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Classroom Development Through Teacher-Researcher Collaboration: Bridging the Rural-Urban Divide in Norway?

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Abstract

Norwegian rural schools experience difficulties establishing teacher-researcher collaboration. It is well documented that these schools are described as needing urban development approaches. This study aims to understand if collaborative inquiry can function as a joint learning arena for the development of teachers' and researchers' capacity. Specifically, this approach might enable teachers to develop their teaching independently from urban-placed researchers. The study investigates how the collaborative approach, which is mainly driven by the teachers, bridges the urban-rural divide regarding both professional development and research. Expert interview data were analysed guided by the principles of grounded theory. Regarding teachers' participation and inquiry, they show a rather passive role. Teacher-researcher cooperation is created through agency and ownership. Conclusively, both teachers and researchers are involved in building the bridge and learning from one another.

Keywords: small data; didaktik; teaching development; teacher-researcher collaboration

Introduction

The central idea of the paper is to investigate if rural teachers' collaboration with researchers has the potential to bridge the gap between rural and urban schools' development needs. The purpose of the research is to understand whether a research-like teaching development tool can be used to make teachers who experience little professional support due to their socio-geographical position more independent of external support (and more interested in research). In brief, the paper highlights the ways in which teachers develop their agency based on their inquiry stance. The empirical material is based on interviews and documents and suggests that using research-like teaching development tools establishes a fragile link between urban and rural

reality. However, teachers experienced difficulties integrating the inquiry approach permanently into their activities.

Theoretical Perspectives

The research topic is integrated into several interconnected discourses. Firstly, from a governance perspective, research-informed teacher competence development is viewed as a measure to improve pupils' academic outcomes (OECD, 2019; Trippstad et al., 2017). In the wake of the Global Education Reform Movement (GERM), Norwegian teacher education institutions are expected to provide a stronger research base for teachers' work (Mausethagen, 2013). Thus, the heavily criticised teacher education programmes have been transformed into research-based programmes (Jakhellen et al., 2021) serving as platforms for teachers' competence development.

Secondly, the collaborative teaching development project this paper reports on focuses on the intersection between the discourses on urbanity and rurality in teacher development (Bæck, 2016; Skyhar, 2020). From a *poiësis* perspective, the collaboration project creates a third space that has the potential to change teaching practice. By raising awareness for each other the schools and teachers as well as the university and its researchers, there is the possibility for the co-creation of new competence. The teacher-researcher collaboration established has the potential to link the urban and rural cultural competences and connect the spheres of theory and practice.

Thirdly, teacher autonomy and agency have been mentioned and empirically studied as a central notion of teachers' professionalism. Autonomous and agentic teachers show a capacity for self-directed teaching development; they control their teaching and "do" self-directed learning (Jenkins, 2019; Priestley et al., 2016). Empirical research (Dikilitaş & Griffiths, 2017; Skyhar, 2021; Wang & Zhang, 2014) has documented that action research, teacher research and school-university collaboration are suitable measures to develop teachers' autonomy, even if they lack research knowledge due to their previous education. Whilst Norwegian teachers report a high degree of autonomy (Tahirsylaj, 2019), they report modest engagement in collaborative competence development (OECD, 2014). Collaboration and inquiry have been highlighted as drivers to develop teaching competences (Cochran-Smith & Lytle, 2009; Darling-Hammond et al., 2017). Next, we outline the rural-urban divide regarding schooling in Norway.

The Rural-Urban Divide in Norwegian Education

In the Norway, rurality refers to people's life and work in small communities and villages, sparsely populated areas along the jagged coastline or the mountainous regions of central Norway. Typically, up to 1,000 people—often fewer—live in such communities, and urbanised centres are at least a one-hour drive away. Schools in those catchment areas have less than 100 pupils.

Norwegian regional and rural education culture has a strong connection with the Nordic welfare state model. The resulting (rural) education policy has tended to secure equality in education regardless of schools' geographical location and socio-economic context (Berg & Forsberg, 2003). Historically, this has led to a strong decentralised school system. However, over the last decades, Norway's education policy has been characterised by a centralisation effort, resulting in dramatic school closures in rural areas. The closures have been forced by budgetary concerns, though disguised by pedagogical arguments to ensure equal living conditions and maintain the existing population pattern (Solstad, 2016). The metrocentric change movement has gradually replaced rural norms with hegemonic norms and narratives, where urban forms of economic dynamism have placed the rural as backward and marginal and in need of urban innovation (Shucksmith, 2019). Today, the decentralised school system that is still based on educational qualities associated with place-based schooling is challenged by a contradictory practice of what rural schools were meant to be (Kvalsund, 2019).

Rural schooling is a fuzzy phenomenon in Norway. Research has shown that rural schools achieve similar results to urban schools if one controls for socio-economic status (Bæck, 2016; Williams, 2005). Applying TIMSS-2011 data, Zhu's (2016) estimations show that, compared to other countries, the achievement of Norwegian rural schools is independent of their geographical location. Consistent with these findings, teachers at rural Norwegian schools have reported a more positive organisational climate and better organisational wellbeing (Burns & Machin, 2013).

Contrary to these positive results, rural schools have been presented through an influential report building upon contract research (Bonesrønning & Iversen, 2010) as deficient versions of larger urban schools in terms of formal teaching and learning. Kvalsund (2019) showed that the report spreads a false message due to numerous false statistical assumptions and the use of insignificant variables. Hence, this report repeats the pedagogical myth that pupils from rural schools receive teaching that is inferior to that of pupils from urban schools (Young, 1998). Researchers (Kvalsund, 2017; Solstad, 2016) have pointed out that educational policy and reform have been defined since the 1990s in the Norwegian context through their urban contextualisation involving urban-based research and literature. Research on school development work has shown that rural schools are decoupled from the driving force of national urban development programmes (Postholm et al., 2017). According to Svendsen (2019), teachers in rural communities see themselves as loosely coupled with urban-driven competence development projects. This state of 'lagging behind' corresponds with Butler and Hamnett's (2007) finding that the current education culture has a strong urban notion. The disparities, briefly described here, form the background for both this study and the competence development project on which the study is based.

“Close to the Pupil”: Classroom Development Through Teacher-Researcher Collaboration

In order to make school development work more predictable and long term, a decentralised competence development programme (DeKomp) was launched in 2018 by the Norwegian government (Meld, 2016–2017). While earlier national competence programmes had been centralised and top-down implementations, this new programme emphasised equal collaboration between school regions and higher education institutions. The idea was to establish decentralised capacity-building projects that meet local needs and address the competence development needs of teachers through teacher-researcher collaboration.

Against this background, a network of schools in rural Western Norway approached the Western Norway University of Applied Sciences (HVL) to receive support for the development of inquiry-driven teaching. The overall aims of this collaboration were to strengthen teachers' didactical analytical competence, increase pupil participation and develop collaborative professionalism.

The school network consists of 24 small rural schools in Western Norway. Some of the schools are located on small islands that are reachable only by boat. A characteristic of these schools is that they are located far from each other. The number of pupils at the involved schools is often well below 100, and there are many multi-grade classes. Typically, it would take the teachers about two hours to reach an urban-based collaborating teacher education institution, where the researchers are located. Recruitment of newly qualified teachers is very difficult.

Concerning teachers' competence development, these schools are characterised by the fact that most of the teachers at rural schools must rely on short, two- to four-years of training (Gythfeldt & Heggen, 2013). Just a few teachers return to their local rural schools after completing the current four- to five-year research-based Master's programmes in teacher education.

It is not only the rural placement of the schools that makes various forms of collaboration difficult. Those schools are characterised by the fact that they often have modest research and development competence, which makes it difficult for them to carry out research-oriented

development work. Given the Norwegian geopolitical structure, the basic premises of the national policy seems to reproduce the rural-urban research and development divide. Major teacher education and research institutions, representing an urban academic culture and focus, serve as hubs for local school development.

To achieve the overall aim, teachers from five of the schools (n=24) in rural Western Norway partnered with the research group. The researchers, teachers and school leaders together started to build a shared vision of good schooling and learning, capacity-building, problem identification, learning about pupils, learning to identify related issues, and debating problem solving strategies. Together, teachers and researchers created the teaching development tool “Close to the pupil”. In terms of design, the project is based on the continental “didaktik” approach (Klafki, 1995; Werler, 2021). While all teachers participated in building an understanding of the approach, a selection of voluntary and intrinsically motivated teacher teams in some schools participated in trying out the tool in depth in order to assist other teachers’ later implementation of it.

The “Close to the pupil” tool combines research on teachers’ practice and teaching development to enable teachers to develop quality teaching based on data. Through this work, participating schools aim to develop as research-rich schools (British Educational Research Association, 2014). Implementation of the tool can help teachers with few research skills to develop such skills. Through a survey-based teaching instrument (Helmke, 2013), teachers and researchers together create quantitative feedback data related to quality indicators identified as being crucial for good teaching (Meyer et al., 2017).

Through two surveys, teachers and pupils record their experiences and lessons learned during a particular lesson. These contextualised data are automatically processed and displayed as aggregated data. The software tool displays easy-to-read graphs showing teacher and pupil data in a single chart. Coincidence or deviation from the graphs provides information on how perceived teaching differs (or not) from teachers’ subjective observation of their own teaching. Thus, the graphs make teachers’ blind spots visible with respect to the experience of interaction in teaching, the structure and organisation of teaching, and the teaching-learning environment (Gaertner, 2014).

Briefly, the approach is based on the idea that teachers learn to collect empirical data on their own teaching. They use a quantitative survey they administer themselves, which measures different quality dimensions of good teaching (Meyer et al., 2017). Afterwards, teachers and researchers together analyse the groups’ data (teacher vs pupils) and compare their answers in two graphs. The graph analysis, conducted together with the researchers, presents teachers’ subjective theories of (good) teaching and records productive/non-productive work routines. Data and graphs serve as triggers for a data-driven discussion of various quality dimensions of the lessons. The discussions (some of them digital due to the pandemic) are guided by the idea of research circles (Persson, 2009) that identify change measures. The analysis helps the teachers to identify functional/dysfunctional teaching strategies and provides insight into the student perspective. The small-data analysis provides meaningful insights into factors impacting teachers’ work.

It is not only the rural placement of the schools that makes various forms of collaboration difficult. The schools are characterised by the fact that they have limited capacity to make current research productive for local competence development. This is aggravated by the fact that they have modest research and development competence which would put them in a position to carry out research-oriented development. Given the Norwegian geo-political structure, the basic premises of the national policy seem to reproduce the rural-urban research and development divide. Major teacher education and research institutions, representing an urban academic culture and focus, serve as hubs for local school development.

Investigating Teacher-Researcher Collaboration: The Research Problem

The school-based competence development of teachers is the key to collaboration between teachers and researchers. In our case, the goal was to use collaborative inquiry as a joint learning arena for teachers' capacity development. Through the collaboration, they can learn how to apply the principles of both quantitative and qualitative research to investigate and improve their own teaching. Hence teachers get first-hand experience of research-like activities, enhancing their confidence with inquiry-oriented teaching development. In the long run, this approach might have the capacity to enable teachers to develop their teaching independently of urban-placed researchers. In brief, the teacher can own and use a research-informed teaching development tool.

The research in this project is interested in learning about how the collaborative approach, mainly driven by the teachers, bridges the urban-rural divide regarding teachers' professional development and research. We operationalise this wider research problem through the following research questions:

1. How do the teachers involved understand their position and role in the project?
2. What are their experiences of the project?
3. How do the participating teachers learn about their own practice?

Discussion of the operationalisation of the sub-questions precedes the three corresponding sections.

However, even if it might seem to, this study does not investigate rural teachers' professional development (Glover et al., 2016; Skyhar, 2021). The primary purpose of this study is to gain insight into the epistemological qualities of a research-driven instrument for teaching development. The study contributes to an understanding of the opportunities available to teachers in rural areas to explore, understand and improve their own practice through an inquiry-based approach. Based on its design, it informs about the challenges linked to the gap between urban and rural education practices.

Research Design and Analytical Ground

The research design follows a case study approach (Flyvbjerg, 2011). The case is constructed based on qualitative data stemming from four teachers who participated in the project. The data collection comprises pre-categorised semi-structured problem-centred expert interviews (Döringer, 2021). Expert interviews are an established mode of data collection and are aimed at accumulating data about how the teachers have used and adopted the development tool provided by the researchers (Bogner et al., 2009; Meuser & Nagel, 2009). Such interviewing is suitable to support the exposition of the individual experiences and opinions (Döringer, 2021) of teachers as key agents. The expert sample includes teachers who autonomously structured their teaching from their knowledge. Each individual interview situation was mediated via the collaborative online tool Teams and applied a dialogic-discursive structure.

The interviews started with an opening narrative and reflective phase. Precise follow-up questions relating to expert knowledge characterised the second phase, which is the object of this research. To operationalise the research questions, the interviews were built upon theoretical concepts (agency) and heuristics (rural-urban). Hence, the interview guide intertwined deductive and inductive steps. Regarding the teachers' experiences, the categories of collaboration with the researchers, support from the researchers, and teachers use of the tool were addressed in the interviews. The interviews were also interested in collecting data on the applicability of an initially urban school development approach to small, rural schools. To facilitate a deeper understanding of the teachers, the interviews involved explorations and comprehensive questions. Finally, the

teachers were asked to elaborate freely on their experience of being part of this shared development project.

The research team recruited four voluntary expert informants from five of the participating schools (n=24) from a spatially and geographically rural area in Western Norway. Each of them gave their consent and the researchers followed the code of research conduct defined by the Norwegian Data Protection Authority/ GDPR. The informants were chosen because of their experience with the applied teaching development tool. All informants had adopted and implemented the tool in close cooperation with the researchers. Most importantly, the informants felt confident with the tool and expressed their ownership of it. The interviews represent typical rural teachers from combined primary and lower secondary schools (10–20 years of education and experience, little further training or development projects). Overall, we have good reasons to argue that those experts represented the experiences of other involved teachers.

The interviews (30–40 minutes each) were delayed because of COVID-19 restrictions but were finally conducted throughout spring 2021. Subsequently, Norwegian interview transcripts were prepared. The interviews have not been translated into English to stay as close as possible to the voice of the informants. The quotes provided in this paper have been translated by the researchers.

Due to the broad theoretical scope of the study, it was decided to give preference to inductive theory building. However, expert interviews tended to follow an interpretative approach aiming at inductive theory-building based on the data gathered. Drawing on these considerations, our analytical work follows the principles of grounded theory (Strauss & Corbin, 1997). The analysis started with descriptive, open coding constituting the first phase of constant comparative analysis (Belgrave & Seide, 2018). In the following axial coding process, the analytical work started from a phenomenon and sought systematically to relate different codes to one another.

It is beyond question that the teachers provided the researchers with inside information that was not accessible to the researchers themselves. The data indicate high internal validity. Similar questions to the experts generated similar responses. The data are highly reliable due to the teachers' similar education, work situation and experience. These very similar factors increased the likelihood that the expert interviews resulted in reliable data. Although the experts' statements represent up to 20% of all teachers in Norway, it should be noted that the results have wider validity. The cluster of teachers with a similar education and work situation also applies to medium-sized urban schools. However, other teachers may have other experiences due to their local work context.

The analysis follows the tradition of teacher agency, as indicated above (Priestley et al., 2016). Agency, as the fundamental capacity to create change and development (Giddens, 1984), is identified when investigating the agentic role of teachers. Agency always comes to the fore in the teachers' statements when they indicate that they made a choice or took a stance that affected their work or their competence/identity (Jenkins, 2020; Priestley et al., 2013). An agentic teacher acts proactively rather than reactively (Imants & Van der Wal, 2020). Related to the research questions, it should be possible to reveal agency as engagement and enactment of the inquiry and development tool (Ketelaar et al., 2012).

Findings

The condensed and categorised data material is presented below. The findings were gradually produced by empirically based and problem-centred dialogue between research goals on the one hand and inductive reasoning of the empirical data on the other. The resulting (sub-)categories are presented as (sub-)headings in the following data presentation. The reference system for the interview quotations used refers to the informant number and the time stamp in the

transcription. For example, the reference (I3; 18:14) reads as Informant 3 with the quote beginning in the transcription with the time stamp 18 minutes, 14 seconds.

Rural teachers' participation and inquiry role: Reactive or passive?

The following sections analyse teachers' participation as operationalised through their narratives regarding their roles and positions in the inquiry process (teaching development process). One of our driving questions was to understand in what ways inquiry-based approaches to teaching development affect the position and role of teachers in rural areas. In terms of professional development, the teaching development project provides rural-based teachers with opportunities for growth and proficiency transformation. In order to further develop their capacities, the research was interested in understanding how they see their role and position in this long-term teacher-researcher cooperation. A key finding of the study was that teachers primarily take an active role in the project (role taking), as they seem to implicitly understand that their participation helps them to expand their skill set at work and may potentially help them to solve teaching problems.

An active role was taken by a representative of the four experts: one of the teachers made a clear statement about their role, which he characterised as active. He underlined that *"... in many ways my role in the project has been a pretty active one"* (I4; 02:58). Another teacher, starting from the desire to explore his own practice, emphasised that he takes on a different role, namely that of a researcher: *"Then I'm a bit in your [the researchers'] role"* (I3; 18:14). Another aspect of active participation and engagement related to the positive experiences of the participating teachers. Without having made teacher-researcher collaboration the subject of the research, it was addressed by the experts and marked as a developmental opportunity. On the one hand, this indicated moderating and listening roles of the researchers; on the other hand, the teacher revealed that such a development initiative (opportunity) was not a common activity. Another sign of active participation and engagement was that the teachers took an active, investigative role. Regarding the action expected of them (i.e. collecting and evaluating data), they made it clear that: *"we were excited and unsure about how the reception [on the collaboration project] among the pupils would turn out"* (I1, 11:05). The statement made it clear that they could not foresee the outcome of the inquiry, and experienced an inner tension in relation to the unknown results. Such an inquiry-based attitude is not atypical of a research process. Some of the experts' statements suggested that enabling their own research practice has shaped their motivation to change their teaching practice. For example, one of the teachers argued that *"I've wanted us to draw up a survey"* (I1; 05:41). The statement indicated the motivation and willingness for collaborative professional development based on the schoolteacher's own research activity. Participation in exploring one's own teaching functioned as role making by positively reinforcing the typical motivation of Norwegian primary school teachers to enter the teaching profession. As stated by one of them: *"I was going to be an even better teacher"* (I1; 01:20). This statement, on the one hand, pointed to the teacher's perception that she already has a professional competence; on the other hand, it pointed to her perception of this competence as deficient and needing to become better. The experts also commented on their own role and their expectations towards their role making. One of the teachers expressed that: *"I could perhaps have been a better driving force [on the project]"* (I3; 24:08). On the one hand, they saw themselves as actively shaping their role as developers; on the other hand, they saw that they were not realising their potential. Other similar statements may indicate that they did not see themselves as responsible for doing development work.

However, an indicator for the teachers' agency throughout the project was their reflection on their own participation and state of being. From an evaluative point of view, one of the experts described his participation as: *"It was very nice to put it into words"* (I1; 01:30–55). Other positive evaluations indicated that they perceived their participation in the inquiry project as their own mode of being professional. Developing their professional agency, the teachers claimed to have

significant influence on the inquiry process. They argued that “we have made it clear how the survey should be formulated in ways so that our pupils can find a benefit from them [i.e. the development tool]” (14; 02:58). This suggested that they understood how a teaching development tool needs to be designed so that the teachers can change their practice. It must be asked whether such knowledge indicates (rural) teachers’ ability and autonomy to determine outcomes and shape change.

However, the teachers seemed to take a passive position, since this was allowed through their role continuum. Even if the passive arguments were voiced on a smaller scale, they were nevertheless present and must be recognised as such. One of the experts answered the question about his role surprisingly passively: “No, I actually don’t know what to say!” (12; 05:20). Another teacher emphasised that the project was finished: “so, it’s something we in fact have done” (13; 01:24), which was reflected in the statement “we have talked about this”. Another confirmed “We have talked about it for a while” (13; 02:58).

Building on this, the teachers seemed to assume that at least the idea of inquiry “stays with us during all our time in our job” (13; 01:24) and asked: “maybe it was in the back of our brain all the time?” (13; 02:49). Looking back, the experts indicated that they had not pursued the process of self-designed inquiry, “but we actually agreed that we would take them [i.e. the survey results] into account” (13; 03:17).

The participating teachers were reactive and passive, but not proactive. When it came to signifying the act of taking part in the research-like activities, the teachers framed their participation as both active and passive. In terms of their roles and positions (i.e. participation), they can be characterised as being in a state of tension. It was striking how they described their role using active words (i.e. doing, using). Regarding their position in the project, they tended to choose passive constructions (i.e. talked about). This may indicate that the facilitation of an active, research-like activity is experienced positively. At the same time, the teachers did see that they were in a weak position regarding the development of their role.

Seen from a teacher agency perspective (Jenkins, 2020; Priestley et al., 2016), the teachers involved in our study responded to the constrained development conditions in their rural environment. Surprisingly, we did not find proactive agency or attempts to control or influence their planned teaching development to achieve their desired outcome of becoming an even better teacher (Jenkins, 2020). Even though we did not find teaching development as a personal choice, we found reactive agency as a result of an environmental influence provided through the researchers’ work culture.

This form of agency found itself in tension with the finding of inaction, which attempts to undermine the desired implementation of an urban, research-based development culture. One explanation for this could be that participation in the project stimulated and excited teachers to be active for the duration of the activities. On the other hand, they seemed to experience that these activities were not carried forward by the school management and the existing school development structures, and that no (structural and administrative) provision was made for these development initiatives.

Passive agency may have resulted from weak implementation of the inquiry-oriented development process due to a lack of administrative and financial resources and a working environment of not realising an inquiry-oriented culture. However, we did not see that a top-down mandated change was forced upon the teachers, which is often typical for rural schools. However, the question remains as to whether teachers in rural schools can be agents of change (Priestley et al., 2013).

Teacher-researcher collaboration: Agency, ownership and sense-making

This part of the study explored how the shared project combined teachers' insider competence with researchers' outside competence. We followed Buxton et al. (2013) in pointing out that the two different practices not only encounter each other, but also work within each other's discourse. The aim of the shared work was to hybridise teachers' practice through the integration of inquiry work (Hamza et al., 2018). Simultaneously, the use of research principles for the development of practice was avoided.

The common practice aimed at learning a development tool that enabled teachers and researchers to discuss and change teaching, not pupils. In other words, such a collaboration intertwined insider and outsider practices to analyse and modify what normally belonged to teachers: teaching development.

Overall, teachers experienced agency, ownership and sense-making. The teachers were very positive about their new experiences with teaching development. They were satisfied that they were able to develop a tool for themselves that helped solve a relevant practical problem, that of pupil participation. One of the teachers expressed this experience as follows: *"We had in mind the pupils' voices when coming up with pedagogical solutions about the issue of participation in the wake of the new curriculum reform"* (I1; 01:57–02:40) and affirmed that it was *"nice to carry it [the project] through"* (02: 49). The informant further stated that it was a collaborative effort using the inclusive and collective pronoun *"we"*, making it clear that it was the work of a group. He also pointed out that together with the researchers they developed their own scale of *"thumbs up or thumbs down"* (I1; 03:05).

The data reveal teachers that modified their role and moved themselves from agency to ownership. Despite (or because of) the technical and practical circumstances, the teachers stated during the interviews that they felt they had control over their own actions. The informants concluded that the internet-based dialogue *"still went well"* (I2; 09:59), which suggested that the dialogue as a means of reflection was experienced as supportive despite the spatial distance. They argued, among other things, that *"we have been occupied by the survey instrument"* (I1; 11:05). They affirmed that they wanted to continue to work to develop the instrument themselves: *"we will further develop it, yes!"* (I1; 11:05).

Furthermore, the teachers stated that they were positively motivated to change themselves and their teaching: *"We saw pleasure in preparing a questionnaire"* (I1; 05:41). Looking back at the work process, one of the teachers described that he experienced having control over the use of the instrument: *"You can influence and have a possibility to decide what to focus on"* (I1; 05:55). This statement suggests that the teachers were in the process of building a collective capacity for change. However, it is unclear to what extent they could make this sustainable. Teachers did not criticise the development and use of the tool; in fact, they could be said to actively support the change process.

Through processes of sense-making, the teachers addressed the interaction between their identity and the shared development of the instrument, pointing to rich interactions. They contended that: *"we had meetings"* and *"we experienced follow up"* (I1; 06:12). In other words, the teachers were not left alone with implementation difficulties. Implicitly, the teachers reported a change in their identity. They drew comparisons with other development projects that used other approaches. One of the teachers reported that *"it's often like ... the project is initiated and starts up, but then it hasn't been followed up by the researchers"* (I2; 06:47). However, in this case, the teacher continued, *"we had good backup"* (I2; 06:58). Related to identity development, one of the teachers argued: *"It has brought about new reflections on how to do things"* (I4; 06:19). To make sense of their experienced situation, a teacher argued that *"you [the researcher] had trust in us, that we would do the surveys well enough"* (I1; 06:06). Superficially, the statement is about trust, but in its deep structure, the teacher was saying that they see themselves as being able to

shape and manage the surveys. Likewise, another teacher supplemented the collective process of sense-making that happened during a workshop where the teachers analysed data produced through the tool: *"We were out at the Mountain Hotel and there we worked with one of the results of the survey from our own class"* (13; 24:25).

Implementation work was often characterised by obstacles and catalysts. The teachers described the development and use of the survey instrument as a sense-making process caught between two poles at the same time. They worked in their own frame of reference (teaching in the classroom) and then they worked at the same time with another frame of reference.

One of the teachers, referring to everyday work, said that the work with the instrument was *"drowned because of other important everyday doings"* (13; 07:30). Another teacher expressed himself in the following way: *"Then it goes a bit like ... it is forgotten"* (11; 12:02). These statements indicated the need to prioritise, but also made it clear that teaching was the central frame of reference. This indicated that the rationality of school is given more space in the demands placed on teachers by the development project.

Other arguments that address the different frames of reference emphasise the time aspect. For example, one teacher described the following situation: *"You write down something you have tested ... but when we come to the next time, the question is forgotten"* (13; 12:10). Another teacher addressed the time aspect more clearly: *"What I would like in this context is like we had an hour for joint reflection"* (12; 01:32).

The informant addressed the different logics of action of science and school, indicated by the different time horizons they address. That is, there was one time horizon that referred to teaching and one that referred to the development of teaching. The two time horizons were not parallel: time was needed for the development of teaching and it was different from research time. This may have had the consequence that research time did not match with the time horizon needed for teaching. The statements showed that development work was not rooted in or a natural part of teachers' everyday life and was unlike the everyday life of the researchers. The everyday lives seemed to have antagonistic practice logics.

The tension already mentioned was not hidden from the teachers. With the words *"it has not been as we had wanted"* (14; 05:11), one of the teachers expressed that they have not achieved what they expected of themselves. However, the teachers mentioned various catalysts that they see as valuable for an intensified collaboration. One of the informants argues: *"maybe some of it could have been more of a closer dialogue"* (13; 19:36).

However, the teachers' arguments seemed to overlook the fact that the expressed expectations of the researchers involved could lead the teachers to relinquish the room for manoeuvres that they had built for themselves. It was unlikely that teachers would want to relinquish responsibility for developing their own autonomy, which would ultimately lead to de-professionalisation.

An open question was whether the teachers achieved a position that can be highlighted as an inquiry stance. A crucial purpose of the research project was to learn to what extent the findings presented can be interpreted as indicative of an emerging use of research-like teaching development tools in rural areas. It had become clear that the teachers involved experienced agency and succeeded in transforming it into ownership. However, if one asked to what extent the teachers have taken ownership of the development process and the potential of the survey instrument, the situation looked different. Due to the necessary confrontation of different frames of reference and time horizons, the teachers were not entirely able to integrate research-like work in their didaktik analysis (teaching preparation/ development of teaching). Hence, there was a danger that the important characteristics of the development tool may get lost.

The development initiative challenged the teachers' personal beliefs about teaching development and how they thought about the necessity of such a project. In any case, teachers' identity may

be affected as the national programme indirectly communicated that teachers need competence development to meet the demands of career-long effectiveness. That may lead to tensions between personal ideas about a teacher's concept of development and what is expected externally (Day et al., 2007). Therefore, the teachers positioned themselves in favour of the project as it would affect their sense of professional identity. This identity-making process is affected and mediated by teachers' capacity and control over changing their actions (agency) (Imants & Van der Wal, 2020), their active support and communication of teaching development (ownership) (Ketelaar et al., 2012), and through sense-making processes (Luttenberg et al., 2013).

Professional learning

The optimal aim of professional learning outcomes of teacher-researcher collaborations and experiences were professional learning and the achievements of teachers' insider competence and researchers' outsider competence to develop and approve their future didaktik and teaching and solve other practical pedagogical problems in their classrooms (Schenke et al., 2017). The research on teachers' professional learning activities has, however, been characterised as ineffective, because researchers do not consider how learning is embedded into professional life and contextualised in their working situation (Admiraal et al., 2019).

Analysis of our data, however, showed that the teachers described the collaborative learning as embedded in their everyday professional life and situatedness. For example, one of the teachers stated: *"they [the researchers] encouraged us to create practical questionnaires for pupils and come up with examples that triggered us to show commitment in solving practical problems"* (I1; 04:57). This statement could point to the fact that teachers perceived the collaborative project as learning in their contextualised working situation.

On the other hand, there might be situations that show the opposite, and how the rationale of the researchers' methods breaks with the teachers' daily working situation. As an example, one of the teachers points out that *"the researcher had to impose some deadlines for us that did not fit with the schedule of the school"* (I1; 11:33).

This statement may indicate that the teachers regarded both the schools' schedule and plans and the teacher-researcher methods and plans as absolute and impossible to change, which has the potential to hinder professional learning. In other words, the success of learning in collaborative processes between researchers and teachers in schools is dependent on flexible rather than fixed frames (Bubb & Earley, 2009; Lohman, 2006).

Schools that aim to change existing ways of their developmental work, must redesign and reschedule the workplace for collaborative team meetings. This kind of development work also requires school leaders' involvement in order to facilitate collaboration (Admiraal et al., 2019). We consider this argument of special importance in our project because of western Norway's topography, where the most rural, regional and remote collaborations are difficult to organise according to distances between schools, and between teacher-researchers and schools' teachers.

The teachers seemed to express both individual and collective professional learning within the school-teacher teams as outcomes of the teacher-researcher collaboration project. Examples of what we consider to be individual learning and the development of individual teachers' creation of new knowledge are expressed in many of their reflections. For instance, one of the teachers stated that *"I have become more aware of my own patterns of actions and the ability to choose among different agencies in the classroom"* (I1; 13:42). This statement suggests that teachers' reflection on their individual learning outcomes gave them a tool to handle the pupils in new and different ways. As an example of this, another teacher informant expressed that *"I'm more open and act faster on pupils' initiatives to participate in the learning processes ... I'm more aware of their abilities to express their voices"*; he continued by claiming that *"When a question arises from one of the pupils, then you have to put aside what you are busy with at the moment"* (I2; 15:40). Even

though we cannot jump to conclusions about teachers' meaning, we interpret the statements to mean that they have become more aware of their ability to deal with unforeseen events and improvise their teaching because of new reflections and actions that can open up productive moments of learning (Werler, 2015).

The teachers expressed rich and varied experiences of their professional learning both in the teacher-researcher and teacher collaborations and in the teacher teams in their schools. The data analysis indicates that they found the project interesting and that they say they have developed professional learning during the project period. One of the teachers claimed that *"We have found the researcher questionings very interesting and I had to look inside myself and thus discover blind spots in my own thinking and action and make the invisible visible"* (12; 3:48).

We consider such awareness raising as a crucial outcome for professional learning because it points to how teachers have gained the possibility to develop critical self-reflective evaluation and enhance their professional knowledge and agency for further progress of the quality of learning, teaching and school improvement.

Discussion

The project stands out as an example of teachers' activation through researchers, where teachers are triggered to contribute to their own development and agency. However, the teacher-researcher group succeeded in creating a new practice that was oriented towards the requirements of good teaching. In retrospect, it appears that at times teachers felt empowered to examine and develop their teaching. This points to the improved self-determination of the teachers. The approach chosen is open to adaptation to the local context and seems to be useful to teachers.

Firstly, there is no refusal of the instrument by the teachers: there are indications that they see the potential benefits of the instrument and implement it if there is support from researchers. However, they are not succeeding in making the initiative sustainable. Secondly, there are several arguments that the implementation of shared ownership between teachers, and researchers, has been achieved. Such a result is positive, but it is unclear what must be done to go beyond the framework of action research. Based on the results, Coburn's (2004) idea that such projects only generate a symbolic response must be rejected.

It seems that in teachers' research-like activities, created a rather fragile link between urban and rural realities. Given the findings, we argue that the collaboration connected the teachers with teaching development tools. But it seems that they experience difficulties integrating the inquiry approach permanently into their activities.

It is surprising that the teachers seem to have experienced the opportunity to reflect systematically on their own practice for the first time: this is something that indicates that such a process is not in place. What is striking about the teachers' statements is that they do not address the issue of school leadership and its responsibility for the implementation of the instrument. Yet it is the school management that is responsible for the pedagogical development of the school and teaching in Norway. It must be asked whether one possible reason for the weak incorporation of the instrument is the lack of active support from the school management.

However, the study points to a tension in the experience of empirical reality. On the one hand, the results show empirically that the rural-urban divide exists. On the other hand, the results show that this gap is neither perceived nor experienced as relevant by the teachers concerned. Overall, the findings support the notion (Svendsen, 2019) that rural teachers view themselves as loosely linked to urban-driven competence development programmes. Although the teachers have shown interest in the project, it is difficult to argue that they have embraced the collaboration and the research mindset (Cochran-Smith & Lytle, 2009; Darling-Hammond et al.,

2017) as necessary to develop their competence and see research-based development as relevant. Seen from a GERM perspective, the findings indicate that, despite the locally developed bottom-up approach, teachers may keep a certain distance from DeKomp. One explanation may be that they experience the national programme as top-down governance and the newly enacted research-oriented teacher education (Jakhellen et al., 2021) as 'disempowering' their identity. The weak collaboration can be seen as an expression of the teachers' awareness of their own performance and competence. This reflects the contradiction between the actual results and political attributions described at the beginning of this article. Apparently, the teachers are convinced that the urban-defined deficiencies neither exist nor are relevant. Therefore, it is worth considering whether passive participation should be read as an active agency that seeks to preserve local, rural characteristics and performance and to defend itself against the stamp of lagging behind (Butler & Hamnett, 2007).

Conclusion

Rural and urban schools are embedded in local neighbourhoods. To reframe metrocentricity, the ruraling of education research has been suggested (Roberts & Fuqua, 2021). Our research substantiates this approach. Seen from an epistemological point of view, researchers can learn how to approach teaching development and implementation research even if the conditions seem to be unfavourable. Our research relates to the rural setting as an arena for an urban research challenge: how to collect pupils' experiences for small-data-informed teaching analysis. Our results question the metrocentric norm of placing such research exclusively in an urban setting that is methodologically difficult to control but often spatially easily accessible. Further teaching development and implementation research should carefully consider whether rural schools should not be preferred as research settings, as crucial contextual factors can become more salient due to their better controllability. Such research can contribute to the development of a generative theory of school development, identifying key variables (didaktik-relevant small data) that are pupil-centred, authentic and contextual.

However, the research reveals that a lack of research orientation in previous teacher education seem to hinder inquiry-oriented teaching development initiatives. Further research should investigate how research-based teacher education can function as a mediating variable for successful teacher-researcher cooperation. Research can clarify which alternative development strategies are promising. Given the various time rationales, further urban research should consider the importance of the timescale of the research and that of practice when exploring teaching in cooperation with teachers. Furthermore, the research shows that the spatial distance between researchers and teachers is unfavourable. Therefore, efforts must be made by metrocentric research to explain how this negative influence can be reduced, since it is valid in all contexts. Our approach also questions the norm-creating power of metrocentric research and shows that decentralised research can be fruitful and insightful.

As shown in the discussion, it seems that participation in the project stimulates and excites the teachers to be active for the duration of the activities. They are building the bridge and learning from each other. On the other hand, it seems that these activities are not carried forward by the school management and the existing school development structures. It has also been shown that teacher-researcher collaboration has the potential to bridge the rural-urban divide in Norway as long as researchers are present. However, an inquiry practice that places responsibility for implementation solely in the hands of teachers seems less likely to support rural teachers' inquiry-based teaching development. Hindering factors are local contextual factors and the teachers' lack of previous research-based education. A practice that relies on the presence of researchers seems to have little chance of lasting success.

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