodied knowledge would remain unpacked, with this suggesting that the organisation is not learning. On the other, they indicate how learning within the organisation often concerns developing those elements Lam (2000) places under collective knowledge, such as routines and norms. Possibly, it is a matter of defining 'collective knowledge'. Participants generally referred to knowledge related to their professional practice and performance as teachers, and indicated there is no collective platform to exchange and store this, whereas Lam's (2000) definition leans to organisational professionalism, which is exactly what participants considered to be of less importance. Participants also discussed how their acquired knowledge could be useful for the organisation, which coincides with Huber's (1991) prerequisite for organisational learning – yet there is resistance to organised, collective opportunities where they could share that acquired knowledge. Furthermore, Roper and Pettit (2002) hold that organisational learning includes individual professional development supported by the organisation, which in the context researched does take place. Hence, there is collective knowledge as defined by Lam (2000), the organisation builds upon this knowledge to function and to organise learning opportunities, and individual learning takes place, but nonetheless participants experienced too little learning and knowledge in the organisation.

This situation may explain why individual professionals may turn to friends and selected colleagues to learn and share, instead of attending study days or other forms of arranged meetings, and makes it understandable why many participants experience no

organisational learning. The situation also suggests that individuals may not be aware of how their knowledge is part of the organisation's knowledge, and that they do not recognise the existing opportunities to learn and influence the collective knowledge base. By means of numerous examples, participants explained they prefer not only to exchange personal knowledge and ideas, but even more so store those in what some participants called an organisation-wide "knowledge hub" or "knowledge bank". More precisely, they suggest a (digital) place where employees can deposit their work, their material and their experiences and others can download what they need. It appears that these professionals have a different (more concrete and practice-oriented) view on organisational learning and organisational knowledge, which is why they experience a distance to the organisational learning there is. This interpretation is supported by participant statements about how learning is mostly a personal matter and does not get secured in the organisation, while at the same time knowledge is also being operationalised in collective procedures, rules and routines that partially concern professional practice.

The context implies that knowledge sharing, above all, is important for the individual professional if they can benefit from it in their daily work. Even when discussing and indicating the importance of sharing personal expertise more generally, participants indicated that what is shared must be adequate and applicable to improve their practice. Approaching the matter from this angle, and bearing in mind the critical comments participants made about "system-atic learning", it shows that individual professionals prefer receiving hands-on explicit knowledge over knowledge that scaffolds the organisation and their work environment. Therefore, building on the perception of the participants, the current study supports the idea that outcomes of sharing are more likely to improve practice when ideas are shared and the results of professional learning are *documented* (e.g. Darling-Hammond et al., 2017; Vescio et al., 2008). The expressed need for a platform reflects conclusions of previous research suggesting that conceptual artefacts form a backbone of, and embody the benefits of, collaborative knowledge building (e.g. Bereiter, 2002; Tillema, 2004, 2005), as these offer explicit items of learning outcomes and knowledge, ready for further use. The results further suggest that externalisation by sharing practical and theoretical insights may serve these professionals better than only sharing experiences without further processing of the information that was shared. This provides support for Simons and Ruijters (2004) who discuss advantages of externalisation, and explains the role participants ascribe to a knowledge hub.

However, the synthesis of the desire of having a platform on the one hand, and reluctance to share on the other hand, presents an interesting situation. The functioning and use by professionals of such a platform would, arguably, be subjected to at least the same scrutiny and discretion as direct interpersonal knowledge sharing. Contributing would mean giving (possibly unknown) others access to (elements of) one's personal knowledge base. As discussed earlier, this can have consequences for, for instance, one's status, and it is questionable and unclear what forms of reward might exist in this context. Sharing explicated personal knowledge quickly raises questions about one's position: where lies the power of my knowledge if the knowledge is not only my knowledge anymore, but can be found and accessed by anyone on an organisation-wide platform? The protection mechanism may act up as risks are taken more openly, with positive rewards of any kind being unsure to receive. Some participants, in whose team there is a platform, indicated that the lack of contributions from certain colleagues makes them refrain from submitting their own material. Consequently, contributions may not be the best employees have to offer, which places question marks around the actual developmental benefits for the organisation.

One conclusion is that employees favour tangible, applicable outcomes of learning activities, outcomes that support their daily performance rather than concern organisational matters. Also, it shows that the connection between their knowledge and the collective knowledge is troubled. These results emphasise the distance between organisational professionalism and aims for development on the one hand, and occupational professionalism and individual aims for learning on the other. It is clear that the focus on organisational professionalism casts a shadow over the attention to occupational professionalism and the kind of knowledge that professionals consider important and worth spending time on. An implication of this for the learning organisation is that the link between professionals' knowledge and contributions to the organisation, and organisational structures and aims should be clear to provide meaning to collaborative, collective learning and meetings. This, again, suggests the need for institutions aiming at the creation of PLCs to involve employees' perceptions and ideas in their efforts to establish a learning organisation and effective, adequate learning communities.

4.7   Discussion Summary

This chapter examined conditions and considerations regarding sharing and exchanging knowledge with colleagues. Analysis has shed light on the ways in which discretionary reasoning and individual decisions take a pivotal role in this context. Participants acknowledged the possible benefits of sharing with those they work with, yet seem to prefer knowledge being shared by others over sharing their own knowledge. There is a certain reluctance to share and exchange, and discretionary influence is used to discriminate between colleagues to decide on what is shared with whom. The impact of discretionary reasoning implicates that it is not viable to assume that someone will share, because someone else needs something, or because colleagues or management ask for it. Without considering personal, discretional issues such as those found in this study, organisational attempts to *make* professionals, colleagues or employees share knowledge are likely to turn out disappointing and ineffective. Recalling Roschelle and Teasley (1995), who state that collaboration does not simply happen purely because individuals are co-present, and considering the current study's outcomes, it can be stated that merely facilitating opportunities or meetings is not enough. Moreover, discrepancies between organisational aims for professional development and individual motivations for sharing add to a context in which professionals experience insufficient attention to and time for occupational professional development. Based on this study it is plausible to assume that under these circumstances sharing will remain limited and selective. Sharing often takes place between individuals in informal, preferred groups, and probably no ground-breaking knowledge will be shared and transferred. Besides, 'make' in the text above has intendedly been put in italics, because often, employees are expected to use opportunities provided to exchange, learn, and consequently, improve performance. Such expectations and attempts to make individuals share may be perceived positively as receiving time and support, but also as an obligation, costing precious time, or as a threat to one's professional position.

5 Conclusion

This chapter starts with providing answers to the research questions. This is followed by an outline of key issues, some further reflections on the theoretical implications of the study, specifically in relation to practice theory, contemplations on issues of professional learning, and suggestions for future research. After reflections on positionality and ethics, this chapter concludes with a personal note from the author.

5.1 Answers

The aim of this study was to gain insight in possibilities for tacit knowledge sharing between teachers in their organisational context, building on the research question 'What factors impact on collegial sharing of knowledge in organisations?'. I have positioned the individual at the centre and as an actor within a larger context, in this case their team and organisation. This differs from many earlier studies, which often approached knowledge management from an organisational and/or practical, facilitative point of view. This study began by posing a context with a number of key questions. Below, I return to the research questions to provide concise answers to these issues.

The main research question was **'What factors impact on collegial sharing of knowledge in organisations?'** This study makes clear that intercollegial knowledge sharing is not simply a matter of facilitation and materials, by compiling and deploying methods and frameworks, or by providing or copy-pasting examples of seemingly successful professionals and groups. Certainly, these elements contribute to possibilities and opportunities to prepare interaction, or engage in systematic approaches to knowledge management. This study, like previous research, provides evidence for the necessity of sufficient time to convene and exchange. Without sufficient time and focus to have a proper conversation about experiences and knowledge, interaction and knowledge exchange are thwarted. The role of techniques and methods for exchange and sharing is not underestimated. Reflective conversations and critically discussing cases and experiences with fellow professionals can serve as tools and opportunities for

professional learning. Results also provide insight into the impact of management on willingness and chances regarding professional development and knowledge sharing, and into the significance of the management's approach to professional development and learning within an organisation. Similarities or discrepancies between staff and management regarding learning objectives and themes impacts on intercollegial exchange, as does a top-down approach. However, and notwithstanding the significance of all this, the current study makes very clear that knowledge sharing *only* takes place if individual professionals decide to communicate and share. Therefore, the question should partially be answered by stating that intercollegial learning and knowledge sharing is impacted by factors that concern professional discretion. Professional discretionary reasoning and individual judgment and decisions are strongly impacting on knowledge sharing, as discretion provides the individual with the power to choose what knowledge to share and with whom. Intersubjective factors such as status and reciprocal behaviour affect the choices made. Trust, a safe and appreciative environment, and a work environment that allows individuals to act as professionals that make their own decisions and direct their own development, are other elements that affect engagement in intercollegial communication and knowledge sharing in a group such as a team and organisation.

These conclusions are scaffolded by results and answers concerning this study's sub-questions, which are answered below.

How do teachers articulate and deploy their knowledge?
A distinction can be made between content and process knowledge. Content knowledge may, for instance, concern subject knowledge, a teaching method, or knowledge of procedures and rules. This is what Polanyi would call explicit knowledge, and what also has been described as theoretical knowledge (Ryle, 1948), and technical tacit knowledge (Nonaka & Takeuchi, 1995). Articulation of this kind of knowledge often takes the form of concrete artefacts, such as teaching material or guidelines. The case is quite different for process knowledge, or what Polanyi would consider to be tacit knowledge. It is grounded in previous experiences and expertise, and therefore more personal and context-specific. This kind of knowledge is unconsciously applied when performing – the 'autopilot mode'. It cannot be articulated as it is, because of the complex internal combination of experience and knowledge. Attempts to share this personal process knowledge may include breaking down topics and discussions into smaller processes, or analysing steps and actions, with communication often taking the form of

conversations and the sharing of anecdotes and experiences. The personal nature and locus of knowledge not seldomly results in a sense of ownership, with teachers safeguarding the expertise and knowledge they have or the material they have developed. This personal nature of knowledge affects its deployment. Professionals use their expertise in their daily work and to improve their own performance. However, in the context of knowledge sharing within a team or organisation, knowledge is much more than input for development. Through the exercise of professional discretion, knowledge is used to manage professional identity and status, and to shape a working environment in which like-minded colleagues with similar work ethos are more likely to be involved in interpersonal sharing, this way supporting certain colleagues yet limiting other colleagues and the organisation regarding possibilities for development. Knowledge, hence, also is deployed as a means of power.

What role does the institution play in knowledge sharing?

The results of this study show a threefold role of the institution that revolves around content, time and organisation. Professionals are reluctant to share knowledge if they have doubts about the issues they might share knowledge about. These doubts often concern the adequacy and usefulness for their own practice, and this mostly applies to issues regarding organisational professionalism, (IT) systems, and policies and standards. If sharing concerns their daily practice and occupational professionalism as a teacher, for instance pedagogy or teaching strategies, professionals are more likely to acknowledge benefits of exchanging experience and knowledge. Institutions therefore should critically consider staff's needs and desires concerning learning and development when these involve knowledge sharing. This is emphasised by the impact of time constraints due to workload and rosters. Results indicate how shortage of time complicates intercollegial communication and knowledge sharing. Institutions do have to provide time for intercollegial communication and exchange, even though professionals might use such designated time for regular work. Furthermore, content and time coincide in organising how available time is spend. Results show that a top-down management approach regarding both objectives and content of learning as well as agendas of meetings has a negative effect on professionals' willingness to engage in knowledge sharing activities. The role of the institution, on this matter, exists in its approach to management and professionalism, with results indicating the need to involve staff in the organisation of their own professional development and knowledge sharing.

What role does intercollegial interaction play in knowledge sharing and exchange?

A key result of this study is that intercollegial interaction can support yet also hinder knowledge sharing and transfer. To answer this question as it is, the response is that interaction with a colleague is found to act as an impetus for reflection and as a communication vehicle. Interpersonal conversations allow for revisiting experiences and an analytical afterthought, and may render insights that can be shared. Hence, intercollegial interaction supports the exposure an d sharing of knowledge. Answering the question from a social and micropolitical point of view, the role of intercollegial interaction largely depends on whom the interaction would be with. Interaction, here, is the shared activity in the arena of professionalism and discretion. Previous interaction can contribute to one's attitudes towards a colleague, and affects one's preferences and assessment of possible risks and rewards of communicating and sharing. Daily interaction and subsequent discretionary reasoning play a crucial role in the presence and degree of knowledge exchange between professionals. Commitment depends on interpersonal relationships and attitude towards others, and is found not only to be related to exchange with the same partner(s) over time, but also to the distribution of power in a network.

5.2   Outline of Key Issues

Polanyi's work resulted in a belief that knowledge cannot be value-free, as human involvement and interpretation are intrinsically linked to knowledge about reality. As opposed to explicit knowledge, he spoke of tacit, or personal, knowledge: implicit, highly personal, and context-specific knowledge within the individual. The current study's results show how teachers make a distinction between content and process knowledge. Here, content knowledge often refers to explicit knowledge, such as curricula, procedures and policy. Process knowledge is related to their performance, and generally this concerns processes carried out with limited or no awareness of the knowledge and skills used – similar to what Polanyi (1958) calls skilful performance. This distinction made by the participants in the current study shows resemblances with both Polanyi's view on explicit versus tacit knowledge, as well as with the 'knowing that' versus 'knowing how' as posed by Ryle (1948).

Nonaka and Takeuchi (1995) drew attention to tacit knowledge in the knowledge economy by emphasising the importance of knowledge sharing within organisations. In the knowledge economy, organisations, governments and individuals are investing heavily in the creation and management of knowledge. The knowledge economy builds on intellectual capacities to thrive, and the pivotal role of knowledge and employees that possess and apply that knowledge urges organisations to engage in knowledge management. However, this study finds that although teachers may take part in formal education to gain knowledge from outside the organisation, knowledge sharing within the organisation is a different story.

There are organisational issues concerning facilitation of intercollegial sharing and learning, such as provision of time. Other issues that are found to potentially obstruct knowledge sharing, and by extension knowledge management, concern organisational attempts to compel employees to communicate and learn, resulting in a mismatch between teaching professionals' demand (what they have or want to share) and organisational supply (expectations of organisational learning). Top-down management that decides on what and how to share, combined with a focus on explicit, procedural knowledge and organisational professionalism, complicates intercollegial sharing of personal knowledge. This makes it difficult to assess to what extent tacit knowledge is shared, but implies a suboptimal use of knowledge and expertise present within the organisation. In such cases, from the perspective of the knowledge economy, it can be defended that knowledge is being managed in the organisation – after all, there is a greater reliance on intellectual capabilities than on physical or natural resources and there is a tendency towards organisational professional development. However, from the perspective of learning organisations, employees are not necessarily learning and improving *together* in the personal and organisational domain. Adding to this the encountered absence of a 'knowledge data bank' where colleagues can share and store knowledge and ideas, a context arises in which personal knowledge may not only be difficult to share because of its tacit nature, but also because of differences in priorities between the individual and the organisation.

This study transcends the individual-organisation dichotomy and contributes to the existing body of knowledge concerning professional development and learning organisations the significant impact of an interpersonal 'mezzanine' level that represents the individual's relation with other actors such as direct colleagues. It has become evident

that professional discretionary reasoning and individual decisions impact on the occurrence and locus of knowledge sharing. Most literature on learning organisations reasons from the assumption that the organisation's individuals engage in developing themselves, their colleagues and by extension the organisation. This study shows that professionals, and their interaction with colleagues, can act as a break on the march of the learning organisation. A protective attitude towards personal knowledge and materials, accompanied by considerations regarding reciprocity, results in reluctance to share. The risk of another colleague making use of one's personal knowledge, expertise or products at the expense of oneself is found to curb intercollegial knowledge sharing. This also points at socio-material aspects of practice and the social weight of what may be shared, which will be reflected upon further on in this chapter. Another intersubjective factor impacting on knowledge sharing is status. 'Knowing things', seniority and expertise impact on this position in a positive way, while sharing mistakes or inadequate information are thought to endanger one's position. This causes hesitation to share, especially among junior colleagues. In line with how Homan (2001) and Edmondson (1996, 1999) describe the psychological circumstances, this study also found that opening up and sharing is not without risks. Sharing implies providing access to oneself as a person and one's possible flaws, and it is likely that professionals only share when they trust their colleagues. Such issues indicate the significance of interpersonal relationships and behaviour in the context of knowledge sharing and intercollegial communication. In this context, discretionary power is exercised by individuals, even to the extent that they, at times, actively refrain from communicating and sharing, and/or deliberately withhold knowledge and information from colleagues.

This study aligns with Roschelle and Teasley's (1995) argument that communication and collaboration do not simply happen if individuals are co-present. There is a body of literature on knowledge sharing, learning communities, learning organisations and related topics that address what this sharing could be like and how an environment could be equipped to facilitate interpersonal communication and knowledge sharing. However, the issue reaches further than these predominantly practical issues and theoretical models for sharing. The opportunity for professional discretion coincides with opportunities for the exercise of power. Individual professionals can consciously decide on what they share or withhold, and with whom they do and do not share. Given the context as just described, and the principle that tacit knowledge and expertise reside in humans, it

can be stated that organisations depend even more on individuals when it comes to knowledge sharing and management than one may initially think. This study shows *how personal* knowledge can be in a team or organisation, not only because of its tacit nature or its content, but with professional discretion as a key element for engaging in sharing. As it is individual discretionary reasoning that results in the decision what to share and with whom, the individual professional is a key actor in the learning organisation. As a consequence, organisational attempts at creating a learning organisation or PLCs are in danger of falling flat when it comes to this individual and intersubjective level.

5.3   Practice, Professional Development and Future Research

This study concerns, among other issues, teacher's practice. It shows how their practice involves various tasks, relationships and processes. Issues found in this study as described in the previous paragraphs raise questions about what professional practice means, and what the role and impact of professional can be. Therefore, here some further reflections on the theoretical implications of the study, specifically in relation to practice theory, are provided. This is structured around four areas: meaning of and theoretical approach to practice; social settings and boundaries; agency; and professional commitment. Also, contemplations and directions for future practice and research are provided.

The first area concerns practice as a concept. In this dissertation, and also more broadly in the literature, practice has been used as a verb, indicating something along the lines of 'executing', and as a noun, pointing at 'professional practice' as (daily) performance in the work context. 'Practice' has been adopted and assumed to be clearly representing the teaching profession, whilst that profession is comprehensive and consists of various contexts, actors and elements. Teaching practice, for example, could be considered to involve pedagogical and didactical practices, and workplace practice may concern meetings, intercollegial communication, and procedures. Antonacopoulou (2008) also identifies various conceptualisations: practice as action, as structure, as activity system, as social context, and as knowing. In (workplace) professional learning literature in general,

'practice' has remained a given and taken-for-understood concept, more than a theorised or examined concept (Hager, 2012; Reich & Hager, 2014).

Meanwhile, conditions for (professional) practice and learning have been, and are, changing quickly in the wake of globalisation, approaches to knowledge management and production, and economic–political pressures and conditions such as neoliberalism and accountability (e.g. Evetts, 2009; Fenwick & Nerland, 2014; Fenwick et al., 2012; Ottesen & Møller, 2016). This context illustrates how 'practice' itself is a domain and area for research. Practice theories in social theory, which revived after the 'practice turn' (Schatzki, 2001), place practice at the centre as a "building block of the 'social' and a key object for research studies" (Reich & Hager, 2014, p. 420)[2]. Hager (2012) describes the emergence of more exclusive approaches (e.g. stemming from a specific academic discipline) and the development of more inclusive approaches, that involve actions and activities, both mental and physical, as well as non-human objects.

Two principles in professional practice literature underpinning this are particularly interesting in relation to the current study. These can be described as practice as a knowing-in-practice, being a situated, collective process that connects knowing, working, organising, and learning (e.g. Gherardi, 2014; Hager et al., 2012; Reich & Hager, 2014), and as practice as a socio-material phenomenon that is relational and includes material and people (e.g. Fenwick et al., 2012; Hager et al., 2012). Socio-material perspectives in practice theory focus on both the human, social aspects of practice as well as on the material aspects, such as tools, technologies, products, devices and objects that are embedded in the immaterial and human word, without viewing these as being unrelated to people (e.g. Fenwick & Nerland, 2014). This approach suggests a change from considering knowledge to be possession or product of individual or specific individuals in an organisation, to seeing knowledge as a more practice-situated activity subject to interpersonal processes of mediation, collaboration and use of expertise, the body, and material (e.g. Gherardi, 2009; Manidis & Scheeres, 2012). Fenwick and Nerland (2014, p. 3-4) describe that whereas professional learning has conventionally been considered an individual and person-centered endeavour focused on personal experience and the

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2 Although a focus on professional practice emerged with this 'practice turn', a focus on social practice over time has been subject of theory and analysis to many scholars such Bourdieu (theory of social practice), Giddens (structuration theory) and Foucault (discursive practices).

development of adequate competencies, professional learning in the context of practice theory is about the environment: knowledge is situated in practice, and learning and practice are situational and relate to social structures and communities.

Such a perspective emphasises the role of interpersonal communication and interaction, that way reflecting the current study's social-constructivist paradigm. It also acknowledges how knowledge can be implicit and embedded in practice, reflecting Polanyi's writings and the concept of tacit or implicit knowledge. Moreover, it challenges views on (professional) learning that learning is something mainly individual, and something that can be transferred, as a product or object (either physical or mental). Based on the current study too, such views can be challenged, considering tacitness of professional knowledge and issues with knowledge exchange in terms of both possibilities for transfer and the impact of social relationships and contexts.

The second key area concerns social settings and boundaries. The idea that practice is a socio-material phenomenon and an interplay between people and objects, with individuals using those objects under certain knowledge and emotions (e.g. Green, 2009; Reckwitz, 2002) offers an avenue for future perspectives and further research. There have been found clear examples of how material, whether course manuals or techniques, indeed is part of practices, as it is used as both a tool for teaching practice, as well as a means of exercising power using one's discretion. As such, practice takes "shape at the intersection of complex social forces, including the operations of power" (Hager et al., 2012, p. 4). However, the shift suggested by Gherardi (2009) and Manidis and Scheeres (2012) as mentioned earlier only partially corresponds to the current study's participants' reality. Indeed, there can be noted a shift, moving away from individuality in terms of the learning context. Colleagues are often involved in reflection, making for mediation of practice and knowledge, and the development participants look for is practice-situated (be it that it mainly concerns their teaching). As such, the results match a trend towards a more collective reflection in the workplace that involves the individual in a social context (Fook, 2010), a trend that redefines reflection in a way that avoids detaching the individual from social practices and goes beyond the individual (see Elmholdt & Brinkman, 2006). Yet, due to intersubjective issues found, the step towards collaboration does not necessarily follow, especially not in a broader context such as the organisation.

The significant contribution of the current study that at times individuals withhold knowledge from colleagues, reveals a remarkable context. This study provides insight into

how individuals categorise entities such as colleagues, constitute boundaries between entities such as themselves, types of colleagues and the management, and impact on the stability of the social setting and daily practice by influencing flows of information and other processes. As knowledge and material, in the eyes of participants, are closely related, knowledge sometimes is seen as possession or product, belonging to one or a few individuals. This creates a distance between individuals, and between the individual and other entities such as a team. Socio-material accounts, however, tend to reject strict categories such as 'individual–organisation' or 'human–non-human' and to examine how the different boundaries separating assumed entities (such as people and material) are stabilised and destabilised (Fenwick, 2012). Instead of focusing on one entity, key is to investigate interrelatedness and dynamics of practice and context: professionalism does not limit itself to individual performance and use of material and environment, but extends itself to the interaction between entities.

Area three concerns agency. Considering the role both social and material elements play in the discretionary reasoning and behaviour of these individuals, this study also reveals some interesting connections to the concept of agency. Although traditionally agency is related to individuals' intentions, actions and exercise of power, some socio-material approaches (see Fenwick, 2012) extend this beyond the individual as a mere human being. The value individuals ascribe to material and the influence the sharing or withholding of knowledge and material can have on practice and the social context, imply that the networks of people and things do not necessarily revolve around people only. Materiality, such as tools, techniques and (knowledge about) technologies and systems, carries weight in the social interactions and takes in a prominent position in actions that involve intention and power, even to the extent that one may say material can be the object of power and a source of intentional behaviour. By sharing or withholding, and creating and influencing materiality and its distribution, individuals not only impact on the (stability of) boundaries and exercise power, but also affect daily practice of their colleagues. As a consequence, by affecting the social setting and colleagues, they also impact on learning and professional development. People, material and their interactions in practice therefore could be approached as a network of agency, in which individual (intercollegial) actions reflect the value and weight of material and knowledge. The social value and weight of materiality, in a practical sense, is acknowledged by participants discussing a knowledge platform and the role of technology and systems that they, intentionally, may or may not

use for distribution. This provides insight into how materiality is closely related to individuals and their behaviour, and suggests that materiality is inseparable from human agency in the professional environment. The role it can play in practice and interpersonal behaviour, however, appears to be underestimated by the management that are supposed to do the knowledge management as well as to create the foundations for practice in their organisation. For management, this implies the need for a greater attention to the content and material that are involved in the professional context, and emphasises why facilitation of knowledge sharing alone is insufficient.

The final key area concerns professional commitment. The current study suggests that teachers generally are personally committed to their job and their profession, which is illustrated for example by their long days and proudness of the products they produced. However, with commitment referring to "the extent to which an actor engages in repeated exchanges with the same partner over time" (Cook et al., 2013, p. 70), and considering the mezzanine level discovered that allows individual to significantly influence their professional context, questions arise about professional commitment in the organisational context.

This questionable professional commitment is exemplified by the found discrepancy between supplied learning opportunities for organisational professionalism and demand for occupational professionalism learning, and evidenced by the limited engagement in actual opportunities for professional learning of any kind (ranging from study days to observations). An organisational focus on professionalism draws away attention from the practice teachers prioritise, which concerns their daily performance in class and their functioning as an educator. It also shifts the locus of learning from practice as teachers see their practice, to systems, procedures and other structures. This emphasises the boundaries between individual professionals and their surrounding entities, be it their colleagues in a team, or the organisation. This distance between individuals and the organisation, and the reluctance to participate in knowledge exchange within that organisation as found in this study, signals decreasing commitment to the organisation. Additionally, as discussed, professionals ascribe such value to materiality that material itself becomes a source of intentional behaviour. Moreover, this study found that the participating professionals use their discretion to work within a self-chosen environment or social context. Individual professionals that do not find what they look for in larger settings such as teams and 'the organisation', tend to focus on other entities and boundaries: their

own performance and position in a small-scale, self-chosen social context. In this context that consists of 'good professionals' and trusted colleagues and that at times mirrors the coalitions Bienenstock and Bonacich (1992) describe, they communicate and share. These individuals may engage in repeated exchange with the same partner(s) over time, which according to Cook et al. (2013) indicates commitment to specific colleagues, an indeed, this study's results suggests that individual willingness to share is influenced by a satisfying, rewarding and fair relationship *between individual employees*. As such, commitment depends on interpersonal relationships and not only is related to interaction and exchange with the same partner(s) over time, but also to the distribution of knowledge and power in a network.

These developments picture a changing commitment, in which professionals' commitment revolves around their own practice and performance, and around a specific and limited group of colleagues, rather than the organisation or formal entities and structures. There is personal commitment, and there is professional commitment, but this professional commitment builds on the individual, their discretion, and their choices regarding exchange, partners, and duration of interaction, rather than on the social and organisational arrangements created or managed by others. In the network of agency of individuals, (intercollegial) actions, materiality and knowledge, commitment is related to power because the engagement of individuals with other entities depends on their own choices. While organisations are focussing on professional learning from their own perspective trying to foster the development of competencies they deem adequate (that is: organisational professionalism), professional learning and collaboration in the practice of professionals is more situated in their environment, both in terms of knowledge and in terms of social structures. In that environment, they constitute commitment: they discuss and reflect, share or withhold insights and knowledge, and decide on frequency and content of exchange, partners to exchange with, and the quality and duration of such intercollegial relationships.

Professional development and learning go beyond the individual, and knowledge sharing, be it limited to a certain circle, involves colleagues. But collaboration and knowledge exchange have their limits, and individuals' discretion and selective behaviour tend to result in small-scale, informal social networks rather than the larger and/or formal ones that often are created in organisations. If individual employees want to benefit from each

other's knowledge and aim at the best possible education and practice (which is what this study's participants say they want), they have to address and solve intersubjective issues that impede the exchange of knowledge and material. If not, they continue to create boundaries between them, their colleagues, and materiality. The aversion to organisational professionalism found, for example system-atic and procedural issues, creates a boundary between human and non-human entities, although both can be considered part of practice. This also applies to issues between 'entity staff' and 'entity the management', of which the latter loses connection in the network when focussing too much on topics of which teachers do not see the value of for their practice. One specific issue is that there should be focused less on formal structures in the organisation, and more on informal structures. Socio-material perspectives can scaffold this, by allowing to consider all entities in a network as they are and by reconsidering their interaction and boundaries. Not addressing such issues curbs both professional practice and professional development, not to mention knowledge management.

If practice implies situated knowledge, and interaction between individuals and materiality is important in contemporary approaches to professional learning, both teachers and management have to work on, and commit themselves to, bridging gaps. Teachers may want to ask themselves if they want to improve their practice and deliver a good product, to what degree does it actually matter if one 'dislikes' or respects a colleague, and how can be focused more on deploying the complete network (which may include for example other teams and organisations) and available resources in such a way that the students' interests actually are put first. Management could reconsider their position and relationships in the network, and their impact on daily practice. This includes not only the organisational culture in terms of accountability, safety and reward systems, but also their actual behaviour towards and interaction with all staff.

New research ground has opened up as a result of the current study that shows the pivotal role of professional discretion and interpersonal relations in knowledge sharing. Results demonstrate that the informal hierarchy between colleagues forms an important factor regarding presence or absence of knowledge sharing. Although this study indicates the significance of this and provides insights concerning the influence of the individual professional, the issue of power and hierarchy within groups, whether teams or organisations, deserves continuous attention when researching issues of knowledge sharing

and knowledge management. Future research may want to consider informal power structures and the interplay between employees' status and organisational structures to aim for a more complete understanding of conditions of status for knowledge sharing. Considering this, it also is necessary to rethink professional learning communities. A common enterprise may not be clear or exist, the members' aim may not be learning, there can be a gap between organisational and individual objectives, and the formation of the group may not align with individual discretionary behaviour. An approach to professional communities that appreciates the role and possible influence of all entities involved (without assuming these beforehand), that considers interaction, boundaries and impact of those entities, and that reasons from practice and the larger social context instead of a cluster of individuals, could provide insight in what processes can be expected to take place in a community. Based on such an analysis, assumably more effective learning communities can be formed than based on expectations 'that people will share and learn whenever they are put together'. Also in this case, however, it is wise to involve a representation of the staff from early on to scaffold interpersonal relationships and interaction from an early stage.

Additionally, results indicate that expected rewards and risks in terms of ownership affect intercollegial knowledge sharing. Sharing is influenced by the expected consequences and rewards of providing one's personal 'content' to others. Research on employee satisfaction and commitment in relation to employee reward systems may provide more insight into the influence of reward mechanisms on knowledge sharing and knowledge management. Moreover, socio-material approaches to this issue can add perspectives on the interaction between individuals and material, and on agency and power in the context of exchange in practice.

Furthermore, the discrepancies between employee's wishes for and aims of professional development and those of the organisation, raise questions about reasons for an organisation to advocate a learning organisation or culture of knowledge sharing, while at the same time deploying managerial techniques to govern and steer staff. Results cast a shadow of doubt over the combination, or co-existence, of individual, occupational professional development and the neoliberal mechanisms of organisational professionalism. This study underlines the importance of research into issues concerning professional discretion and professional development in neoliberally governed institutions.

Next, this study was conducted in the (secondary) vocational education sector. Applying a similar sociological, power-informed approach to other sectors may offer interesting results and render further insights regarding the role of power and discretion in the knowledge management domain. Especially in sectors involving very specific or rare knowledge, or highly competitive contexts, the sharing and management of knowledge may be a sensitive endeavour, which can influence (in)formal structures and individual discretion. There also may be differences between types of education (e.g. secondary and higher, or private and public).

Although two institutions and, within those, multiple departments and teams are involved in this study, the 10 individual interviews supplemented by two focus groups, totalling 18 participants, clearly cannot represent the entirety of (vocational) education teachers and institutions in The Netherlands. Therefore, it has to be said that the context this study speaks to may best be perceived as substantial education institutions (i.e. several hundred employees) in a western European metropolitan environment, such as – in this case – Amsterdam. Future research may want to include a larger number of participants overall, or increase focus on specific institutions or regions.

The participants were teachers discussing their views on their own knowledge and communication. Results indicate how participants ascribe an important role to their management. Voices of management and managing board were not heard in this study, which implies a limited reconstruction and representation of the research context. Especially considering practice in the social context that includes materiality and that questions boundaries and formal relationships and structures, future research could include a variety of entities. By inviting other actors that are involved in the context to participate in future research, a comprehensive contribution could be made to previous research in the domain, including this study.

5.4   Reflections on Positionality and the Research Process

Concerning reflections on research, I side with Bourdieu et al. (1999) who imply that reflexivity concerning positionality is about rejection of epistemological innocence. As a researcher, I form a crucial part of the process that concerns making meaning of the reality

researched. As a consequence, I have to locate myself reflexively as a researcher in both the academic and research field (Bourdieu, 2004). The academic field involves the methods and approach; the research field involves my connection and attitudes towards the research context.

Reflection on the academic context can be guided by credibility and trustworthiness (Guba & Lincoln, 1989). As for credibility, the literature used for this study is intended to provide a supportive basis. Some works included either are foundational in the field, such as those of Polanyi regarding tacit knowledge, and Foucault regarding power and knowledge. Others provide useful examples, such as Welsch and Lyons (2001), and Krátká (2015), or describe relevant previous research on factors that are involved in this study, for instance Edmondson (1999, 2002) for interpersonal safety, and Murphy and Skillen (2015), Ball (2009), and Brodkin (2008, 2011) on the topic of managerialism. These works are not necessarily the most recent ones, but are used because of their adequateness and/or their reputation. When possible, recent works have been used, aiming at a framework that is both grounded and temporarily relevant. As for methodology, the paradigm and approach have carefully been considered and decided on. This has been done to create transparency concerning the foundations of the methods and thinking behind the research process. I have constructed these partially based on my own principles to avoid the innocence mentioned before, and to create as much awareness within myself regarding my position within the field and process. Also, partially the methodology and approach are as they are because of theoretical underpinnings, to build a sound connection between theory and previous research, and the current study. For instance, Polanyi, as well as Nonaka and Takeuchi or Foucault, reason from a social constructivist viewpoint. Methodology has also been strengthened by using both the interview conversations as well as notes made in the field (observations, emerging thoughts) and by including first hand data in the form of quotes to support writings in this report. While acknowledging that quotes are not necessarily proof of reality (as far as reality exists), they certainly do represent the participants' reality adequately. In writings, only quotes that carry representative weight are included to create a coherent story that may represent the shared reality of participants as much as possible.

Concerning the construction of a trustworthy report, the research process and issues encountered during the project are evaluated. The field work was carried out in two cycles: individual interviews, and focus group interviews. By using both methods, a larger number

of participants and more data have been collected, which strengthens the study empirically. Three months passed between the individual and focus group interviews. This time has been used for a preliminary analysis that influenced later interviewing by providing a focus on apparent relevant issues. As such, data analysis made me return to interviewing. For example, if certain issues were discussed in several individual interviews, this indicated the importance of paying attention to that the issue in subsequent interviews. However, as mentioned earlier, during individual interviews the aim always was to not limit the conversation to a just few topics at the risk of leaving out other topics that appeared less useful. That is why the same topic list was used for all the interviews, while preliminary analysis added some awareness to data collection in subsequent conversations. Another issue with respect to writing concerns the participant quotes used. Indeed, as just noted, quotes are used if adequate and representative. Moreover, special attention has been paid to translation and positioning of quotes. Translations were made as literal as possible, yet respecting the participant's message and intention as understood during the interview by carefully considering connotations and synonyms. Verbatim quotes in Dutch are available on request for those interested.

Concerning the research field, significant is the fact that one of the two institutions involved is a former employer, with former indicating that the research project started after the contract had been terminated. Hence, during the time of the research, this institution was not directly related to me, but I obviously had knowledge about and an attitude towards the organisation. Facing this, I have limited the number of participants that are direct former colleagues (that is, individuals who were colleagues within the same department), and have involved a second institution to broaden the horizon and scrutinise data and results stemming from the familiar organisation. This issue also pressed me to even more carefully consider the research approach, because applying an approach consistently throughout fosters coherency and may reduce interpretation based on bias.

Apart from the familiarity with the research context, there is the process of conducting interviews. To some extent, knowing some of the participants may have been an advantage in terms of trust and openness during the conversations. Counterweighing this, awareness of communication remained important. Creating a safe environment using knowledge of context is desirable, but participating in the conversation based on own experience can be dangerous when collecting raw data. The awareness also was of importance during analysis, during which the focus was on the analysis as a process using

the chosen approach, while refraining from applying my own experiential lens. These efforts do not assure a bias-free report, but have been made to make experience, knowledge and approach at service to the research process.

5.5 Author's Personal Note

On a more personal note, it has to be mentioned how this study has developed my understanding of the value and role of knowledge. Surely, I have known for a long time how useful and valuable knowledge and knowing are when shaping your life, making personal choices, and developing yourself within your environment. When teaching, I have always aimed at supporting others in their development to become self-confident, independent individuals that are prepared for both life and a job. Factual knowledge, collaboration, and techniques of communication with clients or patients for example are important ingredients of vocational education. But I used to be less aware of the psychological and sociological processes related to colleagues or organisations that can be present within work environments. I surmise that my assumptions were that theoretical knowledge provides students with sufficient background and capability to practice, and that colleagues, in my case teachers, collaboratively do everything needed to deliver the best they can. This study, for one, has made clear that (professional) practice and performance entail much more than factual knowledge and that colleagues and teams do not necessarily imply collaboration. To me this also signals that education and curricula benefit from containing a practical component, such as an internship, to engage in social contexts and develop skills that cannot be learned from a book or lecture. Also, the value of knowledge not merely exists in the ability to take control over work (processes) and private life. Knowing how social and individual structures and processes influence behaviour can enable one to influence their social environment significantly. Someone with such knowledge can have an advantage over those individuals without. Moreover, possessing knowledge that others desire or need, adds to hierarchy and power. The context makes me of think raising children: children do not know what adults know and have a significantly different knowledge base and world view, and parents deploy these gaps and positions to steer and raise children in the direction they choose. Adults among themselves

may not be that different. Knowledge can be used as a currency, as leverage, as a selection tool. It may very well be that this is more common within other disciplines or branches than in education. I can imagine that in politics or trade, for example, both factual knowledge as well as insight in powerplays and public arenas are vital for success. Insight in how knowledge is power may alter my support to students and professionals by making me connect theory and factual knowledge more to 'the real arena' - 'practice' not only implies 'practical', but also 'reality'.

Also when it comes to the role of research in society, the power of knowledge is intriguing and debatable. Should knowledge be accessible and are all people to be enlightened and empowered, or is it reserved for those who create, possess and deploy it to their wishes? Although I understand why information can be either shared or withheld, and what motives there may be to do so, from a justice point of view I aim to contribute to individuals' understanding of organisational and societal functioning. This background has affected my choice for doctoral studies. Aware of the differences in structures of various doctorates while being used to an education system that simply has 'the doctorate', for quite some time I was in doubt about whether to pursue a traditional doctorate (a 'classic PhD') or a specific research doctorate in education, such as the EdD this dissertation was written for. I have always had the principle that social research should carry practical value, and that theoretical components should be used to conduct research that benefits humanity and society and that involves and informs a real life context. Without contradicting that other options could have also offered that, I am grateful to have chosen specifically this research doctorate at the University of Glasgow as it has enabled me to do exactly what I consider important. A strong research orientation allowed for developing research skills and conducting the aspired research, while I also have been able to widen and deepen my understanding of knowledge, learning and the education sector.

During the course of my doctoral studies, my partner and I decided to change our lives significantly. We moved to Spain and opened a centre for personal and professional development, moved by our drive to support and nourish individuals and their development. The doctorate and this study have played an important role in developing my ability to place the individual in a larger context, unravel complex contexts, and analyse being informed by various academic disciplines and approaches. The combination of my interdisciplinary background, the doctorate's critical and research-oriented reasoning within a professionally relevant context, and this study's outcomes, enables me to

thoroughly analyse and assess social contexts from multiple angles. I believe this to be of great importance, as development and change rarely reside within one entity: it is neither solely the individual, nor simply their context that is decisive. The doctoral journey has offered me significant support and growth and has strengthened my willingness and capacity to support individuals in their personal and professional development.

Appendices

Appendix A Topic list individual interviews

Introduction

- **Age, gender, education**
- **Role, position in organisation**

- What do you teach your students?
- How long have you been teaching and where?
- What kinds of skills and expertise do you think you have / bring to your teaching?
- What do you think teachers should have in terms of skills and expertise?
- *Awareness of gaining knowledge*
- How do you develop your expertise?
- How has your expertise developed over time?
- Are you conscious of building on previous forms of knowledge based on experience? In what ways?

Articulation of (tacit) knowledge

- Could you tell me something about how you communicate about your thoughts and ideas (express yourself) in general?
- How do you deliver the content of your lessons to students?
- How do your experience and know-how impacts your practice?

Interaction, sharing and learning

- How and when do you interact with colleagues?
- What work-related topics do you talk/communicate about with colleagues?
- Do you learn at work?
- How do you learn from others? Please provide examples of you learning from your colleagues.
- Are your colleagues involved in your acquisition of knowledge? If so, how?
- Do you think your colleagues are learning from you?
- Do you and your colleagues share experiences and know-how?
- Do you share about your teaching experiences? When? And do you have opportunities for sharing?
- Are you willing to share your knowledge / expertise? What knowledge, when, why?
- What do you need to learn from others?

- What effect does your work environment have on the sharing of knowledge between its employees?

Status

- What kinds of skills and knowledge are valued at your job?
- Do you think your knowledge and expertise are valued at your job?
- Do you think your knowledge base and expertise give you status here in this job?
- What makes you value one's advice or sharing?
- What makes you use the know-how and expertise of a colleague?

Power

- When do you feel 'powerful' in your work context?
- Do you think have authority?
- In what way do your expertise and knowledge allow you to have influence at your job?
- How does someone's role or organisational position your view on their know-how and expertise?

Interdependence

- Do you experience ownership in your job?
- What do you need your colleagues for?
- Do you feel you are depending on your colleagues? How?
- Can you provide examples of how you depend on your colleagues, and how your colleagues depend on you?

Trust - Psychological Safety

- Do you trust colleagues in your job?
- Do you think others trust you?
- Is there know-how or expertise that you prefer not talking about with colleagues? If so, why?
  How do you feel about sharing private information and experiences with colleagues?

Risks

- Which advantages do you recognise concerning sharing knowledge at work? Examples.
- Which disadvantages do you recognise concerning sharing knowledge at work? Examples.
- What might people withhold from sharing information and knowledge and your workplace?
- Are there colleagues you prefer to share knowledge/expertise with, and colleagues who you rather not share knowledge/expertise with?

Appendix B Preparation and themes focus groups

Share preliminary results individual interviews

- Skills and expertise are unhabituated, embodied, integrated

- People are open to sharing, but only with those they consider fit, professional and likeable.

- Organisational and interpersonal context are not alike. Interpersonal sharing is a cultural, personal issue, rather than organisational.

- To influence this interpersonal culture open, what would that do to the agency and professional autonomy of teachers, and to their trust and judgement when it comes to sharing?

- Detacitifcation is interfering with autonomy and ownership. Tacit / personal knowledge represents professionalism and personality.

Guide to focus group conversations

- What came up in the interviews is… A B C (summaries below as basis).

- "Do you recognise this?" "What differences do you see compared to your own context?"

- Examples.

1. Communication and formulation circa 10 min

One of the core issues with tacit knowledge concerns its formulation, which is related to how it might be transferred. Participants talked about how they transfer content to students or colleagues. For instance, they provide information about certain steps to follow. This provides insight in how they disassemble and express a concept or handling. I want to focus further and more explicitly on how teacher's transfer knowledge and expertise to colleagues. What tactics and means do they use, and how do they decide what to do or talk about content-wise?

A. What do you think are the key forms of expertise you use daily have developed on the job?
   o Here, you may think for example of pedagogical skills, time management, and classroom management skills.[3]
B. In what forms do you communicate with your colleagues about your development in these areas?

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[3] Pedagogy, Classroom management, Time management, ICT stills, Didactics, Strategies, Techniques, Processes, Skills, Know How etc.

2. Facilitation circa 20 min

All participants, in some form, mention they experience difficulties in finding time and ways to interact with colleagues. Lessons, individual work, and the issues of the day seem to be the most common causes resulting in obstacles like few time and attention. The absence of sufficient moments to gather, either occasionally or structurally, adds to this issue. Yet, teachers, by law, are provided with a percentage of their work time factor meant for professional development, and the new teachers register obliges teacher CPD to qualify for reregistration.

I would like to further explore what time management tactics teachers may deploy in order to try finding time to communicate with colleagues. Also, I am interested why it would be the case that "they don't have time" – to me, this sounds a bit passive, whereas professional development also is an individual obligation and teacher's largely manage their own agenda, apart from schedules. Furthermore, participants mention they would be supported by a structure that facilitates meetings; I want to know what such a structure should look like to actually make teachers gather and to support their sharing.

A. How do *you* manage your agenda?
B. How do you use the hours for PD provided by law?
C. What do you do with those moments you do have?
D. What if you had all the time you need?
E. What facilitation do you further need to share your expertise and know-how with colleagues, and why?

3. Appreciation of colleagues - Influence of character circa 30 min

To the question 'Are you willing to share your knowledge and experience?', participants always answered 'yes', often acting if it is an obvious thing to do. But when I then asked 'Always and with everyone?', that yes became a 'yes-if' or 'yes-but'. Sharing involves communication, and communication is influenced by one's opinion on whom they're communicating with. Participants indicated that certain characteristics support or hinder their willingness to share, e.g. someone is sympathetic, someone has a decent work ethos and performs well, or someone does not make use of someone's hard work in an unfair way. This topic, 'influence of character', clearly influences willingness to share and consequently likeliness of colleagues exchanging experiences. In the focus groups, I want to focus on the perceived downsides of sharing. What could happen if someone uses your work? Why wouldn't you share with someone you don't really like, even though (or: because) it is to improve performance, which may benefit … who? What if everyone knew everything their colleagues also know?

A. Do you think people use tacit knowledge as a mechanism for distinction?

B. Do you see people sharing or withholding certain knowledge?

C. You've got knowledge or expertise on subject X – why wouldn't you share it?

D. How do you judge on whether or not you share? Do you see any risks?

E. How do you see your autonomy and ownership developing?

F. What do we need to make interpersonal sharing an organisational culture?

Appendix C Participant Information Sheet

University
of Glasgow

College of Social
Sciences

Participant Information Sheet

Project title: **Vocational education teaching professionals learning from each other's knowledge.**
Researcher: **Maarten Matheus van Houten**

Dear teacher,

You are being invited to take part in a research study. This research study is carried out as part of my doctoral studies ('promotietraject', in Dutch) at the University of Glasgow. Before you decide to participate or not it is important for you to understand why the research is being done and what it will involve. Please take some time to read the following information carefully and discuss it with others if you wish to do so. Ask me and/or us if there is anything that is not clear or if you would like more information. Take your time to decide whether or not you wish to take part.

Thank you for reading this.

This research project focuses on the learning of professionals within secondary vocational education in Amsterdam, with a focus on the sharing of knowledge. The exchange of knowledge in education is important for the continuation within teams and schools, for professionalisation of professionals, and hence for the quality of the organisation and its employees. As a participant, you might benefit from your contribution to this research project because it offers you a chance to reflect on your performance and interaction with colleagues. This could provide you with new insights concerning, for example, your communication or functioning within the team or during

class. Insight into mechanisms and practices of knowledge sharing might improve daily practice as well as long-term quality of teaching.

Participation is completely voluntary and entails either one interview of approximately one hour (with approximately 10 individual interviews in total for the project), and/or participation in a focus group that will take approximately one hour and involves about five participants. Of course, if the situation asks for it, we will take a bit more time to make sure there is time to tell whatever you would like to share. These conversations will take place at the ROC van Amsterdam's College West, or alternatively if you wish so, at a public location of your choice. In the case of focus groups, we will find a location that can count on the approval of all participants involved. When approved, the conversations will be audio-taped, only to enable the researcher to carry out a proper analysis.

This project focuses on human relationships and human functioning. It might make you think about feelings towards others, or about how individuals you know act and are. Or you might consider what others would say about you. Because of this, you might experience an emotional effect during or after the interviews. To support you and your position, participation will be anonymous. Also, mentioning or discussing other individuals could be limited, or even avoided if appropriate. Furthermore, this research focuses on your own experience, thoughts and behaviour regarding interpersonal learning, not on personal functioning. It will not be used to assess you or others, or to judge on your or others' functioning.

As a researcher, I will do my utmost to guarantee confidentiality. Please note that confidentiality may not be guaranteed; due to the limited size of the participant sample. To foster confidentiality, signed consent forms, and data collected will be stored on my computer as a password-protected files. After transcription, the interview data will be analysed. The raw data will not appear in a report or publication, unless you approve quotes to be used. Raw data will not be shared or re-used either. The results stemming from the analysis of the raw data will be used in the dissertation that this research project is subject to. This dissertation will be public. Please note that withdrawal is possible at all times: before, during, and after the interview. If you decide to withdraw, your data will be deleted. Please note, too, that if you participate in a focus group, *your* contributed raw data (that is: your contribution to the conversation) will not be used in the project, but that *other* data

(other people's contributions to the focus group conversations) will still be used for this research project.

This project has been considered and approved by the College Research Ethics Committee of the University of Glasgow. For more information about this project or me as a researcher, please do not hesitate to contact me. You are also completely free to contact my supervisor, Dr. Mark Murphy, via Mark.murphy@gla.ac.uk. For more information about the ethical procedures, or to file a complaint, please contact the College of Social Sciences Ethics Officer, Dr. Muir Houston, via email, Muir.Houston@glasgow.ac.uk.

Best wishes,

Maarten M. van Houten
PGR student at the University of Glasgow

Appendix D Consent Form

University
of Glasgow

College of Social
Sciences

Consent Form

Title of Project: **Vocational education teaching professionals learning from each other's tacit knowledge.**

Name of Researcher: Maarten van Houten
Name of Supervisor: Dr. Mark Murphy

☐ I confirm that I have read and understood the Participant Information Sheet for the above study and have had the opportunity to ask questions.

☐ I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.

☐ I consent / do not consent (delete as applicable) to my interview being audio-recorded.

☐ I consent / do not consent (delete as applicable) to the focus group I participate in being audio-recorded.

☐ I acknowledge that participants will be referred to by pseudonym.

☐ I understand that other authenticated researchers will have access to this data only if they agree to preserve the confidentiality of the information as requested in this form.

I agree to take part in this research study   ☐

I do agree to take part in an individual interview   ☐

I agree to take part in a focus group   ☐

I do **not** agree to take part in this research study   ☐

Name of Participant …………………………………… Signature …………………………………………………….

Date …………………………………

Name of Researcher …………………………………… Signature …………………………………………………….

Date …………………………………

Glossary

European Qualification Framework

The European Qualifications Framework (EQF) is the European reference framework for educational qualifications containing eight levels of qualifications, ranging from 1 (lowest) to 8 (highest), that aims at making qualifications understandable and comparable across the different European countries and education systems.

Knowledge economy

This term refers to the idea that a significant part of the economy and economic growth relates to knowledge. In this context, knowledge is believed to be a source and means of providing services and goods. Key is the a great reliance on intellectual capabilities, as opposed to physical or natural resources as can be found in previous centuries.

Learning organisation

In learning organisations, employees are facilitated in their (collaborative) learning and improvement in order to continually adapt capacity and strategies to accomplish desired purposes in changing environments (Leithwood & Aitken, 1995; Senge, 1990a, 1990b; Silins et al., 2002).

Massive Open Online Course

A massive open online course (MOOC) is an open access course offered online, therefore allowing for distance learning. MOOCs often are offered by higher education institutions and contain lectures and common course material, and may contain assignments and interactive features such as discussion platforms. Many MOOCs are free, but increasingly, there are also MOOCs that are charged for. Many higher education institutions offer MOOCs with the aim of widening access, building a brand, recruiting students for regular degree programmes, and lowering costs while generating revenue (Hollands & Tirthali, 2015).

Middelbaar Beroepsonderwijs

In the education system of The Netherlands, middelbaar beroepsonderwijs (MBO) is upper secondary education and offers vocationally oriented programmes at EQF levels 1 up to and including 4. Generally, this education is followed in an Regionaal Opleidingencentrum (ROC), agricultural training centre (AOC), or vocational school.

Neoliberalism

Neoliberalism refers to political, economic, and social arrangements that are driven by and emphasise competitive market relations (Springer et al., 2016, p. 2). Competition, consumption, and free market economy are key elements in this condition that exposes itself in decreasing state functions through privatisation and deregulation, and increasing influence of 'the free market' through internationalisation of (movement of) capital, goods and services, and resources.

Regionaal Opleidingencentrum

A Regionaal Opleidingencentrum (ROC) is an education institution with a regional function. ROCs offer education at EQF levels 1 up to and including 4, usually secondary school education and upper secondary vocational education.

Sociaal Economische Raad

The Sociaal Economische Raad is an advisory body in which employers, employees and independent experts (Crown-appointed members) collaborate to advise the Dutch Government and Parliament on social and economic policy. It also facilitates societal agreements between various parties and carries out certain administrative tasks, for instance concerning employee participation.

Tacit knowledge

Michael Polanyi rejected the existence of complete objectivity and a single truth, because theory, facts and anything else that would be 'objective' always involve human influence through appraisal of stimuli. This indicates why knowledge is personal: it is always appropriated by the individual through their own framework of reference, which is formed by experience and existing ideas. Therefore, knowledge would be better be described as an ongoing (personal) process of knowing, rather than as something solid. Because of this, professional performance, by Polanyi referred to with 'skilful performance', is deeply rooted in one's highly contextual and integrated knowledge, with the individual not being aware of all assumptions, causal relationships or other rational foundations underpinning their ways of doing. Consequently, articulating and sharing personal knowledge is hard, if not impossible. This background culminates in the definition used in this study: "Tacit knowledge is a non-linguistic, non-numerical form of knowledge that is highly personal and context specific and deeply rooted in individual experiences, ideas, values and emotions" (Gourlay, 2002, p. 2).

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