

Chapter 11

Value Creation in Teacher Learning Networks



Daniël van Amersfoort, Monique Korenhof, Femke Nijland, Maarten de Laat, and Marjan Vermeulen

Abstract Research shows that teacher professional learning is most effective when it is characterised by active engagement of teachers, a direct connection to their daily practice, and high levels of collaboration. Increasingly, networked professional learning is promoted to enable teachers to make better use of the potential of their social context and improve the quality of their learning. This chapter explores value creation in teacher learning networks and investigates how value creation is affected by contextual factors. The study was conducted in two projects that aimed to promote and facilitate teachers' networked professional learning. The findings showed little difference in teachers' networked learning activity itself, but substantial differences were found in leadership commitment, time, and opportunity for networked learning and voluntary network participation. Overall, the study shows how creating connections between teachers may lead them to redefine their idea of what learning could be like and reframe the value of their peers for learning. Interestingly, the combination of committed leadership and mandatory network involvement appeared to have helped teachers to have positive networked professional learning experiences.

D. van Amersfoort (✉) · F. Nijland · M. Vermeulen
Welten Institute, Research Centre for Learning, Teaching, and Technology,
Open University of the Netherlands, Heerlen, The Netherlands

M. Korenhof
ROC Leeuwenborgh Maastricht, Leeuwenborgh Institute for Secondary Vocational
Education, Maastricht, The Netherlands

M. de Laat
Welten Institute, Faculty of Psychology and Educational Sciences, Open University
of the Netherlands, Heerlen, The Netherlands

University of Wollongong, Wollongong, NSW, Australia

Introduction

It is widely acknowledged that teacher learning is essential for school improvement and enhancing the quality of learning and teaching (Kyndt, Gijbels, Grosemans, & Donche, 2016; Opfer & Pedder, 2011). Teacher professional learning is most effective when it is characterised by active engagement of teachers, a direct connection to their daily practice, and high levels of collaboration (Opfer & Pedder, 2011; Prenger, Poortman, & Handelzalts, 2017). Teachers' participation in various forms of social learning is linked to an array of positive outcomes, including enhancing teacher professional development, raising student performance, and driving school improvement (Earl & Katz, 2007; Moolenaar, Daly, & Slegers, 2010).

However, teachers' work is often structured in a way that allows little room for teachers to connect and collaborate (Vaessen, Van der Beemt, & De Laat, 2014). Therefore, there has been a great increase in initiatives that aim to stimulate learning and collaboration through teamwork, teacher networks, and professional learning communities (Chap. 13 by Spante, Johansson, & Jaldemark, this volume; Prenger et al., 2017; Stoll, Bolam, McMahon, Wallace, & Thomas, 2006; Vrieling, Van den Beemt, & De Laat, 2016). Indeed, promoting connections between teachers, facilitating the emergence of teacher learning networks, and creating awareness of the opportunities that social relations have to offer might enable teachers to make better use of the potential of their social context and improve the quality of their learning (Hodgson, 2017; Jackson & Temperley, 2007; Vaessen et al., 2014).

As current policy climates require schools and teachers to continuously demonstrate the outcomes of their actions, it is important to capture the outcomes of social forms of professional learning. However, traditional frameworks are not sufficient for this purpose (Eraut, 2004; Fenwick, 2009). An alternative framework has been proposed by Wenger, Trayner, and De Laat (2011) who suggest that learning in networks and communities can be grasped in terms of value creation. This chapter draws on their model to explore value creation in teacher learning networks and investigates how value creation is affected by contextual factors.

Networked Learning

Research into teachers' networked learning has been greatly influenced by social constructivist and social capital theory (Muijs, West, & Ainscow, 2010). From a social constructivist perspective, people construct their understanding of reality through a continuous process of individual and collective sense-making (Vygotsky, 1981). Our experience of the world and our engagement in it can thus be framed as the constant negotiation of meaning (Wenger, 1998), where knowledge is thought of as 'embodied in actions and interactions with the environment and others' (Muijs et al., 2010, p. 9). Learning, as such, is situated, embedded and maintained in the daily culture of shared and connected practices (Hodgson, De Laat, McConnell, &

Ryberg, 2014; Lave & Wenger, 1991). From a social constructivist perspective, engagement in networked interactions thus contributes to our understanding of the world around us.

Closely related to a social constructivist understanding of learning is social capital theory (Muijs et al., 2010). Nahapiet and Goshal (1998, p. 243) have defined social capital as ‘the sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit’. According to these authors, social capital consists of the patterns of social connections between people, the qualities of their relations, and the shared meaning that enables productive interactions between them (Nahapiet & Goshal, 1998). Engaging in networked interactions and strengthening social capital provides access to a rich web of resources, increases the flow of information within that network, and creates opportunities for social action (Muijs et al., 2010; Nahapiet & Goshal, 1998).

Research that draws on social capital theory has shown that an extended and diverse network with both weak and strong relationships is crucial for both personal and professional development (Daly, Moolenaar, Bolivar, & Burke, 2010; Hansen, 1999; Levin & Cross, 2004). Weak relationships are particularly useful for sharing simple, routine information (Hansen, 1999) and gaining access to new knowledge and perspectives (Granovetter, 1973). Conversely, strong relationships have been found to be particularly valuable for sharing tacit or complex knowledge (Hansen, 1999; Reagans & McEvily, 2003). Building on these insights, researchers have shown increasing interest in the role that social relations can play in teacher learning.

In education, there has been particular interest for professional learning communities (PLCs) as a venue for networked professional learning (Prenger et al., 2017; Stoll et al., 2006). Much alike communities of practice (Wenger, 1998), they are bound together by a shared vision and values, and a collective responsibility for the quality of their work (Stoll et al., 2006). Combined with strong mutual relationships, PLCs can be seen as a particular form of close-knit social structures that enable teachers’ networked learning (Wenger et al., 2011).

Indeed, research on various networked approaches to teacher learning has shown that a shared purpose, interest, or struggle connects teachers and makes their interactions useful and compelling (e.g. Borg, 2012; Katz & Earl, 2006). Similarly, it has been found that effective PLCs are characterised by active collaboration and participation, creating a space for reflective dialogue, promoting both individual and collective learning, and deprivatising practice (Prenger et al., 2017; Stoll et al., 2006). With regard to the qualities of relations, trust is a crucial factor in using social relations for learning (Katz & Earl, 2006; Prenger et al., 2017; Stoll et al., 2006). For instance, Levin and Cross (2004) found that trust plays an important role in exchanging knowledge in both weak and strong relationships.

Networks facilitate collaboration, but eventually it is through teachers’ agency that they actually leverage their relations for learning (Hodgson et al., 2014). Their learning needs, for example, affect how they deal with the pace, the content and the access to a network (Walton, 1999). They may also take up different roles, such as leading particular initiatives, actively participating in collaborative groups and sharing their expertise (Earl & Katz, 2007; Lieberman & Wood, 2002). To optimise

learning, most networks will continuously combine or integrate multiple aspects of social learning and emphasise different aspects at different times (Vrieling et al., 2016; Wenger et al., 2011). Yet, as teachers' agency plays such a central role in networked learning, networks might be prone to a lack of direction and unclarity about the time and resources they require to be effective (Croft, 2015).

Inherently related to teachers' agency are the affordances that are available in their environment (Billett, 2001), and a vast body of research has focused on understanding the conditions that facilitate teacher learning (e.g. Kyndt et al., 2016; Prenger et al., 2017). For instance, research suggests that networked professional learning benefits from supportive leadership (Büchel & Raub, 2002; Earl & Katz, 2007), as well as from time and resources provided by the organisation (Borg, 2012; Lieberman & Wood, 2002). Similarly, research has shown that transformational leadership, which is characterised by vision building, individual consideration, and intellectual stimulation, contributes to a collaborative and innovative school climate (e.g. Moolenaar et al., 2010).

Autonomy within the organisation and voluntary participation have also been reported to be important affordances for teachers' networked professional learning (Borg, 2012; Scribner, Hager, & Warne, 2002). However, Timperley, Wilson, Barrar, and Fung (2007) concluded that active engagement in the learning process was more important for effective learning than the extent to which teachers did so voluntarily. These findings exemplify that much is still unknown about the influence of contextual affordances, such as organisational support and autonomy, on the processes and outcomes of networked professional learning. Accordingly, this study aimed to explore how contextual affordances affected the value created through teachers' engagement in networked learning. The following section describes how the study framed value creation in that context.

Value Creation

People are engaged in the constant negotiation of meaning in order to make sense of their environment. According to Wenger (1998), this negotiation of meaning consists of participation in social practices on the one hand and reification on the other. He describes reification as 'giving form to our experience by producing objects that congeal this experience into "thingness"' (p. 58). To capture the broad spectrum of outcomes that flows from network engagement, Wenger et al. (2011) developed a framework for assessing value creation. Value creation is an iterative process that travels across cycles of immediate, potential, applied, realised, and reframing value (see Table 11.1). Value, in this context, is an attribution made by teachers themselves and their stakeholders.

Several studies (e.g. Bertram, Paquette, Duarte, & Culver, 2014; Cowan & Menchaca, 2014; Pataraiia, 2014) have shown that the value creation framework was a useful lens to grasp the outcomes of learning in networks. These studies did, however, consistently find an unequal distribution of value creation amongst the cycles,

Table 11.1 Descriptions of value creation cycles

Value creation cycles	Description
Immediate value	Activities and interactions as having value in and of themselves (p. 19)
Potential value	Activities and interactions can produce knowledge capital, whose value lies in its potential to be realised later, i.e. personal assets; relationships and connections; resources (pp. 19–20)
Applied value	The ways in which practice has changed in the process of leveraging knowledge capital (p. 21)
Realised value	The effect that application of knowledge capital has on the achievement of what matters to stakeholders, including members who apply a new practice (p. 21)
Reframing value	The reconsideration of the learning imperatives and the criteria by which success is defined, as caused by social learning (p. 21)

Adapted from Wenger et al. (2011)

with a decrease from immediate to reframing value. In this study we use the framework to study the value creation that is reflected in teachers' experiences of networked learning. It will be interesting to see how the distribution of value creation amongst cycles is affected by contextual factors and how that distribution compares to the patterns found in previous studies.

This chapter reports on an exploratory study that was the first in a larger research project focused on understanding learning and value creation in teacher networks. The study took place in two primary school districts in the Netherlands, which aimed to facilitate teachers' networked professional learning. The investigation was guided by two main questions:

1. What value creation is reflected in teachers' reports on their networked learning?
2. How does the context affect value creation in teacher learning networks?

Context

The study was conducted in two practice-based collaboration projects (Heron & Reason, 2006) where researchers, school management and teachers worked closely together in local planning groups. Researchers provided background information on networked learning to the local planning group and teacher networks, and facilitated network activity when needed. School management and teachers had full ownership over the projects and network activity, which was also expected to increase sustainability (Ketelaar, 2012). In this collaborative process, a working theory was developed which combined insights from literature on teacher professional learning and networking with practical guidelines for teachers. It encompassed the following guiding principles:

- Networked learning is embedded in daily practice. Networks connect teachers' practices and create opportunities to develop and share solutions to practical challenges and everyday problems.
- In a network, teachers actively leverage their contacts to make use of each other's experiences, knowledge, and viewpoints. Colleagues are a valuable source for learning because they can provide quick, practical and relevant solutions and answers to teachers' questions. As such, participating in a network provides a teacher with an active and approachable network of expertise with whom they can share their passion and that supports their everyday work.
- Teachers shape their own learning experiences and their learning needs are leading: they decide what they want to talk about, with whom, and at what pace.
- Networks are open and dynamic and as a result, new ideas are given a chance. Connecting with colleagues and experts from other schools provides access to new information and perspectives, which can trigger curiosity and reflection and can stimulate exchange and innovation.
- Networks are initially established around a particular practical problem but can become stable learning networks over time.
- Networks can exist within or between schools. Network members decide who participates and whether they are ready to expand beyond the borders of their school.

Method

The two projects each involved a group of schools: the Oak Tree schools ('Oak Tree') and the Riverside Alliance ('Riverside'). We interviewed 13 female and 3 male teachers, 16 in total, which corresponds with the gender distribution amongst Dutch teachers (CAOP, 2017). At Oak Tree, eight teachers were interviewed 14 months after the project's kick-off meeting. As reflected in Fig. 11.1, the collaboration project with the Riverside Alliance came into being at a later point in time than the Oak Tree project, and kicked off 10 months after Oak Tree. Interviews with four Riverside teachers took place 5 months after the project launch, and another four teachers were interviewed after 10 months.

Interviewees ranged from 25 to 55 years old and taught different grade levels, ranging from first to sixth grade. These semi-structured interviews of approximately 1 hour

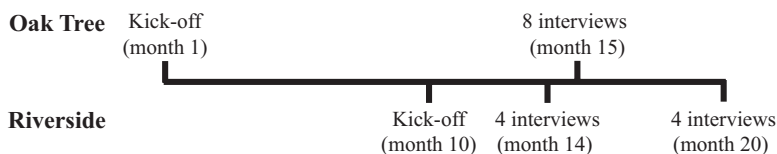


Fig. 11.1 Data collection timeline

covered teachers' definitions, views, and experiences regarding networked learning, supporting and constraining factors, and the value of network involvement.

Data analysis was conducted by a team of four researchers. Coding took place in two distinct rounds: one round was aimed to map the contextual factors that teachers reported to have affected learning in their networks (research question 2), and the other was focused on capturing the value created in teachers' networked learning (research question 1). In the first round, three members of the research team assigned open codes to all relevant statements of ten interviews. Then followed a comparison and combination of these open codes into preliminary categories, a discussion of how the categories fit the data, and a refining of the coding scheme (cf. Miles, Huberman, & Saldaña, 2013). Inter-rater reliability was then established at a Cohen's kappa of 0.70 (cf. Lombard, Snyder-Duch, & Bracken, 2002). The remaining interviews were coded by the principal researcher. For the second round of coding, we used Wenger et al.' (2011) value creation framework to code all interviews for the value creation reported by teachers. While all coding in this round was conducted by the principal researcher, other members of the research team re-read the coded data to ensure the quality of the interpretations. The final phase of the analysis consisted of within- and between-case comparisons at the project level, to gain a deeper insight into how different factors related to value creation (cf. Miles et al., 2013). The interpretations were discussed and verified in the research team.

Findings

In the following sections, both projects are described to understand the contextual factors that might have affected value creation in teachers' networked learning which enabled an answer to the second research question. To paint a more encompassing picture, these descriptions draw on information from operational project evaluations in addition to the interview data. A comparison of the two projects is then provided and followed by a description of the main patterns of teachers' networked learning engagement. Together, these offer a backdrop for understanding the subsequent presentation of the findings on value creation in teacher learning networks.

Project Description: The Oak Tree Schools

The first project was initiated by the headteachers of four primary schools in a small town in the Netherlands: The Oak Tree schools. In collaboration with the university, they wanted to promote teacher professional development through 'between-school' networks. To enhance knowledge sharing and to make network products available for teachers throughout the entire district, a digital SharePoint environment was created. However, only a limited number of networks put something on their page, and

the environment was scarcely used so teachers' networked learning was limited to face-to-face meetings.

The project at Oak Tree kicked off with a 'knowledge marketplace' event, where all teachers from the four schools shared their areas of expertise and the challenges they faced in practice. By the end of that event, teachers had formed initial networks around shared themes. Eventually, all teachers (approximately 50) were involved in at least one of 14 learning networks. Both within and between-school networks had emerged, covering a range of topics such as 'social-emotional development of second grade pupils' and 'ICT in education'.

The Oak Tree headteachers were greatly committed to the networked learning project. Although there was no formal requirement, there was a strong expectation from the headteachers that teachers participated in a network. To encourage and support teachers' engagement in networked learning, the headteachers provided time and space in the form of:

1. Bi-monthly networking days, where all teachers would get together with their networks. Network coaches from the university attended these days to support networks where needed;
2. Meeting-free weeks, aiming to provide flexibility for between-school networks to meet after teaching hours;
3. Teacher cover, which was arranged when networks wanted to meet during school hours.

Teacher cover was hardly used due to a number of practical barriers. In the interviews, teachers noted that the meeting-free weeks were usually taken up by more pressing issues. The networking days, on the other hand, were found to be useful. While acknowledging the value and importance of these networking days, some teachers also expressed a concern about how these days limited the opportunities they had to work on school improvement internally.

The complicated thing with those networking days is that those days are indispensable for doing things with your own team. –Rose, Oak Tree

Project Description: The Riverside Alliance

The second project involved three primary schools from the Riverside Alliance, a school district in a medium-sized city in the Netherlands and was initiated by the headteacher of one of these schools. The Riverside Alliance aimed to facilitate the emergence of between-school professional learning networks. These networks would primarily meet face-to-face and were free to develop their own goals and ways of working. The district intended to provide an online SharePoint platform for networks to show what they were working on and share their products with all teachers in the district. However, the three schools involved in networked learning were not included in the roll-out of the online platform during the collaboration project.

At the start of the project, two kick-off meetings were organised for teachers from all three schools who wanted to engage in networked learning. The meetings consisted of various activities, such as professional speed dates, that enabled them to make new connections. Apart from these meetings, school management did not allocate time and space for teachers to connect or meet with their networks. Network coaches from the university attended network meetings to provide ongoing support and offered support for teachers who wanted to join or build a network. By the end of the second meeting the first networks had emerged. Eventually, 25 teachers from the three schools had formed six learning networks around topics such as 'teaching first and second grade combination classes' and 'ongoing teaching/learning trajectories in mathematics'.

At the first kick-off meeting, there was confusion and resistance amongst some Riverside teachers about the voluntary nature of the meetings, as they were under the impression that their presence would be recorded. In response, it was explicitly communicated that attending the meetings and participating in a network participation was entirely voluntary. After that initial hiccup, the project started small with only teachers who were highly committed.

The Riverside teachers who had formed networks arranged meetings at their own initiative. Despite their enthusiasm, they did express how hard this could be in the midst of everyday practice. Accordingly, they expressed the wish to have some allocated time for their network engagement, and expected that such explicit support would motivate other teachers to join or form networks as well.

I think that school management has an important role in that ... they can arrange that there is time and space for networked learning. Eventually the network takes over, but they need to be the instigators. –Cynthia, Riverside

Indeed, teachers' comments about the need for time were closely related with how they perceived school management support for networked learning. Only one teacher felt actively supported by her headteacher, whereas others expressed how they experienced a lack of recognition and facilitation for their network engagement.

It is about acknowledgement ... I don't think he recognises how important this is to me, and therefore it's always scheduled as something on the side. –Sophie, Riverside

Project Comparison

The two project descriptions above show how the same concept can take different directions in different contexts. While time and leadership appear to have played a crucial role in both projects, they have done so in different ways. The Oak Tree headteachers were committed to teachers' networked learning, providing them with time and opportunity, while leaving little room to opt out. Conversely, network participation was voluntary in Riverside, but teachers had to find time for it themselves and experienced little support and appreciation from their headteachers. Teachers in both projects expressed that they found it hard to prioritise their network activity over urgent everyday matters, especially when there was no time allocated by school management.

Teachers' Networked Learning

Despite the differences between the projects, there was not much variation between the projects regarding the main patterns of teachers' networked learning engagement. To frame our understanding of value creation in teacher networks, this section briefly describes these main patterns.

In both projects, teachers worked together in small networks that met regularly to answer each other's questions, solve problems and develop tools for practice.

Learning from and with each other, with others. So not figuring everything out by yourself, but tackling a topic together, and being able to learn from that through experience and exchange. –Hannah, Oak Tree

The frequency and timing of network meetings depended on teachers' needs around the issues they addressed. Teachers brought structure and focus to their meetings by defining main topics to discuss, and different members took responsibility for different tasks. Between meetings, most networks stayed in touch by email to plan for their next meeting or to share resources.

A recurring theme in teachers' descriptions of networked learning was the two-way process in which they learned with and from one another. The need for network participants' commitment to reciprocity was particularly reflected in teachers' comments on the balance between 'give-and-take' within a network.

There need to be people that I can get things from. It must be give and take, you get some, you bring some. –Katherine, Oak Tree

Teachers especially valued peers with a certain degree of experience and expertise, a reflective attitude and basic communication and problem-solving skills. Teachers had experienced that an open attitude and motivation to learn were essential for anyone who wanted to join a network.

You have to be open to each other's opinions, and willing to provide advice ... You also have to be open to new knowledge and sharing your experiences with others and really using the advice that others give to you [...], you have to maintain and invest in your network ... and that you keep your eye out for other people who may want to join the network and have the expertise to add value to the network. –Amelia, Riverside

Teachers also found it important to be in a network with teachers from different schools. They especially appreciated connecting with people who brought in different viewpoints and experiences. They found common ground in their mutual practices, such as teaching the same grade level and having a common interest or struggle. *Having a shared frame that was grounded in their practice* provided a purpose and focus to guide their network interactions. Teachers in both projects stressed the importance of trust, safety, and openness in these relationships which encouraged them to share their experiences.

If there is a good atmosphere, you feel confident to open up to others and to say what's on your mind. It's all connected to some extent. –Olivia, Riverside

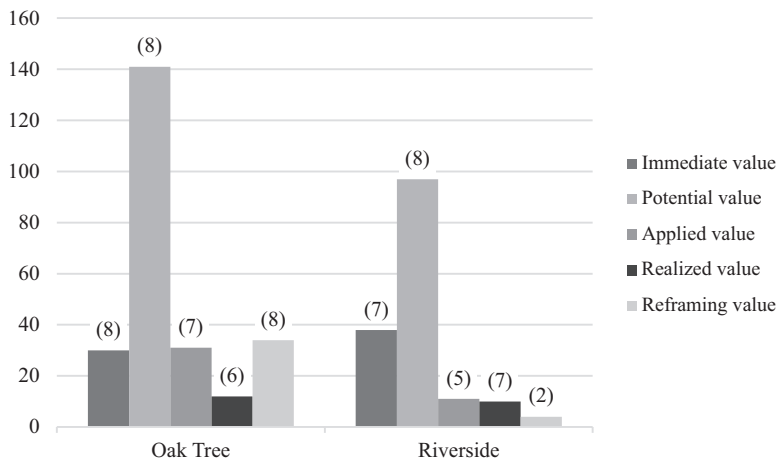


Fig. 11.2 Distribution of comments over value creation cycles by project. The number of teachers who made a comment regarding the cycle is included in brackets

Value Creation in Teachers’ Networked Learning

The next section describes the value that was created through teachers’ networked learning and enabled answering research question 1. The first thing that stands out in the distribution of teachers’ comments (Fig. 11.2) is that teachers in both projects made substantially more references to potential value compared to their comments on the other cycles. When comparing the two projects, no quantitative difference in terms of immediate and realised value was found. Yet, Oak Tree teachers made more references to value creation in the other three cycles.

In the following sections, each cycle is discussed in turn, highlighting the differences between the two projects and noting the aspects of teachers’ networked learning that were found to be relevant to the value created.

Immediate Value

In both projects, teachers expressed immediate value in the enjoyment, fulfilment, and enthusiasm when they talked about their networked learning experiences.

The fun that I just experience by doing it with other people. The conviviality and closeness that you feel then. –Lucy, Oak Tree

The support and feedback from their peers made teachers feel that they were able to cope with the challenges they faced in practice. They enjoyed getting input from others but also found it fulfilling to share and contribute to the network.

Because if I help a colleague, it feels good, it gives me energy. You should look at networked learning as something positive, for yourself. You give some, you take some. And you get energy from both. –Jack, Riverside

Moreover, teachers' enthusiasm served as a starting point for sharing network outcomes in their schools.

If you are so enthusiastic, then someone else notices that and gets curious as well, like: 'What's that?' –Grace, Oak Tree

Potential Value

Throughout the interviews, a lot of references to potential value were found when teachers described the networks' contribution to their professional development and the resources they got through their networks. Their networks had provided them with new ideas, inspiration, and insights for improving their practice. It was particularly helpful for them to hear how other teachers did things, to gain access to teaching methods and materials, and to get specific suggestions for classroom activities. When such resources weren't directly available, teachers collaborated to develop their own tools for practice.

Having a network that consisted of teachers from different schools, with different viewpoints and backgrounds, came up as a particularly important source for creating potential value. This diversity provided teachers with new ideas on how they could improve their practice and helped them to reflect on their own practice.

Another person knows exactly what to point out and says: 'uhm, why are you doing this?' and that makes you think: 'I could also do it another way ... Why didn't I see this?' And that is the added value of being in a network with other schools. –Grace, Oak Tree

The expertise and experience that others brought into the network served as an important source for acquiring new knowledge and skills, particularly regarding specific content.

I've become much more skilled, if I just look at ICT. Through that collaboration with colleagues you get a lot of knowledge and skills from the others. –William, Oak Tree

Teachers also reported that they had strengthened and extended their relationships. While teachers mentioned trust, safety, and openness as prerequisites for meaningful interaction, they also noted that these aspects developed over time and that potential value was created in strengthening their relationships and building friendship with their colleagues. Moreover, they reported extending their personal networks and having a better view of whom they could go to with certain issues.

I've noticed that I often run into contacts I've made in other networks. So you get to know more people ... and you run into those people at other places again and that's often very useful. –Amelia, Riverside

In some instances, teachers shared network outcomes with colleagues within their schools. As reflected in Martin's comment below, teachers believed that the whole school could benefit from their networked learning.

It contributes to the school that I am operating professionally. So if a colleague has a problem, I can help them immediately ... It's some kind of a service-hatch: I get better, and my colleague gets better as well. –Martin, Oak Tree

Applied Value

In contrast to the variety of comments on the potential value that was created, teachers were much more implicit about the applied value that had been created. Teachers talked about applied value when they expressed how they had taken a lot from their networks which they could use in practice. Most of such comments did not get into detail about whether they had actually done so. In some instances, teachers did mention trying things out, adapting their practices, and sharing these experiences within their networks.

If you see a couple of examples ... for me it was like: 'Why am I doing it the way I do? Let's see ... What can I do to change that a bit?' ... And for the children it is not too bad either when they do or experience different things. –Grace, Oak Tree

Realised Value

Similar to their comments about applied value, teachers gave very few concrete examples of how networked learning had affected their performance. Instead, they anticipated that their network engagement contributed to school performance because their own development and changes in practice had an impact on student learning.

If my teaching improves and I make those children better, then the whole school benefits. Results get better, children feel better, they function better, and so on. –Rose, Oak Tree

The only examples of realised value teachers gave described how they were saving time as a result of easy access to information and resources, quick feedback from colleagues, useful solutions for practical challenges, and the opportunity to share their workload.

You can share a part of the work, it doesn't all come down to you [...] So you have time to spend on other things. –Emily, Riverside

Reframing Value

In terms of reframing value, our analysis showed that teachers in both projects had reframed the value of the relationships with their colleagues for their professional learning, and had come to realise how valuable it was to be confronted with different perspectives.

Eventually you find that you can learn a lot from it, because at a certain moment you start looking at things differently. Even though at the beginning you think that you couldn't, later

on you notice that you do. You start to think about things in a completely different way because you hear opinions that differ from your own. –Helen, Riverside

Having positive network experiences appeared to be an important driver for bringing around such a shift in mindset.

Once you can make that ‘click’, like ‘I can make use of others and I can provide them with information as well’, then I think it can evolve. But that ‘click’ is very important: knowing you can make use of others. –William, Oak Tree

Other patterns of reframing value were only reflected in the interviews with Oak Tree teachers. For instance, teachers had discovered that professional learning had become more enjoyable and had come to appreciate the importance of an open attitude in learning. While they had noted that an open attitude was required for networked learning, they also believed that it was developed through network engagement. For example, they found it easier and more self-evident to contact other people, open up, and talk about their weaknesses.

For me it has changed ... Before, I felt that I had to do things on my own ... but together you get much further, and that, I have definitely noticed. –Martin, Oak Tree

Teachers at Oak Tree observed that norms about sharing and collaboration were changing across their schools. They experienced that it had become common practice to share experiences and materials within and between schools. Interestingly, mandatory participation in the networking days was found to help teachers experience the benefits of networked learning (cf. Chap. 13 by Spante et al., this volume).

Being forced to join a learning network was a good choice. It did not contribute something because of being forced, but it has been a first step to expand my horizon. –Katherine, Oak Tree

A summary of the different types of value that were reported for each cycle is presented in Table 11.2.

Discussion and Conclusion

This chapter described two projects aimed at facilitating teachers’ networked professional learning in order to answer the two main questions:

1. What value creation is reflected in teachers’ reports on their networked learning?
2. How does the context affect value creation in teacher learning networks?

With regard to the first research question, reports of value creation across all cycles were found. Teachers shared how they enjoyed learning in their networks and particularly talked about the potential value that was created in a variety of forms. Their references to applied and realised value were often implicit, although they did anticipate that their participation was beneficial for pupils as well. Finally, reframing value was found when teachers talked about how they had redefined their concep-

Table 11.2 Types of value created by project

	Oak Tree	Riverside
Immediate value	Enjoy working together; enthusiasm; nice to share with others; feel safe; reassurance; nice group; enthusiasm spills over to colleagues; easy way of learning	Enjoy working together; enthusiasm; nice to share with others; feel safe; reassurance; nice group; enthusiasm spills over to colleagues; fulfilling to get input from others; enjoyed lesson visits
Potential value	Knowledge; ideas; practical insights; inspiration; skills; reflect on practice; teaching methods; worksheets; lesson plans; new connections; access to resources; knowing where to go; share network resources within school; developed friendships	Knowledge; ideas; practical insights; inspiration; skills; reflect on practice; teaching methods; worksheets; lesson plans; new connections; access to resources; knowing where to go; share network resources within school
Applied value	Improve practice; useful in practice; try out ideas; better execution of activities; used input right away; adapted idea to own practice; feeding experience back to network; improved teaching	Improve practice; useful in practice; try out ideas; better execution of activities; used input right away; developed lessons together; apply useful tip to other subjects
Realised value	Share workload; beneficial to pupils; observing impact on pupils	Share workload; beneficial to pupils; observing impact on pupils; saving resources
Reframing value	New appreciation for and ease in reaching out to peers; developed an open attitude towards learning; changing norms about collaboration; mandatory involvement helped in reframing ideas about own learning; realised advantages of engaging with new perspectives; rediscovered own joy in learning	New appreciation for and ease in reaching out to peers

tion of learning, reframed the value of their peers, and how norms of sharing and collaboration were sharing across schools.

The patterns of value creation in this study, with a strong emphasis on potential and immediate value, confirm those found in other studies (e.g. Bertram et al., 2014; Cowan & Menchaca, 2014; Pataraiia, 2014). Although there is no proposed hierarchy in the cycles (Wenger et al., 2011), it is likely that they do come with increased time and effort. Having a good meeting may come easier than, for example, an increase in student outcomes. Nevertheless, it is interesting that teachers came up with little concrete examples of realised value, and regarded it self-evident that their students benefited from their network involvement. Particularly in an age of increasing accountability pressures, awareness of such outcomes might be crucial. Moreover, Wenger et al. (2011, p. 21) assert that it is ‘important not to simply assume that improved performance is the case when people change their practice, but to reflect on what effects the application of knowledge capital is having on the achievement of what matters to stakeholders’. In this book (Chap. 12), Vrieling-Teunter, Wopereis,

Van den Beemt, De Laat, and Brand-Gruwel suggest that such reflection places value creation within a long-term perspective and facilitates knowledge creation. For teachers and networks, thinking about realised value could fuel reflection and discussion on how they want their network engagement to impact on their pupils.

For the second research question, the contextual factors and value creation in both projects were compared. This comparison showed little difference in teachers' networked learning activity itself, but substantial differences were found in leadership commitment, time and opportunity for networked learning and voluntary network participation. While these three factors have been found to be important facilitators of networked professional learning (e.g. Büchel & Raub, 2002; Earl & Katz, 2007; Lieberman & Wood, 2002; Scribner et al., 2002), network participation was mandatory at the Oak Tree schools, and both supportive leadership and time support were missing at the Riverside Alliance. With regard to value creation in both contexts, the findings of the study indicate that Oak Tree teachers made more references in terms of potential, applied, and reframing value. Furthermore, they were most articulate about redefining their conception of learning and reported that norms of sharing and collaborating were changing within their schools. Interestingly, some teachers at Oak Tree explicitly stated that mandatory participation had helped them to appreciate the benefits of networked learning (Chap. 13 by Spante et al., this volume).

This finding is in contrast to previous research that stresses autonomy and voluntary network involvement (Scribner et al., 2002). It is in line with Timperley et al.' (2007) conclusion that it is more important for teachers to actively engage in the learning process at some point than it is for them to do so voluntarily. In their synthesis of literature on teacher learning, they also noted that 'the content and form of the professional learning opportunities were more important than volunteering in achieving teacher "buy-in"' (p. 104). In the current study, the fact that networks organised their own learning and emerged around self-chosen themes may have supported teacher 'buy in'. At Oak Tree, supportive leadership appears to have worked together with mandatory network involvement in exposing teachers to situations they would normally not engage in. The time reserved for network meetings may also have helped them to overcome their struggle in prioritising their own learning in the midst of everyday practice. As Pettersson and Olofsson argue in Chap. 10, it may be crucial to find the right balance between self-organisation on the one hand and external support on the other.

In interpreting the findings presented in this chapter, it is important to consider some limitations to this study. Firstly, the findings of the study should be viewed within their particular context, as data were collected from a limited number of teachers in a small number of primary schools who initiated a practice-based collaboration project with the university. Secondly, the value creation framework (Wenger et al., 2011) was only used for data analysis and not for data collection. While this might have decreased the likelihood of socially desirable answers regarding the value created in their networks, it might also mean that not all value creation has been tapped into during the interviews. Differences in the timing of the interviews between the projects might also have affected our findings, as it might be argued that value creation accumulates over time. Therefore, the qualitative effects

of time on value creation would have to be explored in future research. While the value creation framework has already been useful in our analysis, more work is still needed to elaborate both the cycles and the interrelations between them.

Further research is also needed to gain a better understanding of the circumstances under which mandatory network involvement may or may not contribute to value creation. The findings of the study already suggest that initiatives that aim to stimulate networked professional learning could benefit from proactive organisational support. Especially in education, where the structure of the work leaves little room for teachers to connect and collaborate (Vaessen et al., 2014), affordances may be needed to help teachers to prioritise their network engagement over urgent, everyday issues.

Overall, the findings of the study show how creating connections between teachers may lead them to redefine their idea of what learning could be like and reframe the value of their peers for learning. Teachers valued the joy and support they experienced in their networks and appreciated the richness of ideas and experiences they had encountered because of the diversity in their networks. At the Oak Tree schools, teachers even observed that norms about collaboration and learning were changing. In their accounts of reframing value, teachers repeatedly referred to the importance of positive network experiences. Interestingly, the combination of committed leadership and mandatory network involvement appeared to have helped teachers to actually have these positive network experiences. As such, actively enabling and encouraging teachers to experience both the support and richness of networked professional learning may be key for them to reframe their views on learning and the value of their peers.

References

- Bertram, R., Paquette, K., Duarte, T., & Culver, D. (2014). Assessing the value created through participating in a graduate studies community of practice. *Transformative Dialogues: Teaching and Learning Journal*, 7(1), 1–14.
- Billett, S. (2001). Learning throughout working life: Interdependencies at work. *Studies in Continuing Education*, 23(1), 19–35.
- Borg, T. (2012). The evolution of a teacher community of practice: Identifying facilitating and constraining factors. *Studies in Continuing Education*, 34(3), 301–317.
- Büchel, B., & Raub, S. (2002). Building knowledge-creating value networks. *European Management Journal*, 20(6), 587–596.
- CAOP. (2017). *Statistics labour market education sectors* [Statistieken arbeidsmarkt onderwijssectoren]. Retrieved September 25, 2018, from <http://www.stamos.nl>
- Cowan, J. E., & Menchaca, M. P. (2014). Investigating value creation in a community of practice with social network analysis in a hybrid online graduate education program. *Distance Education*, 35(1), 43–74.
- Croft, J. (2015). *Collaborative overreach: Why collaboration probably isn't key to the next phase of school reform*. London: The Centre for the Study of Market Reform of Education Research.
- Daly, A. J., Moolenaar, N. M., Bolivar, J. M., & Burke, P. (2010). Relationships in reform: The role of teachers' social networks. *Journal of Educational Administration*, 48(3), 359–391.

- Earl, L., & Katz, S. (2007). Leadership in networked learning communities: Defining the terrain. *School Leadership and Management*, 27(3), 239–258.
- Eraut, M. (2004). Informal learning in the workplace. *Studies in Continuing Education*, 26(2), 247–273.
- Fenwick, T. (2009). Making to measure? Reconsidering assessment in professional continuing education. *Studies in Continuing Education*, 31(3), 229–244.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78(6), 1360–1380.
- Hansen, M. T. (1999). The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Administrative Science Quarterly*, 44(1), 82–111.
- Heron, J., & Reason, P. (2006). The practice of co-operative inquiry: Research ‘with’ rather than ‘on’ people. In P. Reason & H. Bradbury (Eds.), *Handbook of action research* (pp. 144–154). London: SAGE.
- Hodgson, V. (2017). *Networked Learning in management and professional development*. Aalborg, Denmark. Retrieved September 25, 2018, from http://www.communication.aau.dk/research/knowledge_groups/e-learning-lab/networked-Learning-2017/About+the+keynotes/
- Hodgson, V., De Laat, M., McConnell, D., & Ryberg, T. (2014). Researching design, experience and practice of networked learning: An overview. In V. Hodgson, M. De Laat, D. McConnell, & T. Ryberg (Eds.), *The design, experience and practice of networked learning* (pp. 1–26). Cham, Switzerland: Springer International.
- Jackson, D., & Temperley, J. (2007). From professional learning community to networked learning community. In L. Stoll & K. Seashore Louis (Eds.), *Professional learning communities: Divergence, depth and dilemmas* (pp. 45–62). Maidenhead, UK: Open University Press.
- Katz, S., & Earl, L. (2006). Creating new knowledge: Evaluating networked learning communities. *Education Canada*, 47(1), 34–37.
- Ketelaar, E. (2012). *Teachers an innovations: On the role of ownership, sense-making, and agency* (Doctoral dissertation). Eindhoven University of Technology, Eindhoven, The Netherlands.
- Kyndt, E., Gijbels, D., Grosemans, I., & Donche, V. (2016). Teachers’ everyday professional development: Mapping informal learning activities, antecedents, and learning outcomes. *Review of Educational Research*, 86(4), 1111–1150.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.
- Levin, D., & Cross, R. (2004). The strength of weak ties you can trust: The mediating role of trust in effective knowledge transfer. *Management Science*, 50(11), 1477–1490.
- Lieberman, A., & Wood, D. (2002). Untangling the threads: Networks, community and teacher learning in the National Writing Project. *Teachers and Teaching: Theory and Practice*, 8(3–4), 295–302.
- Lombard, M., Snyder-Duch, J., & Bracken, C. C. (2002). Content analysis in mass communication: Assessment and reporting of intercoder reliability. *Human Communication Research*, 28(4), 587–604.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2013). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Thousand Oaks, CA: SAGE.
- Moolenaar, N. M., Daly, A. J., & Slegers, P. J. C. (2010). Occupying the principal position: Examining relationships between transformational leadership, social network position, and schools’ innovative climate. *Educational Administration Quarterly*, 46(5), 623–670.
- Muijs, D., West, M., & Ainscow, M. (2010). Why network? Theoretical perspectives on networking. *School Effectiveness and School Improvement*, 21(1), 5–26.
- Nahapiet, J., & Goshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242–266.
- Opfer, V. D., & Pedder, D. (2011). Conceptualizing teacher professional learning. *Review of Educational Research*, 81(3), 376–407.
- Pataraiia, N. (2014). *The role of networks in supporting academics’ professional development and change in teaching practice* (Doctoral dissertation). Glasgow Caledonian University, Glasgow, Scotland.

- Prenger, R., Poortman, C. L., & Handelzalts, A. (2017). Factors influencing teachers' professional development in networked professional learning communities. *Teaching and Teacher Education, 68*, 77–90.
- Reagans, R., & McEvily, B. (2003). Network structure and knowledge transfer: The effects of cohesion and range. *Administrative Science Quarterly, 48*, 240–267.
- Scribner, J. P., Hager, D. R., & Warne, T. R. (2002). The paradox of professional community: Tales from two high schools. *Educational Administration Quarterly, 38*(1), 45–76.
- Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. (2006). Professional learning communities: A review of the literature. *Journal of Educational Change, 7*(4), 221–258.
- Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher professional learning and development: Best evidence synthesis iteration*. Wellington, New Zealand: Ministry of Education.
- Vaessen, M. F., Van der Beemt, A., & De Laat, M. (2014). Networked professional learning: Aligning formal and informal. *Frontline Learning Research, 2*(2), 56–71.
- Vrieling, E., Van den Beemt, A., & De Laat, M. (2016). What's in a name: Dimensions of social learning in teacher groups. *Teachers and Teaching: Theory and Practice, 22*(3), 273–292.
- Vygotsky, L. S. (1981). The genesis of higher mental functions. In J. V. Wertsch (Ed.), *The concept of activity in Soviet psychology* (pp. 144–188). Armonk, NY: M. E. Sharpe.
- Walton, J. (1999). *Strategic human resource development*. Harlow, UK: Prentice Hall.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.
- Wenger, E., Trayner, B., & De Laat, M. (2011). *Promoting and assessing value creation in communities and networks: A conceptual framework*. Heerlen, The Netherlands: Ruud de Moor Centre, Open University.