



Teacher teams – A support or a barrier to practising cooperative learning?



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HIGHLIGHTS

- Multiple learning opportunities with active learning support teachers' implementation of CL.
- Cultivating a teacher team into a community of practice supports the use of cooperative learning.
- The teacher team can be a barrier for teacher's use of cooperative learning when CL is not a shared practice in the team.

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ABSTRACT

The pedagogical model cooperative learning (CL) has generated extensive research documenting its benefits for students' learning. Nevertheless, studies indicate that teachers face challenges practising the method. This paper presents a narrative of one teacher's experience with CL from a longitudinal perspective. It shows that the teacher's participation in a professional development programme with a teacher team supported his use of CL. The team cultivated a community of practice. However, changing team after training negatively affected his use of CL. The study reveals the potential of a teacher team for practising CL and illuminates certain challenges faced when implementing the method.

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1. Introduction

If I think about where I am with cooperative learning right now ... It's not like my learning and engagement with cooperative learning has ended, but more like it was paused when I was transferred to a different teacher team.

This is what Daniel, the teacher whose narrative is presented in this paper, told me during our last interview following his two years of learning about and implementing cooperative learning (CL). Cooperative learning is a pedagogical model that is widely acknowledged to enhance students' social and academic learning through the structured use of small groups. However, teachers have had difficulties implementing CL in their teaching, which means that the full potential of CL is not being exploited in schools. This

paper uses a narrative approach to present one teacher's experience of learning and implementing CL from a longitudinal perspective. Little research has been conducted on how teachers develop a CL practice and implement it in their teaching (Baines et al., 2015). The use of narrative in this study facilitates a rich holistic account of one teacher's experience. Presenting Daniel's story as a narrative provides insights into the complexity of implementing CL from a teacher's perspective. An analysis of Daniel's narrative offers useful knowledge about how a sustainable implementation of CL might be supported and the factors that educational policy-makers, school leaders and teachers might consider when planning to implement CL.

As part of this study, Daniel participated in a teacher team during a professional development (PD) programme on CL. In Norway, where this study was conducted, it is common for lower secondary schools to organise teachers into interdisciplinary teacher teams. A teacher team consists of teachers who have mutual responsibility for a group of students to whom they teach

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their subject specialisations. For Daniel, changing teacher team was a critical event for his engagement with CL. This study highlights the potential of a teacher team to enhance a teacher's CL practice, but it also reveals how a teacher team might be a barrier to practising the method.

The question explored in this paper is:

How does a teacher team influence an individual teacher's engagement with and practice of CL?

To frame this research, the paper begins with a presentation of CL as a valuable tool for teachers to accommodate students' learning needs in the 21st century. I then present a review of teachers' implementation of CL, focusing on teacher collaboration. I introduce the social learning theory of a community of practice and set out this study's line of inquiry. This is followed by an explanation of the methodology used in the study. Then, Daniel's narrative is presented. The paper concludes with a discussion of the narrative, focusing on how teachers' experience with CL can be supported and how a teacher team can be both a support and a barrier for a teacher's CL practice.

2. Theoretical framework

2.1. Cooperative learning

Cooperative learning is a long-standing pedagogical model that has generated extensive research. Its positive effects on students' academic and social learning are well documented (Johnson et al., 2014; Kyndt et al., 2013; Roseth et al., 2008). Cooperative learning differs from regular group work, as it is structured by teachers based on elements that mediate effective student cooperation. When designing and structuring a CL strategy, a teacher should consider five essential elements: positive interdependence, individual accountability, interpersonal and small group skills, promotive interaction and group processing (see Johnson & Johnson, 2002). During CL activities, students work together in small groups to maximise their own and each other's learning (Johnson & Johnson, 1999; Slavin, 2014). Studies show that CL improves students' achievement, attitudes, motivation, peer relationships and well-being (Fernandez-Rio et al., 2017; Johnson et al., 2014; Kyndt et al., 2013; Roseth et al., 2008).

Cooperative learning enables educators to weave a focus on both academic and social skills into the students' learning experiences, making it a potentially powerful tool for teacher practice and student learning in the 21st century. For example, CL enables students to experience the benefits of collaboration and teaches them interpersonal and small group skills. The ability to collaborate has been highlighted as an essential competency for students in the 21st century (Binkley et al., 2012; Dede, 2010; Lamb et al., 2017).

2.2. Implementing cooperative learning

Despite its potential and the extensive research that has emerged on its benefits for student learning, CL is a complex pedagogy that can be challenging for teachers to implement in their practice. Baloch and Brody (2017, p. 276) point out that "implementing cooperative learning in classrooms has always been a challenge". Research has identified certain challenges teachers face when implementing CL, including limited knowledge of CL in schools, an absence of the method in teacher education, and difficulties with group management, organisation, time management, curriculum design and assessment (Buchs et al., 2017; Dyson et al., 2016; Ghaith, 2018; Gillies & Boyle, 2010; Hennessey & Dionigi, 2013). The traditional teaching structure of whole-class lecturing

followed by individual tasks is still widely used (Gillies & Boyle, 2010; Hodgson et al., 2012; Klette et al., 2008; Kutnick et al., 2005). To depart from this traditional teaching method and include CL in their classrooms requires teachers to substantially change their teaching practice and learn new skills. They must become facilitators, teach collaborative skills and design learning activities structured for CL (Sharan, 2010). Changing teaching practice in substantive ways is difficult and can only happen if teachers believe that a change of practice is better for their students' learning (Timperley et al., 2007). A recent study on implementing CL found that teachers' attitudes and beliefs (both before and after their inclusion of CL in their practice) were key factors in determining their success implementing the method and its effectiveness (Veldman et al., 2020). Another study, which explored 207 elementary school teachers' beliefs about and use of CL, found that the method was not widely used (Buchs et al., 2017). These studies show that successfully changing their teaching practice to include CL can be challenging for teachers if they do not have sufficient knowledge of and belief in the method.

Research on CL is increasingly focused on how it can be implemented and how teachers' learning and change of practice can be supported. Teacher collaboration in learning and implementing CL is gaining attention. It has been demonstrated that having teachers work together in professional learning communities enhances teachers' learning and practice and improves students' learning (Hairon et al., 2017). Several studies have found that teacher collaboration has a positive impact on the implementation of CL (Dyson et al., 2016; Jolliffe, 2015; Miquel & Duran, 2017). Miquel and Duran (2017) studied the implementation of a peer-learning network model across a network of 20 schools in Spain and concluded that having teachers collaborate in pairs supported the implementation of the new educational programme based on CL and enabled the teachers to adapt the practice to their own professional context. Another design-based research study conducted in Denmark focused on the initiation of a new model of teacher collaboration using teacher teams in upper secondary schools and found that a teacher team became a community of practice that supported individual teachers' practice of innovative learning designs (Weitze, 2017). These studies show the impact that collaborative effort can have on teachers' learning and implementation of CL.

2.3. A community of practice

Forming a community of practice can support teachers' engagement with and implementation of CL (Johnson & Johnson, 2017). The concept of communities of practice is generally attributed to Lave and Wenger (1991), particularly to the later work of Wenger (see Wenger, 1998; Wenger et al., 2002; Wenger-Trayner & Wenger-Trayner, 2015). Wenger (1998) proposed the concept of communities of practice as a social theory of learning. The theory presents learning as social participation and emphasises that it is through action and interactions in social practice that meaning, learning and identity are produced and practices developed. Participation in social communities is considered to have transformative potential, not only because it shapes the participants' experiences but also because the participants shape the communities of which they are part (Wenger, 1998).

Wenger et al. (2002) proposed a structural model of communities of practice and emphasised the value of recognising and cultivating such communities as units of learning and knowledge in organisations. They defined communities of practice as "groups of people who share a concern or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (Wenger et al., 2002, p. 4).

The structural model of a community of practice has three main characteristics: the members have a shared domain of interest and knowledge; they form a community of people who care about the domain; and they develop a shared practice in order to be effective in their domain (Wenger et al., 2002; Wenger-Trayner & Wenger-Trayner, 2015). The shared domain constitutes a common ground and inspires members to participate in the community. The domain also guides members' learning and lends meaning to their actions. The community is characterised by the members' interest and involvement in joint activities, discussions, information sharing and relationship building. It facilitates collective learning, the development of community through practice and the sharing and maintenance of collective knowledge. The members of the community are all practitioners within the domain of interest, who work together to develop a shared repertoire of resources and ideas, which they bring with them to their practice. These three elements must be developed in parallel to encourage and support the community of practice (Wenger-Trayner & Wenger-Trayner, 2015).

A community of practice has strong parallels with CL as it emphasises participants' positive interdependence, cooperative nature and joint commitment to enhancing learning and practice (Johnson & Johnson, 2017). Exploring how communities of practice can be cultivated and developed to support teachers' learning of CL can provide valuable knowledge on implementing CL.

As noted above, a growing body of research finds that teacher collaboration has a positive impact on teachers' learning and implementation of CL (e.g., Dyson et al., 2016; Jolliffe, 2015; Miquel & Duran, 2017) and that developing a community of practice supports teachers' learning and implementation of new learning designs (Weitze, 2017). However, there is little research on teachers' long-term use of CL following PD training that includes teacher collaboration, and no existing study documents a teacher's transitions from a community of CL practice to a teaching environment where CL is not used and how this affects a teacher's practice.

This study is a complement to studies on teacher collaboration and CL and provides a new line of inquiry into teacher collaboration within interdisciplinary teams for their learning and practice of CL. The study examines one teacher's story of learning and engaging with CL over two years and provides empirical insights into the significance of teacher collaboration in teacher teams for CL. It also documents the teacher's long-term use of CL and how it was affected by losing the support structure of a shared CL practice when he joined a new teacher team. By examining how an institutionalised interdisciplinary teacher team can enable and constrain a teacher's learning and use of CL, this study aims to demonstrate the potential a teacher team that has been cultivated into a community of CL practice can have for teachers' learning. Moreover, the study's use of a narrative approach provides insights into the complexity of implementing CL from a practice perspective and brings the teachers' voice into discussions about the implementation of CL.

3. Methodology

3.1. Context of study

The study presented in this paper is part of a larger research project that explores the implementation of CL. The aim of the project was to develop knowledge on how teachers learn about and implement CL in their practice and how implementing CL affects students' learning. In the current article, data from one of the teachers who participated in the project is analysed to explore and exemplify the significance of teacher collaboration for a teacher's learning of CL and to document how a teacher's work with CL is

influenced by the loss of a community of CL practice. The analysis of the teacher's experiences illuminates the factors that support and challenge sustained CL practice. By discussing this teacher's experiences, this study aims to contribute valuable knowledge to research on teachers' learning with CL and to the practice of CL. Other aspects, such as students' perspectives on the relationship between teacher learning and student learning and a more in-depth examination of the team implementation of CL, are addressed in other publications within the larger research project (see Liebeck-Lien, 2020a,b).

The research project, of which the current paper is part, was conducted in a suburban lower secondary school in Norway (Years 8–10, students aged 13–16). The project involved a nine-month context-driven PD programme in CL, which was facilitated and planned in close collaboration with the school and the teachers involved. All Year 8 teachers, making up three teacher teams, participated in the PD programme.

It is common practice in Norwegian lower secondary schools to organise teachers into interdisciplinary teams. A teacher team generally consists of three teachers who, together, are responsible for a form group of around 50 students. The teacher team has collective responsibility for the same student group throughout lower secondary school (Years 8–10). Each teacher in the team specialises in and is responsible for teaching between one and three subjects to their form group.

3.1.1. PD programme

The context-driven PD programme was inspired by the CL conceptual model "learning together" and used the five elements of CL as a guiding framework (Johnson & Johnson, 2002). It focused on three types of CL: (1) informal CL, where students work together in temporary ad hoc groups for different periods ranging from a minute to an entire class; (2) formal CL, where students work together in groups for longer periods ranging from a single class up to several weeks; and (3) base groups, which have long-term heterogeneous membership.

The PD programme can be described as a three-stage programme including a workshop, follow up sessions and a proactive action research project in teacher teams. The table below gives an overview of the stages, duration, activities and aims (Table 1).

The proactive action research project was the main activity in the PD programme and was incorporated into the teacher teams planning meetings during 7 months. Each teacher team developed separate proactive action research projects customised their team and form group. When the projects were complete, a communicative space was created for the teams to present and share their action research to one another and what they had learnt.

3.2. Data collection

This study followed Daniel, one of the teachers who participated in the PD programme, as he learnt and implemented CL over two years. Three in-depth semi-structured interviews were conducted with Daniel: one before he attended the workshop to learn about CL with his new teacher team (2017) and two follow-up interviews, which took place after one (2018) and two years (2019). The interviews lasted between 68 and 100 min and were audio-recorded and transcribed verbatim and in full by me. The interviews and transcriptions were conducted in Norwegian. Background data, such as field notes from the PD programme, provided contextual information for the study.

3.3. Narrative inquiry

This study employs a narrative approach to explore Daniel's

Table 1
Overview of the PD programme.

Stages in the PD programme	Duration	Activities	Aim
1. Workshop	3 days (April)	Introduction to the theory of CL and CL-structures with teachers organised in CL-groups. Time to plan upcoming CL-lessons both in their subject and together in teams	Provide the teachers with knowledge and first-hand experiences with CL working in groups
2. Follow up sessions	2 sessions, each 90 min with an assignment between (May)	First session: Reflections on the workshop and presentation of informal CL structures Assignment: To try out informal CL-strategies in upcoming lessons Second session: Share and reflect in teams on their experiences with the structures	To retain learning experiences from the workshop and support continuous use of CL
3. Proactive action research project in teams	7 months (June–Dec)	A proactive action research project cycle (Schmuck, 2006). Main activities: - Reflection on hopes and concerns with CL. - Collaboratively plan how to implement CL in their class. - Try out and collect information about action taken - Reflect on experiences with the implementation.	Facilitate for collective inquiry and action to support implementation of CL customised the teams classroom context and needs

experiences of learning and implementing CL over two years. According to Clandinin (2016), narrative inquiry explores the stories people live and tell as important sources of knowledge and understanding. Peoples stories contain knowledge that is ready to be put out into the world and that, in many instances, stories themselves are knowledge (Mertova & Webster, 2020).

Riessman (1993) argue that traditional interpretive approaches to qualitative analysis can fracture, whereas a narrative approach preserves the participant's story. A narrative approach can provide a holistic picture of an issue and reveal the complexities and how they are addressed in practice. This makes a narrative approach a method of knowledge production that is particularly appropriate for studying educational experience (Mertova & Webster, 2020). Studies that present teachers' stories have contributed important insights to research and practice (e.g., Adams, 2017; Craig, 2013, 2020; Smith et al., 2019).

According to, Riessman (1993), there is no single method or set of procedures for conducting a narrative inquiry, but rather a spectrum of different approaches. A narrative approach places the story at the centre as the object for investigation. The story, captured in interviews, can be treated as data, and the narrative presented constitutes an interpretation that results from an analysis of the story in a particular context (Patton, 2015).

During the preliminary analysis of the interview transcripts, I began to view Daniel's interviews as a two-year unfolding story, enriched by his thoughts about his past and present engagement with CL and his speculations about the future. This included emotions such as enthusiasm and a sense of defeat regarding his learning and implementation of CL. Working with the transcripts, it became evident to me that Daniel's story had a potential educational value for research, teaching and learning. This led to my decision to pursue a narrative approach to the analysis and presentation of the findings.

Daniel's story offers readers insights into the experience of implementing CL without having to experience it in their own lives. His story invites the reader to reflect on his experience. Daniel's story provides a window into his two years of learning and implementing CL and offers learning opportunities that readers might apply to their own practice. Followed is a presentation of my analysis of Daniel's story.

3.3.1. Data analysis

The analysis of the three interviews with Daniel and the construction of this paper's narrative took place in three main phases. In the first phase, I read and re-read the transcribed interviews, identified the essence of each interview and sorted Daniel's utterances into condensed meaning units (Brinkmann & Kvale, 2015). I then sorted the condensed meaning units from each interview into themes.

In the second phase, I identified two critical events that affected Daniel's learning and engagement with CL during the two years of the study. A critical event can be defined as an experience that impacts a person's professional performance (Mertova & Webster, 2020). The two critical events were Daniel's learning of CL with the teacher team and his change of teacher team 17 months after the workshop. I explored how both of these events affected Daniel's continuous engagement with CL.

In the third phase, I developed the narrative presented in this study. Constructing the narrative was an interpretive process, which generated several interim narratives before arriving at the final one presented in this paper. The first interim narrative was strictly based on Daniel's utterances, which were assembled into two chronological stories focused on Daniel's learning of CL during the PD programme and his change of teacher team, respectively. Constructing an interim narrative directly from Daniel's utterances in the early stage of analysis was vital, as it enabled me to obtain insights into and preserve his story. As I worked further with this interim narrative, I restructured it to focus on the two critical events and present them as two main themes. I also changed the narrative voice to my own voice narrating Daniel's story and used his utterances as supporting quotes. When developing the narrative, I used background data such as field notes written during the PD programme to provide context and details.

Clandinin (2016) notes that moving from a field text, such as an interview transcript, to an interim text and then a final text is an interpretive, complex and iterative process. It is through this interpretive process that the inquirer becomes a co-composer of the participant's story. This process makes narrative inquiry relational. The story that is lived and told is intentionally co-composed by the participant and the inquirer (Clandinin, 2016). In this study, I am part of Daniel's story, not only as the interviewer, analyst and co-composer of the narrative but also as part of his lived

experience, as I initiated and facilitated the PD programme and was a researcher in the same organisation as him during the study.

Daniel read the interim texts and the final narrative. Our discussions of these texts not only provided me with further insights into his experiences and confirmed that I had preserved his story but also ensured that meaning was not lost in translation. However, it should be noted that I am responsible for the shape of the final narrative (Riessman, 1993).

3.4. Ethical considerations

Ethical approval for this research was obtained from the Norwegian Social Science Data Services (NSD). The study follows the NSD's ethical guidelines, which include securing the confidentiality and anonymity of participants. Daniel is a pseudonym, and I obtained his full approval before presenting his story.

4. Daniel's story

In this section, Daniel's learning and engagement with CL during two years are presented as two main themes that emerged from the critical events identified in the analysis. First, a backdrop for Daniel's engagement with CL is provided for context, followed by the two themes: 1) we are in this together: the value of learning and exploring CL within the team, and 2) changing teacher team. These themes illustrate how Daniel's learning and engagement with CL unfolded and how his teacher teams influenced his practice with CL.

Daniel started working as a new teacher in one of the teacher teams that participated in the PD programme around the time this study began. The three-day workshop in CL was Daniel's first formal meeting with the other teachers as a full member of the teacher team. In our first interview, Daniel told me that he was eager to attend the three-day workshop in CL, mainly because it gave him an opportunity to get to know all the teachers in the year and especially his new teacher team. He was also interested in learning about CL. However, he revealed in the later interviews that he was a little sceptical about the method. Before the workshop, I had briefly presented CL as a method and referred to the significant amount of research that demonstrated the benefits of CL for students' learning. This caused Daniel to wonder why he had not heard about the method before. He thought CL sounded too good to be true in the presentation and was of the opinion that if something seemed too good to be true, then it probably was. Furthermore, Daniel admitted that he had not had the best experience of collaborative activities as a student: "It's not an understatement to say that when I was a student myself, I was not a big fan of collaboration".

4.1. We are in this together: the value of learning and exploring CL within the team

The workshop on CL kick-started the teachers' joint learning and continued exploration of the implementation of CL. Daniel spoke highly about the workshop, especially about how the workshop was structured to enable the teachers to experience the CL structures by working cooperatively in small groups. At the beginning of the workshop, the teachers were divided into small CL base groups, they remained for the three days of the programme. In these groups, the teachers were able to discuss and reflect on the theory of CL and on their own beliefs and experiences, try out different CL structures, learn how to structure CL lessons and begin planning lessons. The workshop also included various team-building activities. Daniel remarked, "By working cooperatively, we got first-hand knowledge of the method, and I was able to experience

how CL really worked by using it." The workshop also enabled Daniel to get to know the other teachers better. He described it as "three days not only learning about CL but also three days of social learning and team-building for us teachers".

During the workshop, time was allocated to allow each teacher team to plan how they would implement CL in teaching their student group. Daniel recalls that his team gained many ideas about how to use CL. When planning upcoming lessons, they had discussions such as "we can do this, or we can do that structure, and this one we can use every lesson".

Daniel recalled how he put away his scepticism towards CL after the workshop because he had gained such a good impression of the method. He felt convinced that the method could benefit both his teaching and his students' learning, which made him eager to start using CL. He noted that the other teachers in the team felt the same way.

The last stage of the PD programme was a seven-month proactive action research project carried out by the teacher team. The teachers developed a collaborative action research project on how to implement CL. Daniel emphasised that the teachers gained ownership of CL during this phase. Exploring CL together through the action research project enabled them to customise the implementation to their own classroom context and needs. In the interviews, Daniel remarked several times on how the teachers' own inquiry constituted a bottom-up approach whereby CL was something that met the teachers' needs rather than something they felt obliged to do in a certain way.

Daniel returned to the proactive action research project several times during the interviews. He recalled the first step in implementing CL together as a team, which involved placing their students in CL groups in the classroom. Daniel explained that the purpose of this was to make it easier for the teachers to begin using CL structures in their teaching. However, when placing the students in groups, the teachers experienced challenges. Their students did not work as well together in the groups as anticipated, which made it challenging to use CL structures. Daniel explained that this challenge caused them to change the focus of their action research project to enhancing the students' collaborative skills to support the implementation of CL and their students' group learning. Using the proactive action research as a framework, they started to plan a designated CL day that would focus on team-building activities to offer their students positive experiences of being in a group and support social learning. When the teacher team was planning the designated CL day, Daniel came up with an idea for how to integrate the five elements of CL within a formal CL structure that could enable the students to experience positive interdependence. After several meetings and discussions, the team developed a formal CL structure named the Quest.

Daniel described the Quest as a structure whereby the students were divided into groups of four and sent on a quest to find a specific destination. Each student in the group had a designated role and their own material. The student groups had to complete various assignments that required different expertise and material from each student in the group to reach the destination together.

Daniel explained how the teachers drew on their subject expertise and the theory of CL to develop an interdisciplinary structure. Developing the structure, implementing it in the classroom and reflecting on how it worked was the core of the teachers' action research project. The Quest was the teacher team's common CL structure, and Daniel referred to in the interviews as the teacher team's "baby". The teacher team conducted the Quest together with their student group several times during the PD programme and after it was finished.

Daniel explained that the Quest enabled him and the other teachers, in their team and with their students, to experience how

well CL worked. He believed that the designated CL day and the Quest, where the students became positively interdependent and individually accountable members of a group, were key to getting the student base groups to work well together for the rest of the year. Daniel found it much easier to include CL in his lessons when the CL base groups were well established in the class. He noted that learning CL with the teacher team and organising the students into base groups made it easier to plan and create interdisciplinary learning resources and lessons as a team. He also pointed out that the team members had different strengths and weaknesses when it came to CL. Although they pursued CL together in the PD programme, they also focused on different structures and customised CL to work with their individual subjects and teaching styles.

Reflecting on the PD programme, Daniel expressed the belief that much of the success they experienced teaching with CL came from having the opportunity to plan, explore and try out CL together:

It was essential to try out CL on our own terms. I really liked how we were able to explore CL with no restrictions. We gained ownership over the method when we got to develop it. It was important that we learned a lot about CL but most of all that we could explore how CL could work best for us.

He reflected on how this made them calibrate their ambition level as a team. He found that his team had a major influence on his use of CL and referred to learning and implementing CL in terms of feeling “we are in this together”. He used the metaphor of a boat to express this feeling: “As a team we were on the same wavelength, we were in the same boat with CL and we sailed in the same direction, a direction we all agreed on”. The workshop gave the teachers a common kick-start, after which they had fun exploring CL together as a team and developing their CL structure. Daniel remarked that exploring CL in the PD programme became “their thing”, not just within the teacher team but also among the teachers in the year. Daniel also emphasised the importance of the participation in the PD programme of other teachers in the year. He found that having shared knowledge and experience of CL made it easier in teacher meetings within the subject discipline to discuss and plan how to use CL, as all the teachers and classes in that year had established CL routines and structures.

In the second interview, Daniel reported that he had continued using CL with his team after the PD programme had ended. He explained that the teachers had further developed and used the Quest several times and that they all continued to use base groups. He also stated that he regularly incorporated CL into his teaching, especially the informal CL structures. Daniel noted that using CL had showed him how structuring the students' interaction could enhance their learning, which motivated him to continue using the method. While he admitted that their teachers' focus on CL was not as intense as when they participated in the PD programme, he said that CL had become a valued teaching method for him. In the second interview, he remarked, “My teaching practice has become infused with CL”.

Seventeen months after the workshop, Daniel was transferred to another teacher team (from Year 10 to Year 8). His new team had not participated in the PD programme on CL, and the transfer had significant consequences for Daniel's use of CL.

4.2. Changing teacher team

During my last interview with Daniel, there was an awkward silence at the beginning of our conversation when I asked him to talk about his current use of CL. I was aware that he had changed teacher team but did not know how this had affected his practice.

With a sense of defeat in his voice, Daniel remarked,

I remember saying after the PD programme that CL was something that I would never stop using. But I am sad to say that my practice with CL right now isn't as I pictured it when I said that. If I think about CL right now ... It's not like my learning and engagement with CL has ended, but more like it was paused when I was transferred to a different teacher team.

Daniel talked about his ambitions to continue his use of CL with his new Year 8 class after transferring to the new teacher team. The new teacher team consisted of three teachers, of which Daniel was the new teacher. The other two teachers had worked as a team for a long time. Year 8 is the first year of lower secondary school, and the students in Daniel's class came from three different primary schools. Daniel reflected on how using CL might have supported the students in their transition to a new class and a new school. He had pictured himself using the method a lot with his students but admitted that he had not done so to the degree that he thought he would. He reported using some CL structures and using the CL elements as thinking tools for planning lessons but acknowledged that CL no longer defined his teaching to the same level as before changing teacher team: “I think I would have used CL to a much greater extent if I still was in my former team and year level”. Daniel's remark indicates that changing teacher team constrained his use of CL.

When prompted to reflect on why he had not continued his CL practice, Daniel explained that initiating CL in his new teacher team and class had just become too much for him to take on:

It is a bit heavy to pull the load myself ... if there had been two of us from my former team, it would have made it easier to use CL. Because when I'm the only one trying to get the other teachers into CL, it's hard. Besides, they already have too much to focus to get into CL as well. And I don't want them to feel that I'm forcing CL on them.

Daniel stressed that it was not the case that the other teachers in his team had not shown interest in CL but that they did not have the same positive attitude towards and knowledge about the method as he did. He expressed the belief that his enthusiasm about sharing his experience of using CL and the Quest had triggered the other teachers' interest. However, he found it challenging getting them to try CL because there were so many other things to focus on as a teacher, especially in Year 8. He explained that classroom management and familiarising the students with lower secondary school claimed a lot of his attention. He explained several times in the interview that, at the time, he did not have the energy to teach the other teachers more about CL in addition to dealing with the rest of his workload. He also noted that his students were new to CL, which made it even harder because he had to accustom them to the method as well. However, he expressed hope that the situation would change: “I think with time I can get my colleagues more into CL because they are interested, but I just need to find time and energy to get started with CL again”.

Daniel explained that the teachers in his new teacher team had some basic knowledge of CL, which they had gained through school-based teacher meetings the previous year. However, he pointed out that the teachers had not invested time in engaging actively with CL. They had only experimented a little with some of the CL structures. He emphasises that he did not blame them for not pursuing CL further, as they were not part of the PD programme in which he had participated.

Daniel notes how putting CL on hold had negatively affected his

teaching practice in the preceding semester:

The worst thing about last semester, when I did not take the time or find the energy to use CL ... is that I have noticed how monotonous my teaching has become, and I'm a little dissatisfied with that. For weeks now, I have been lecturing from the blackboard most of the time. This is not something I like.

In the last interview, Daniel seemed disappointed with himself for not continuing his CL practice and for returning to more traditional teaching methods. When talking about his learning of CL and his change of teacher team, he told me that he had been thinking about how much easier it was to use CL and the CL structures when his teacher team and the whole year level knew about and practised CL. After changing teacher team, as the only teacher with experience in CL, having to advocate for the method in planning meetings and teach the other teachers about it just felt too much for him. This resulted in CL being overshadowed by other teaching practices and ways of doing things with which the other teachers were familiar.

In the interview, Daniel emphasised that he wanted to take up CL in his practice again, not necessarily to learn new things but to start using the same structures and doing the same things that he had done with his former team. When reflecting on what could help him, he pointed to the importance of shared experience within the teacher team:

If I am going to be able to take up and continue further with CL, I feel that this will require the rest of my team to be a part of it, so they will have the same insights into CL that we had in my former teacher team. If our team could have some intensive PD training in the method, maybe next year, it would support my learning and development with CL again ... Then, maybe they would share my impression of and enthusiasm for CL and have the same experience and knowledge as I do.

5. Discussion

This paper explores the significance of teacher collaboration for teachers' learning and practice with CL. More specifically, it examines the ways in which a teacher team influenced one teacher's engagement and practice of CL. The narrative inquiry provides a window into the teacher's experience learning and implementing CL from a longitudinal perspective and demonstrates the complexity of implementing and sustaining CL in practice. Daniel's story, which is presented in terms of two main themes, highlights the factors that supported his learning and implementation and the barriers that prevented him from sustaining his use of CL. Discussing the factors that support or hinder teachers' learning and use of CL can contribute to identifying the factors educational policy-makers, schools and teachers need to consider when implementing CL (Sharan, 2010).

The narrative inquiry presented here illuminates the importance that learning CL with his team had for Daniel's CL practice. Learning and exploring CL within the team was critical for supporting Daniel's implementation of CL. Daniel's experiences during the PD programme show that the workshop and the proactive action research in the team were vital for his learning and use of CL. The workshop introduced Daniel and the other teachers to the practice of CL. It marked a starting point for Daniel's learning of CL, which he pursued as a collective enterprise with his team. The workshop gave him first-hand knowledge of the method and enabled him, together with the other teachers, to actively experience CL structures in groups and to plan how to use CL in upcoming

lessons. Professional development that engages teachers in active learning in the same learning style they are designing for their students has been found to support teachers' learning and changes in practice (Darling-Hammond et al., 2017). The use of CL to learn CL is also a recurring subject in the literature to support teachers' adoption of the method (Baloche & Brody, 2017). Daniel's experiences illuminate the importance of gaining first-hand experience of CL together with colleagues for teacher learning in PD programmes.

According to Johnson and Johnson (1989), teachers tend to develop personal and supportive relationships with one another by actively experiencing CL together through PD. This resonates with Daniel's experiences of the workshop as an occasion for facilitating the teachers' social learning by enabling them to get to know each other better. The workshop was an important foundation for Daniel's further professional and social collaboration and his implementation of CL with his teacher team.

The workshop inspired the teachers and was where the first plans were made for the teachers' continuous use of CL. Although studies have found that short workshops are rarely sufficient to support changes in teaching practice (Timperley et al., 2007), Daniel's account shows that the workshop was a useful point of departure for his and his team's use of CL. Through their participation in the workshop, the teachers gained shared knowledge and experience of CL and motivation to use it in the future.

The teacher team's proactive action research can be considered a catalyst for Daniel's further learning and engagement with CL. According to Johnson and Johnson (2017), the main desired outcome related to teachers' PD through CL is that they learn, retain and transfer the content of what has been taught. Daniel describes the teacher team's continuous exploration of CL through proactive action research after the workshop as vital for his practice of CL. The team's engagement in their action research project meant that the content learnt in the workshop was retained, transferred, amended, implemented and customised to their own classroom context. In relation to communities of practice, this can be viewed as Daniel and his team negotiating the meaning of CL through mutual participation, reification and development of CL in accordance with the local context (Wenger, 1998). The action research project can be regarded as a tool that supported Daniel's CL practice by facilitating mutual engagement in CL and the development and fine-tuning of a shared repertoire of learning within his team. One of the main strengths of action research is that it brings people together (McNiff, 2017). Action research, as a tool, facilitates the development of collective processes to find local solutions to challenges (Ulvik et al., 2018). Daniel reported that the teacher team collaborated to develop a designated CL day and a formal CL structure to overcome the challenges they experienced placing their students into CL base groups when first trying to implement CL. The teachers' mutual engagement in CL within the team when they faced challenges facilitated the invention of the formal CL structure the Quest. Daniel reported that developing and launching this structure with their student group enabled the team to experience how well CL worked for the students. He believed that the teachers' development and use of the Quest was key to getting their students to work well together in base groups, which made it easier for him to implement CL in his lessons. He noted that learning CL together helped the team to plan interdisciplinary lessons together.

In Norway, an interdisciplinary teacher team is a common organisational work structure. However, research has indicated that teacher teams rarely discuss pedagogical matters in depth. Instead, they often focus on practical issues, such as sharing and clarifying information. This means that the potential of teacher teams has not been fully exploited (Kvam, 2018). Havnes (2009) highlighted the challenges of establishing collaborative practices within interdisciplinary teacher teams. However, Daniel's story

demonstrates that CL has the potential to become a collaborative practice within interdisciplinary teams due to the subject-independent character of the method. When a teacher team is cultivated into a community of practice with CL, the team members can become a pedagogical resource for each other.

In this study, Daniel's account demonstrates the value that the teacher team's collaboration had for his learning and engagement with CL and shows how important it was for the team to plan, explore and experiment with CL together as a collaborative practice during the PD programme. This enabled the team to align their goals and move in the same direction to develop their practice of CL. Daniel experienced a feeling of being "in this together", which supported his learning and practice of CL. Daniel's story of the teacher team's collaboration while learning about and implementing CL indicates that the teacher team developed into a community of practice during the PD programme. Communities of practice evolve naturally but can be consciously supported and even, to some extent, formed intentionally (Wenger et al., 2002).

Through his participation in the workshop, Daniel gained knowledge and experience and was inspired to explore CL further. Collaboration within the teacher team during the workshop led to the establishment of CL as a shared domain of interest. Subsequently, through the action research project, the team refined the domain of interest to meet the challenges of implementing it within the local context, as they found their students did not have the necessary collaborative skills. Addressing this challenge became the focus of their action research project and a mutual interest of the team. Moving from self-interest to mutual interest is a key aspect of a community of practice (Johnson & Johnson, 2017). Daniel explains that the team, as a community, developed their own CL structure and designated CL day. This process of development can be viewed as the teacher team's shared history of learning about CL within a community of practice. The development of a shared CL practice created shared experiences and collective knowledge of CL that supported Daniel's learning and implementation of CL. Daniel's story shows the importance of the teacher team, when it was cultivated into a community of CL, for Daniel's learning and use of the method.

There is little research on teacher collaboration and teachers' long-term use of CL after PD training. By following Daniel's learning for two years, I was able to document how his engagement with CL was affected when he was no longer in a community of practice with CL. The narrative presents Daniel's change of teacher team as a critical event for his practice, as it caused him to abandon his routine use of CL. When transferred to the new teacher team, he remarked that his use of CL was put on hold. This suggests that changing teacher teams resulted in Daniel losing the support structure necessary for his continued practice of CL. He pointed to two factors that made it harder for him to continue engaging with CL. First, the other members of the new teacher team did not have the same knowledge or positive experience of CL and were therefore not as engaged in CL as he was. Second, his new students were not accustomed to CL, which made it more difficult for him to introduce the method when he was the only teacher using it. Although his new teacher team had received some basic training in CL, Daniel's account indicates that this was not sufficient to change their teaching practice to include CL. This shows that CL is not easily implemented and that advancing from learning about CL to incorporating it in practice can be challenging and can only be achieved when teachers have multiple learning opportunities.

With his new teacher team, Daniel had no shared history of learning about CL. This team was not a community of CL practice. Cooperative learning was not a shared domain of interest, and the new team had no shared practice that they were developing to improve their effectiveness in their domain (Wenger et al., 2002).

Changing teacher teams deprived Daniel of his everyday community of CL practice regarding CL, which caused him to put his use of CL on hold.

Daniel's story highlights the importance of support structures for continuous use of CL in practice and reveals how a teacher team can both enable and hinder the practice of CL. His narrative demonstrates that the culture a teacher team develops can determine the team's focus and influence individual teachers' practice. Dimmock (2016) argues that one of the most influential factors for an individual teacher's professional practice is their peers. The members of a teacher's team can be regarded as the teacher's closest and most influential peers, who collectively set accepted norms of practice. Daniel's implementation of and engagement with CL during the two years of the study highlight how his two teacher teams shaped his practice of CL. This shows that knowledge and learning are conditional on the social context within the teacher team and that the provision of support structures for a shared CL practice is important for enabling teachers to use the method.

6. Concluding remarks

Daniel's experiences foreground the importance of a community of practice with CL, and the study has several implications for teachers' learning and engagement with CL. First, the study complements the growing body of literature on teachers' use of CL by showing the importance of teacher collaboration and PD—which facilitates multiple learning opportunities and active learning—for teachers' implementation of CL. Second, the study follows a new line of inquiry that demonstrates the potential of learning about CL in teacher teams that constitute communities of practice. Daniel's story illuminates the value of a teacher team working together to learn, explore and implement CL in context-appropriate ways. Daniel's first teacher team was supported by the PD programme, which resulted in the teachers' learning and exploration of CL unfolding together. This generated shared experiences, a shared repertoire and a shared commitment to implementing CL. Together, the team members became a community of practice and were transformed into CL practitioners. The current study presents new knowledge about the potential of interdisciplinary teacher teams for teachers' learning.

Third, the study adds to the literature on implementing CL by documenting how one teacher's long-term use of CL after training was influenced by joining a teacher team within which CL was not a shared practice. The change of team constituted a barrier that prevented Daniel from continuing to use CL, which reveals the value of an everyday community of practice for the sustained use of CL.

The potential of cultivating the institutionalised organisational structure of the teacher team into a community of practice for the successful implementation of CL is highlighted. Within a community of practice, the teachers gain from sharing and developing their practice together. The narrative presented in this study suggests that cultivating a community of practice can be a powerful tool for research, education policy, schools and teachers interested in implementing CL. The findings of the current analysis can be used in research and education to develop targeted interventions aimed at supporting teachers' use of CL.

Nevertheless, the findings should be read in light of some limitations, the most significant of which is the fact that the analysis is based on only one teacher's learning and implementation of CL. While Daniel's narrative can only provide tentative insights into the importance of teacher teams for teachers' learning and implementation of CL, it may inspire new streams of research and practice on teacher teams and CL implementations. Further

research is warranted on implementing CL. Larger-scale studies that include interventions with multiple case studies and surveys of schools and teacher teams that already use CL would be particularly fruitful avenues for future research.

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