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ABSTRACT

Background: Improvement in classroom interaction is a significant part of teacher profession that is often overlooked. The Norwegian Ministry of Education established a national initiative to develop lower secondary schools in the fields of reading, writing, numeracy and classroom management from 2012 until 2017. It provides a context where teachers’ collective and individual learning in classroom interaction was explored.

Purpose: The purpose of this paper is to describe teachers’ perceptions of their collective and individual learning and explore the facilitators for learning possibilities in classroom interaction.

Sample, design and method: A qualitative study was conducted in 14 Norwegian secondary schools, among 76 teachers. Data were based on focus group interviews and logs. A thematic approach was used to analyse the data.

Results: The results indicated that teachers’ learning regarding classroom interaction is highly individual. Teachers’ reflections around their own practices after the lessons or sharing experiences with other colleagues were two common methods for teachers to develop in the area of classroom interaction. When it came to teachers’ collective learning, the results indicated that teachers did not feel responsible for organising collective work; instead, they expected the school leadership to take control. Three factors turned out to be important for teachers that either inhibit or promote teachers’ development in the area: ‘time’, ‘systematic work’ and ‘school leadership’.

Conclusion: Collective and individual learning may complement each other and strengthen the learning outcome for teachers, and subsequently increase student learning. Collaboration between individual teachers and collective groups might not only improve teacher professional growth, but also develop school as an organisation.

The findings suggest that the school principal may be an influential factor for teachers’ collective and individual learning regarding classroom interaction.

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Collective learning; classroom interaction; individual learning; school leadership

Introduction

Teachers’ learning and development are crucial due to continuous changes and educational reforms (Grosemans et al. 2015; Vangrieken et al. 2017). Over recent decades, researchers and practitioners have focused on collaborative work among teachers.
Teachers’ collective learning, which has received much attention from educational researchers and practitioners, is regarded as important for supporting students’ learning success (Lomos, Hofman, and Bosker 2011; Fairman and Mackenzie 2012; Moolenaar 2012; Rivera, McMahon, and Keys 2014) and students’ needs (Hipp and Huffman 2007). However, a teacher’s individual approach to learning is equally important (Opfer and Pedder 2011). Teachers’ individual and collective learning processes are interrelated. From the existing literature, it is evident that the progress of educational reform depends on both teachers’ individual and collective capacity (Stoll et al. 2006). By supplementing each other, collaborative and individual learning experiences can provide high-quality learning for teachers. According to Fullan (2010), individual and collective strategies are compound resources; change requires a combination of the two approaches.

Teachers’ perspectives on their own collective and individual learning for improving classroom interaction have not been widely addressed, although the effects of teacher professional development in classroom interaction have been studied (Allen et al. 2011). Classroom interaction (Pianta, Hamre, and Allen 2012) is part of the broader concept of classroom management (Pianta 2006; Wubbels et al. 2015), defined as ‘the actions teachers take to create an environment that supports and facilitates both academic and social-emotional learning’ (Evertson and Weinstein 2006, 4). In this way, classroom interaction addresses the quality of teacher-student interaction, which in turn influences students’ academic and social learning outcomes (Hamre et al. 2014). Accordingly, the aim of the study is to investigate lower secondary school teachers’ perceptions of their collective and individual learning regarding classroom interaction in a national school-wide initiative to strengthen lower secondary schools. An additional aim is to explore factors that promote or hinder teachers’ learning about classroom interaction.

**Conceptual frameworks**

**Collective perspectives on learning**

Collective learning has been defined as the continual enhancement of collective capacities and the improvement of team effectiveness (Senge 1990). Collective learning enables the generation of new ideas that cannot be developed by individuals on their own (Opfer and Pedder 2011; Hayes and Allinson 1998). Collective learning requires teachers to prioritise professional advancement as a collective and implement the best strategies to optimise student learning and outcomes (DuFour and DuFour 2013; Hargreaves 2003).

According to Garavan and McCarthy (2008), collective learning is a broad strategy that may include ideas as diverse as: organisational learning, team learning, communities of practice, and strategic learning; it involves social interaction, the leveraging of relational synergies, and the development of shared understanding and meaning. Collaborative work is not about making everyone the same but rather about generating creative thinking, taking risks and encouraging disagreement through individuality—which are all sources of improvement (Hargreaves and Fullan 2012).

Collaborative work also involves teachers in activities such as classroom observations, discussions, collaborations, peer coaching to advance professional skills, professional

The research findings of Lodders and Meijers (2017) indicate that teachers’ collective learning is essential for the successful implementation of innovative programmes in schools. Moreover, it is crucial for school leadership to pay attention to teachers’ collective learning processes. Lodders and Meijers argue that teachers are able to offer students a powerful learning environment if they, themselves, operate within a powerful learning environment. Teachers can collectively engage in an open dialogue, put aside their individual assumptions about pedagogy and learn more effectively when they interact with one another. Of course, the core components of an intervention—in this case, aspects of classroom interaction—need to be addressed to improve this field. Leadership is imperative to a school’s capacity to improve, both generally and within a specific intervention or field (Oterkiil and Ertesvåg 2012). The leadership of the principal may play an important role in teachers’ learning, for both individual approaches and collective efforts.

**Individual perspectives on learning**

Teachers are involved in learning to improve, continuously, the quality of their work, realise change and accomplish personal goals (Kwakman 2003). According to Simons and de Laat (2002), individual learning is the most individualistic form of learning, because it produces a process with outcomes related to a single person. Research has shown that teachers working independently generally have great discretion and autonomy inside their classrooms to make decisions about instruction and pedagogy for their own students (Archbald and Porter 1994; Meirink et al. 2010). Since teacher learning is an active process, in which teachers engage in activities that lead to a change in knowledge and teaching practices (Bakkenes, Vermunt, and Wubbels 2010), the international research on teacher learning activities (Solheim, Ertesvåg, and Dalhaug Berg 2018) indicates that teachers’ individual evaluations of and reflections on their own experiences in the classroom are common activities in which teachers engage in order to learn. According to Hargreaves and Fullan (2012), teachers who work individually experience higher expectations and responsibilities. Teachers often associate collaboration with control and help with evaluation. To create a collective work environment, one must understand the individual teacher’s purpose and agenda, while building trust and relationships. Moreover, autonomy and choice in professional learning are important (Sandholtz 2002). The quality of a teacher’s interaction with students in the classroom has been linked with student development (Allen et al. 2011; Pianta 2016). Research on high-quality teacher–student interactions suggests that if teachers focus on learning about their behaviour and classroom practices, student outcomes will improve (Pianta 2016). Accordingly, every teacher’s individual learning and skills training may have an impact on student outcomes.

Moreover, the literature on implementation (e.g. Fixsen et al. 2005; Blase et al. 2012) has emphasised the role of teacher practice in the classroom in improvement efforts and has illustrated the importance of an individual approach to learning within a collective effort, for example school-wide improvement initiatives. Additionally, the focus of teachers’ collective work is the individual teacher’s contribution to the group, in terms
of different conversations, relationships, interests and support to enhance the collective expertise and improve student learning as an outcome.

The outline of the perspectives on collective learning, given above, indirectly points to factors that facilitate and factors that may be barriers to teachers’ individual and collective learning. The organisation’s prioritising of time and planning, providing an infrastructure for improvement work, and taking a leadership role in this work are important facilitators of teacher learning in general.

**The national initiative**

For decades, Norwegian policy documents have highlighted classroom management as a development area (Ministry of Education 1996; Ministry of Education and Research 2016) for teachers. In 2012, the Norwegian Ministry of Education initiated a five-year, school-wide initiative for all lower secondary schools (grades, 8–10, ages 13–16), aiming to improve teachers’ professional development in classroom management, literacy and numeracy. The schools were divided into five groups, and one of these groups was enrolled in the initiative at the beginning of the academic year for five consecutive years, beginning in 2012. The current study was conducted with a subsample of schools and teachers in the three groups that started in 2014, 2015 and 2016. Each group of schools participated for a year and a half. The schools chose one or two topics as their main intervention field. Since classrooms have been found to provide practice-based contexts in which teachers learn to improve the ways they support student learning (Opfer and Pedder 2011), the national initiative provides a context in which teachers’ own collective or individual learning about classroom interactions can be explored.

**Research questions**

Based on the background outlined above, the primary goal of the present study was to answer the following research questions: (a) How do teachers describe their collective and individual learning regarding classroom interaction? (b) What are the facilitators of teacher—classroom interaction learning?

**Method**

**Sample and data collection**

A total of 76 teachers from 14 lower secondary schools, both urban and rural and large and small (in the Norwegian context), with students at grades 8–10 (aged 13–16) located in three counties in Norway were invited to participate in the study. A total of 61 women and 15 men, with ages lying within the range of 25–65 years with an average age of 44 years, participated in log writing. As part of the larger study, 49 of the 76 teachers were interviewed in groups at the beginning and end of the initiative. These teachers worked at schools that started participation in the initiative in 2014 and 2015. All 14 schools had a specific focus on classroom management in the national initiative.

The study was conducted in the Norwegian language. We collected data by e-mail through digital logs from all 76 participants. The logs were collected once, towards the
end of the first semester of the school’s participation in the initiative. The data collection method is similar to that of Bakkenes, Vermunt, and Wubbels (2010). Writing logs gave teachers the freedom and opportunity to analyse and reflect on the questions in their own time. Digital logs were collected in three waves from three different groups of teachers. The first wave (2014–2015) consisted of 40 teachers. The second wave (2015) had 10 new participants, and the third wave (2016) included 26 teachers. This enrolment was done in accordance with the schools’ participation in the national intervention. The logs consisted of six questions addressing the learning environment, process and outcomes (see Figure 1). As a result, 160 pages of log material provided the data. The teachers described classroom-learning situations that they had experienced over the previous 3–4 weeks. We looked for descriptions of individual and collective learning approaches in teachers’ experiences and concerns. The aim of the logs was to explore how teachers learn to improve classroom interaction.

The focus group interview (Neuman and Robson 2014; Stewart and Shamdasani 2014) is a qualitative research technique in which people are interviewed in a group discussion setting. Focus group interviews helped us obtain an understanding of the teachers’ views and perceptions on collective and individual classroom interaction learning and provided insight into the similarities and differences between teachers on the subject, by provoking discussions and sharing thoughts. The focus group interviews also contributed to reflection development and to a better dynamic between participants’ comments on each other’s suggestions. Collective open discussions explored what the participants thought about collective and individual classroom interaction learning and allowed them to reflect on why they thought the way they did. Since the number of participants in each school varied between 4 and 9 teachers, we divided them into groups of 3 to 6; as a result, there were 12 interviews conducted at the beginning of the intervention and 11 interviews conducted at the end of it. For the second round, only 10 schools participated, because two schools merged.

The interviews lasted between approximately one hour and an hour and a half. During the interviews, the researcher acted as a facilitator or moderator (Morgan and Krueger 1998), posing questions and asking follow-up questions, encouraging teachers to elaborate on certain points, while helping them to adhere to the main theme of the

Figure 1. Questions in the digital log.
interview. The researcher invited teachers to offer additional comments on their collective and individual learning about classroom interaction, while being open for new themes that emerged. The interviews were recorded and transcribed (250 pages of raw data). Two researchers conducted the interviews in different parts of Norway. One was responsible for the eastern part of the country, and the other was responsible for the western part.

**Ethical considerations**

The teachers received written and oral information about the project. They were informed that participation was voluntarily and that they could withdraw from the study at any time without consequences. The study was conducted according to the standards of the Norwegian Data Inspectorate (Norwegian Centre for Research Data 2018). A written consent form was gained from every participant.

**Data analysis**

Qualitative data analysis is a search for general statements about relationships among categories of data (Marshall and Rossman 1999, 150). This study applied Miles, Huberman, and Saldana (2014) approach to qualitative data analysis involving three stages: (a) data condensation, (b) data display and (c) drawing conclusions. Data condensation is the process of simplifying, transforming and abstracting the data that emerge from interviews and log materials. According to Miles, Huberman, and Saldana (2014), this process strengthens data by highlighting the most important information to hand.

First, all the interviews and logs were read, re-read and broken down into separate nodes, with the help of the NVivo 11 programme. The programme can help develop a well-structured overview of a large amount of information, which can be challenging in qualitative studies (Miles, Huberman, and Saldana 2014). The codes and categories emerged from an overview of the data from 23 interviews and 76 logs. The large amount of material became clearer and more accessible through data condensation. Moreover, summaries of 23 interviews were organised into 11 school case studies. They provided detailed information on the results for each individual school.

Second, a display (Table 1) of condensed data was made. This table represents an organised, compressed, accessible presentation of information about the study that allows the researchers to see what is happening and either draw conclusions or move on to the next step of analysis (Miles, Huberman, and Saldana 2014). Table 1 shows the three main directions analysts explored to answer the research questions.

Third, compressed data from logs and interviews were compared, and main patterns were extracted. As a result, we identified two main categories (i.e. an individual learning approach and a collective learning approach) in both the logs and the interviews, encompassing how teachers described their learning about classroom interaction. The participants discussed the barriers to advancement in classroom interaction learning. These barriers became a separate category, as presented in Table 1. Through the analyses of the first wave of data, this category emerged many times. In response, we included a question in the interview guide about what inhibits and promotes learning in the second wave of interview data gathering.
Findings

In this section, the findings of the analysis are presented and discussed. Translated quotations from the data are included, to illustrate the teachers’ perceptions. These quotations have been anonymised according to the protocol.

Collective approach to learning

Data from the interviews and from the logs indicated the tendency among teachers to learn together with one another. The essential elements of teachers’ perceptions on collective learning included sharing thoughts and reflections with other teachers, having productive discussions regarding improving student learning outcomes, and engaging in conversations about practical ideas for managing different types of classes and classroom situations. The participants frequently mentioned open dialogue and support from colleagues in both data sources. One aspect of collective learning described by teachers in both logs and interviews was getting ideas from others. Thirty-one participants who completed logs highlighted sharing ideas through interaction as a good resource for new practical knowledge. In the interviews, respondents from four schools described informal talks about classroom practices taking place in the corridors or in the teacher room as one method of obtaining ideas from others:

*We talk about classroom management the most, so to speak, outside the meetings. We bring it up when we sit in the teacher room and try to find out how to do it. It is then we talk about it, not so much during the meeting and such.*

One issue that came up frequently was that teachers found it easy to solve problems by sharing practical situations with each other. They often brainstormed difficult cases, finding solutions for optimising student learning possibilities.

In the group interviews, representatives of eight schools also reported that they formally received ideas in team meetings. Teachers who taught the same classes throughout the year often gathered in teams across school grades to discuss...
strategy, plans, classroom problems, student behaviour and all types of important issues:

*We talked a lot about classroom management in team meetings. We shared experiences and came up with tips and tricks … good experiences and things that didn’t go well.*

Team meetings were an arena for developing knowledge of classroom interaction and an excellent place to share ideas, thoughts, experiences, reflections and skills and to learn from each other. The findings revealed that team meetings were the most usual means by which teachers learned collectively.

Next, *collective school meetings* proved to be another approach for collective learning among teachers. These meetings offered opportunities for teachers to participate in an event organised at the school level for all teachers and professionals. The opinions of teachers from 4 schools about the necessity, functionality and productivity of these meetings varied considerably amongst the teachers who were interviewed. Some participants described these kinds of meetings as superficial. As an example, one teacher commented that these meeting were like a ‘fashion’: when they discussed in groups, teachers were divided artificially, and their tasks were determined by others. They could not choose the topic they wanted to talk about. Usually, as a starting point, teachers discussed school cases and very practical things.

The teachers identified some focus on classroom interactions, but also felt that other things were primarily emphasised. The teachers reported that they expected the leadership to find time and resources for them, to prioritise learning topics and to create a positive environment for learning:

*I think that the school’s leadership is responsible for providing us with enough time to manage the tasks that are part of the initiation. Also, they [should] ask questions and have clear expectations on what must be done and follow up on the work.*

The findings suggested that, according to the teachers, school principals played a specifically important role in teacher development regarding classroom interactions. The teachers’ reports were unanimous on this topic, indicating the significance of the leadership position.

**Individual approach to learning**

The findings from both data sources indicated that the most common way for teachers to learn individually was through *reflection on their own practice*. The teachers analysed the classroom situation to change their own behaviour, tactics or routines regarding future practices, the classroom environment and student learning outcomes. One of the teachers wrote the following in the log:

*Experience made me think and reflect on the situation of why so many students like what they are used to or why teachers cannot expect that every student understands why they must suddenly do something different.*

Fifty-one teachers underscored the importance of self-reflection on their work and experiences in their logs. At the same time, focus group interviews from nine schools
also addressed the role of self-reflection in lesson planning and in being able to motivate students to reach their learning potential. Data from the interviews of eight schools also indicated that teachers appreciated and advocated the importance of single teacher autonomy. In particular, teachers commented that they did not want to be completely ‘controlled’; as they saw it, they should have the right to be different. The following interview quotation illustrates this point:

*Respect is a big deal in our school, and we will never back down from it, but at the same time, to have freedom to be ourselves and be able to do things our way is critical.*

Other results from the logs also mentioned experimenting, indicating that nine teachers tried new practices in classrooms. Reflections on experimenting were uncommon. Teachers described purposeful change in classroom settings and new variations in their behaviour as classroom leaders. They also revealed the intention to repeat a technique because of a successful outcome.

*Experiencing friction* addresses the discrepancy between teachers’ reported expectations for a lesson and the result of it. Twenty-three teachers reportedly found it difficult to deal with unexpected situations during a lesson. Regardless of how well they planned, they felt that the lesson might go in a very different direction. Those teachers experienced a ‘learning curve’ in learning to listen to the students and to communicate better with colleagues on the subject of classroom interaction.

A *non-learning activity* is an activity that does not result in any reported new learning outcome. We frequently identified teachers who felt that they did not need to learn anything new, since they already had good interaction skills. Twenty-two teachers confirmed that their clear structure and organisation in the classroom were sufficient for communication with students.

In summary, the activities that teachers applied to develop their individual learning about classroom interactions were very limited. The individual approach was a common and accepted way for teachers to learn. Both data sources indicated that teachers reported on individual learning more often than on collaborative learning.

**Learning facilitators**

In both the interviews and logs, the teachers frequently pointed out that *time* was the main issue that inhibited learning about classroom interaction, either individually or collectively. Forty-five logs and teachers from ten schools reported that it was difficult to prioritise what to do and when to do it because of the school’s commitment to too many projects. One of the participants stated the following during the interview:

*But, I don’t have time to implement [learning strategies] because there just isn’t any time or space. There has been an extreme number of projects this year, and I have been struggling with a lack of time and preparing lessons. I just don’t have any energy left afterwards.*

The results from both data sources highlighted teachers’ descriptions of busy schedules and their assertion that they could not spare a free moment to educate themselves about classroom interactions because there were more urgent or important matters that require their attention. It was therefore challenging to find time for classroom interaction improvement when there were other priorities and tasks to be considered.
Teachers directly addressed another learning facilitator that inhibited their learning about classroom interaction, namely **systematic work**. Teachers from five schools who discussed this problem described the uncertainty of their own actions after the information on classroom interaction was given. The implementation time for new knowledge was very short. The participants stated that before they finished with one task assigned by leadership, they had to quickly move on to another, which, they felt, did not give them a chance or the time to improve their skills. The participants addressed this problem as follows:

*Teacher 1:* Even if we start with new tasks to improve our classroom management, we don’t have systematic work around it.

*Teacher 2:* No one follows the progress or checks on us. For example, in 8th grade, we focused on lesson endings. But, we do not know how we are going to continue with this afterwards.

The data analysis suggested that, although the teachers had purposes and goals, experience and skills and were motivated to gain knowledge, they did not have access to a system or tradition to develop further in this direction. At the same time, there were teachers who described the opposite phenomenon, pointing out the importance of leadership, which they felt provided them with all the means necessary for professional development. Teachers depended on leadership decisions about when and how they will talk about school issues and classroom interaction. They relied on leadership to determine how effective, useful and relevant those meetings will be. Leadership was a key topic in all interviews from all 10 schools. According to the reports, principals were an essential factor for teachers’ learning and existence in the school system. Teachers elaborated on a crucial factor of leadership:

*Many things are happening in our school at the same time. Leadership can absolutely promote classroom management learning among teachers. Is that not right? They focus on that, or they wish to focus on that, but … the situation is that they have to focus on too many things and it becomes an obstacle again.*

The results showed that school leadership plays an integral part in teachers’ ability to prioritise. According to the teachers’ descriptions, principals’ abilities to determine teachers’ tasks and obligations appropriately and to help the teachers to facilitate classroom interaction learning make them strong leaders.

**Discussion**

Fullan (2010) argues that collective and individual learning is interrelated. In the following, we take this as a starting point and discuss how the collective and individual learning regarding classroom interaction, that the teachers reported, may be interrelated, and how this may be supported or hindered by key facilitators at teacher and school levels.
Collective and individual learning

The interviews and logs indicated that the teachers’ learning activity was mainly individual. Teachers reported high autonomy with respect to how they led their classroom and what they did to improve themselves in classroom interaction learning. Participants valued the individual learning that allowed them to explore new classroom interaction knowledge through the freedom of actions. Autonomy and the ability to influence one’s own learning are generally found to be important for job satisfaction and performance (Skaalvik and Skaalvik 2014). Since our findings indicated that teachers learned classroom skills mostly through reflecting on their teaching practices and by getting ideas from colleagues, this might indicate that as long as the teachers reflect on the same topic alone or together, individual and collective learning may extend their knowledge by supplementing each other and might help to improve teachers’ classroom interaction skills.

Reflection is significant for both individual and collective learning. It is an essential element in professional learning (Schon 1987; Vermunt and Endedijk 2011). However, according to Kolb (1984), reflection is important in knowledge development, but it is not sufficient for professional knowledge development to take place. It is evident that teachers discuss, analyse and reflect on cases and difficult situations as well as getting motivation from each other during meetings on topics of classroom interaction. However, there is perhaps a danger that teachers will become better at discussions, but crucially not at using what they discussed in practice (Meirink, Meijer, and Verloop 2007). The depth of reports on participants’ knowledge, skills and abilities, and learning between participants sheds further light on how collective and individual learning may be interrelated. The results indicated that teachers’ discussions and reports are mostly about practical situations around the classroom’s challenging topics, which questions the depth of learning in classroom interaction. Our findings indicated that teachers’ perceptions of collective and individual learning differed due to the challenges they met in everyday school routines as well as their school’s leadership. Leadership responsibility was one of the most discussed topics in the interviews. The results indicated that leadership may be a significant facilitator of collective and individual learning. In accordance with some recent studies on leadership influence (e.g. Leithwood and Azah 2017; Louis and Murphy 2017), it seems evident that teachers look to a leader for an indication of what is valued in the school, as well as for strong support and motivation. International studies have also emphasised the principal’s role in building teachers’ communities, organising the school setting and finding the time and opportunity for educational development among teachers (Hargreaves and Fullan 2012; Leithwood and Beatty 2008). Based on this study’s findings and the theoretical outline above, it is reasonable to assume that if teachers do not have strong school leadership, teacher learning will be affected. If teacher learning is not a goal and intermediate outcome of school improvement, there is a risk of a lower level of student achievement. This study demonstrates that these teachers considered the school principal’s authority and position vital for teachers’ professional development.

Furthermore, the teachers in our study frequently reported that they needed time to be able to organise their own learning. The connection between school effectiveness and time management has been addressed in the international literature (Mupa and Chinooneka 2015; Grossman, Wineburg, and Woolworth 2001). The results indicated that
teachers prioritise time for lesson preparation and organisation, so they can follow the plan and perform well in the classroom with student engagement as the ultimate goal. Additionally, teachers reported that they were overwhelmed by the number of projects, tasks and challenges they face. Teachers perceived that they had no or little time for individual or collective learning. Given this, it may seem evident that principal leadership may be important in order to support and direct the improvement work, as well as to establish expectations regarding what type of work is prioritised among staff (Leithwood and Sun 2012). The organisational setting and school climate determine how a teacher performs in the school (Thapa et al. 2013). On that basis, it is reasonable to believe that the teachers who raised this problem work in less effective school environments, and that leadership is a crucial factor that might help to solve this dilemma.

Fullan, Rincon-Gallardo, and Hargreaves (2015) argued that every policymaker thinks of professional learning as individual learning. It is easier to assume that individual teacher skills are more important for student learning. However, when professional learning interventions start to work on developing those skills, it is reasonable to question whether individual learning in classroom interaction is, in fact, the only, or best, way to improve. Decades of research has indicated that investment in collective development is the key, to improving teaching, enabling faster and deeper learning and boosting student, school and system performance. The extent to which the teachers in this study were willing to cooperate and work with colleagues in collective settings is another interesting finding. Vescio, Ross, and Adams (2008) argue that a change in teacher culture, which has traditionally been described as isolationist, appears to lead to fundamental shifts in the way teachers approach learning. The findings indicate that teachers were interested and motivated to work collectively towards classroom interaction improvement, but they did not see themselves as an important factor in the organisation of possibilities to do so, which is an area of concern. Despite this finding, when teachers work and learn together, the possibilities for learning appear better. In light of previous research, the findings from the current study suggest the potential danger of teachers primarily learning on their own, which might limit their improvement in classroom interaction. This danger is underscored by the finding that teachers do not frequently read vocational books or articles (Solheim and Lundetræ 2018; Vermunt 2014).

Although studies on the impact of teacher collaboration on student outcomes are limited, the literature highlighting the importance of teacher collaboration on organisational development is extensive. In line with the research on organisational development (Jarl, Blossing, and Andersson 2017; Vangrieken et al. 2017), it is evident that there is a need for a balance between teacher autonomy and individual learning activities, on one hand, and collective efforts to improve the organisation, on the other. The international literature has also pointed out that if teachers from the same school, year level or department participate collectively in learning, then teacher professional development will be more effective at the level of single teacher practice (Birman et al. 2000; Opfer and Pedder 2011). Based on the findings of the current study, there seem to be opportunities in the systematic efforts that aim to improve the school organisation which would benefit from tailoring individual teacher efforts with collective efforts. ‘Systematic work’ is a facilitator of teachers’ learning, drawn from teachers’ direct and indirect answers about leadership’s lack of control and attention to their practices. Addressing the complexity of the implementation process, systematic work is one of the
factors that can promote or inhibit a school’s development as an organisation (e.g. Blase et al. 2012; Oterkil and Ertesvåg 2012). One may, ideally, anticipate that since all schools participated in the same national initiative, the improvement should have been more or less the same. However, of course, teachers’ improvement varied. Teachers from schools that worked systematically with classroom interaction learning in a collegiate way offered examples of how they worked on classroom interaction learning. However, if no one monitored teachers’ work or gives feedback on the practical use of new classroom interaction knowledge, this deficit might become a barrier for teachers’ individual or collective learning. Teachers’ perceptions of that matter suggested that the school’s leadership must maintain consistent control in this area. Drawing on the research by Fixsen et al. (2013) and Oterkil and Ertesvåg (2012), it is reasonable to assume that the consequences of not checking on individual teachers’ learning progress might influence not only teacher development, but also the development of the school as an organisation. Improving schools as organisations seems to require high-quality collaboration (Jarl, Blossing, and Andersson 2017; Muijs et al. 2014). According to the participants of this study, collective learning must be the school principal’s priority, and it should be in the school plan so every teacher has to follow it. One may question whether teachers’ full potential of contributing to the school organisation can be reached if they do not regard themselves as having an important role. In light of the extensive literature on the benefits of collective learning, it seems to be an underused resource for teachers’ classroom interaction learning improvement. Jarl, Blossing, and Andersson (2017) found that a key feature for improving successful schools was collaboration among teachers, whereas teachers in schools which were less successful in improvement were individually oriented. The findings also indicated that there were teachers who reported that they did not learn anything, despite the fact that any meeting with students is, of course, an opportunity to learn. This might perhaps indicate that the learning culture of the schools these teachers represent has potential for improvement. In that context, this study also supports the assumption that if teachers who use their knowledge development through their own experiences, or by experiences of their colleagues (e.g. Ertsas and Irgens 2017; Vermunt 2014), have limited classroom interaction learning possibilities, this may restrict their abilities to support students in learning. This may weaken the quality of teachers’ professionalism and have consequences for individual teachers and the school as an organisation.

Methodological considerations

Both the logs and focus group interviews had a common theme and focus in this study. The study’s multi-method design strengthened the results, provided a better understanding of teacher learning about classroom interactions, and presented a more complete view of the subject. However, the results of this study must be considered in light of some important limitations. The use of self-reported data in logs as a unique source for information may involve potential biases (Ramberg 2014). Logs were collected in three waves, but only two sets of logs were collected during one of these waves. There is no control over the congruence between what teachers reported in the logs and the real school situation. Additionally, due to the structure of the log questions, the participants named only ‘time’ as a facilitator for learning: they did not mention
‘leadership’ or ‘systematic work’. We did not collect interview data from 27 of the participants, although we had log archives from those teachers. However, although it is important to take account of this, we were satisfied that data collection was still able to meet the needs of the study.

For more than two decades, there has been a strong focus on classroom management in Norwegian schools, both in policy documents and in practice, which is why both the interview guides and logs contained questions addressing teachers’ classroom management skills but not classroom interaction. We do not claim, of course, that our findings are generalisable to all Norwegian secondary schools. We recommended that it is necessary to learn more, and move beyond this study, in order to explore secondary school teachers’ learning processes regarding classroom interaction.

**Final thoughts and implications for practice**

The aim of the study was to investigate teachers’ perceptions of their collective and individual learning in a national initiative. The teachers described collective and individual learning as two separate methods for learning about classroom interaction. Interestingly, as the results showed, the teachers were ready to work collaboratively and include each other in their individual practices. They understood the usefulness and profitability of collective learning; nevertheless, the individual approach prevailed. Still, teachers spent more time reflecting on and thinking about their own practices, and they drew conclusions on classroom situations on their own. They were waiting for leadership to organise the time, place and systematic approach for their professional development.

We also determined the facilitators of learning that teachers encountered during their collective or individual learning. According to the participants, teachers struggled to find time to learn new things or improve their classroom interaction skills because of their fast paced school life. Systematic work is an important factor that can contribute to learning progress among teachers. The body of research on the role of school leadership has emphasised that the actions of principals influence teachers’ success and knowledge growth (Nelson 2009; Parker, Patton, and Tannehill 2012). With that said, a principal can potentially either provide time and structure for effective, systematic, theoretical professional learning regarding classroom interaction for teachers or become an obstacle in achieving this goal. Reports both from interviews and logs indicated that whatever inhibits teachers’ classroom interaction learning could also promote it. Generally, when a key factor for increasing learning is missing, it reduces learning and vice versa.

According to Hayes and Allinson (1998), the quality of collective and individual learning is a key determinant of organisational success. Collective learning cannot be separated from individual learning (Cheng 2011). We support the assumption by Fullan (2010) that individual capacity thrives if it is integrated with strategies and experiences that foster collective capacity. Based on the literature above, our study concludes that the initiative sets the stage for teachers to practise their new knowledge regarding classroom interaction. However, to stimulate and promote teacher learning about classroom interactions, the interplay between individual teachers, the teachers as a group and the school leader is a condition for success. The results of the study add to our understanding of teachers’ learning regarding classroom interaction. The findings highlight the need for expanding teachers’ views and perspectives on how they learn in
professional development work. In order to fully benefit from the time and effort put into professional development work in classroom interaction, collective and individual learning may complement each other and strengthen the learning outcome for teachers and subsequently increase student learning. In this, the findings may be key for teachers, principals and others who are planning initiatives to improve classroom interaction. The findings also may bring awareness to principals of the importance of their role for teachers’ learning and professional development is. Moreover, for professional development training, this paper offers insight into what is happening in practice and suggests how teachers’ knowledge of learning strategies can be improved. To use teachers’ full potential for teaching, learning and development, both individual and collective learning opportunities must coexist in practice.

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