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(Eds.)

A Systemic Approach to School Development

Technical Report on the Project School-In

WAXMANN

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This book is dedicated to the memory of
our dear friend and colleague,

Prof. Gjert Langfeldt,

who inspired and encouraged our interest in
school development and the project School-In.

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1 Introduction: Aim and Scope of the Technical Report

Inger Marie Dalehefte & Jorunn H. Midtsundstad

This book presents the project School-In, offering detailed information about the make-up of the innovation from the very beginning in January 2017 until it ended in June 2020. Funded by the Research Council of Norway (project code 260539), School-In was conducted in cooperation between five municipalities and the University of Agder in Southern Norway. It targeted schools in the regular Norwegian education system, where compulsory education lasts ten years. Thus, School-In involved public schools hosting pupils from 1st to 7th, 8th to 10th, and 1st to 10th grade.

The project School-In was an in-service professional development (PD) programme which aimed to develop an inclusive learning environment by focusing on the impact of expectations in terms of changing school culture. It was an intervention project with a systemic approach using several methods and instruments developed to fit the intentions of the study. School-In was designed for working with the entire teaching staff in the various schools, ensuring cross-disciplinary and cross-level impact.

This technical report is made for documentation and replication purposes. The idea is that other research projects can profit from School-In's intervention measures, research methods, and results. The perspectives, measures, and instruments of this project are described thoroughly and may be used directly or adapted by other professional development programmes.

This report also provides an opportunity for policymakers to evaluate their programmes for innovation research. They seldom see the results of their programmes other than in research publications in international and national journals. The Research Council of Norway has an innovation research strategy to promote an innovative public sector. In this book, policymakers will find descriptions of how the programme was understood and conducted, meeting the demands for designs with various methods to develop empirical and theoretical knowledge at international, national, and local levels. The Norwegian model of innovation presented here might influence the way in which policymakers can initiate new programmes for innovation; thus, the report describes how research projects can ensure relevance for practice by basing the innovation on the need for new knowledge from the public sector.

School owners can benefit from using the report to promote local school development. The model for innovation we have developed and describe here provides

an opportunity for what Hargreaves & Ainscow (2015) call leading change 'from the middle'. Large-scale school development approaches that only work in a few schools, or innovative ideas that are seldom spread beyond a few isolated classrooms are well known and often criticised (Parchmann & Gräsel, 2004; Hargreaves & Ainscow, 2015). One finding from our project was the opportunity to enable local leaders to lead 'from the middle', respond to local needs and diversities, and foster local initiatives rather than implementing other people's ideas. This report gives an insight into how the project was conducted to provide new opportunities and lead schools 'from the middle'.

School leaders can learn from an empirically-based and theoretically-based Norwegian model of innovation, promoting development with the teaching staff as drivers for change. This book explains how the School-In project was organised and describes the research methods that were used. It also addresses antecedents that influenced the innovation processes. The working methods used in the project will be helpful for schools seeking to enhance their collective capacity for inclusion and strengthen their professional learning community and school culture.

The University of Agder takes part in a national strategy for decentralised competence development – DEKOMP. DEKOMP is recommended to be school-based and relevant for the participating teaching staff. The School-In approach is already being used in lectures, to facilitate competence development in schools in the region. Thus, the working methods and an Organisational Didactics model developed in School-In are already used to create structures for capacity building (Midtsundstad, Dalehefte, Hillen, Horrigmo, & Ingebrigtsvold Sæbø, 2022).

We would like to thank all our co-creating partners in the municipalities of Agder as well as our peer researchers in the reference group. A special thanks goes to the project group leader and administrative leader of the overall project, Steinar Harbo, and to the coordinator, Line Håberg Løvdal, who made this project possible. We are also grateful for all kinds of support from the administration at the University of Agder and support from the reference group. Finally, we would like to thank the Norwegian Research Council for funding the project and, of course, the many head teachers, teachers, paraprofessionals, and students involved.

The book starts with an overview of the study and the project's theoretical and methodological background before we move on to presenting the intervention methods and the research instruments used. Finally, we conclude this book with reflections on the relevance and quality of the project. We hope that this peer-reviewed book will be an inspiration for other researchers, practitioners, and politicians in the field of education.

The book consists of three parts:

The first part (chapters 1–3) gives an overview of the project School-In, its background, design, and sample. It also contains a description of the innovation and detailed information on how we conducted the project.

The second part (chapters 4–6) presents the main working methods used in School-In – the Mental Mapping Response method, Dialogue Café, and Reflection Cycle.

The third part (chapters 7–10) introduces the multiple research instruments – local expert interviews, teachers' focus group discussions, teachers' pre-post questionnaires, video studies, and student interviews – which enabled both general and in-depth studies, i.e., triangulation and case studies.

Finally, the book concludes (chapter 11) with 'lessons learnt' and reflections on relevance and the quality of the study.

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2 The Project School-In – an Overview

Jorunn H. Midtsundstad, Inger Marie Dalehefte, Stefanie A. Hillen, Kirsten Johansen Horrigmo & Grethe Ingebrigtsvold Sæbø

In 2017, five municipalities in Southern Norway initiated the project School-In (Iveland, Lillesand, Songdalen, Søgne, and Vennesla). They invited researchers from the University of Agder (UiA) to investigate why their research-based efforts to develop inclusive learning environments in their schools and kindergartens as part of the programme 'Inclusive Learning Environment' (Knutepunkt Sørlandet, 2012) turned out very differently in the participating schools and kindergartens. The challenge that measures and reforms have different effects in different schools and locations is of international relevance (OECD, 2015) and became the starting point for the project School-In. In cooperation with the University of Agder, the five municipalities applied to the Research Council of Norway (RCN) (ref. no. 260539) for funding for a research project that could contribute to explaining this phenomenon.

Researchers from the University of Agder had prior experience from a research project named Learning Regions (also funded by the Research Council of Norway). The findings from this project showed that school culture develops through the school's relationship with expectations from the local community (Horrigmo, 2015; Langfeldt, 2015; Knudsen, 2015; Aasebø, Midtsundstad & Willbergh, 2017; Midtsundstad & Langfeldt, 2020; Midtsundstad, 2019).

The Research Council of Norway aims to encourage communities to play a more significant role in developing more knowledge-based research in the innovative public sector. Many reasonable education and research efforts target public sector responsibilities, but it is a common perception in the public sector that research efforts fail to actually meet municipal, regional, national, and state actors' needs for new knowledge. Thus, the innovation project School-In aimed to meet the needs of the public sector, in this case the five participating municipalities, and also to base the research on the newest knowledge within the research field of inclusion (Ainscow, 2005; Booth, Ainscow, Black-Hawkins, Vaughan, & Shaw, 2000). This chapter presents central concepts, terms, goals, and research questions in the project.

2.1 Inclusion – a desired goal of the education system and aim of the project

Inclusive education and its egalitarian approach are well-rooted in Norwegian society (Werler, 2010). The principle 'one school for all' establishes inclusion as the purpose of education policies (Midthassel, 2003). The Norwegian education system offers almost no special needs schools and is requested to support *all* children according to the children's abilities and aptitudes throughout their schooling (Hillen, 2019). Regardless of special education needs, low socioeconomic status, and other impairments, all children have the right to be taught adaptively in the classroom. This inclusive practice is requested in the Norwegian Education Act (Opplæringslova, 2021). Despite this approach to inclusion, resources for special education are one of the largest cost drivers in schools, and the organisation of special education, despite the intention, often involves removing pupils from the class community (Haug, 2015).

The five municipalities involved in School-In were, in a way, representative of the nationwide situation. Their percentage of teaching hours devoted to special education was on par with the national average of 17.3 per cent of the total number of hours. The percentage of pupils who received special education was, on average, 9 per cent – slightly above the national average of 8 per cent (KOSTRA, 2017). Also, the challenges faced by these municipalities reflected the situation nationwide. The focus on special education was why the five municipalities conducted a four-year project called 'Inclusive Learning Environment' in the first place (Knutepunkt Sørlandet, 2012). In this project, the municipalities implemented new research on inclusion in all their schools, with the help of experts, to stop this trend of exclusion and become more inclusive at a system level. Despite their efforts, they stated that equal measures showed different effects in different schools.

Through examining the effects of reforms in 480 countries, the OECD showed that reforms work differently because the context is of decisive importance (OECD, 2015). The project School-In presented in this book addressed the questions of municipalities of why the effects of the measures differed from school to school, and aimed to provide new answers to what it takes to increase their ability to ensure good academic and social learning opportunities for all students.

2.1.1 Considering inclusion from a systemic perspective

International research has focused on the collective capacity of schools for inclusion (Leithwood, 2010; Fullan, 2010), with a great deal of research being carried out both in schools and on systems around them (Fullan, 2010; Hargreaves & Shirley, 2009).

Collective capacity is often described as educators' collective effort to build capacity for system-level change (Fullan, 2010; Hargreaves, 2012; Levin, 2010; Dinham, Crowther, & Harris, 2011). Building collective capacity requires (1) engagement and commitment by the adults in the system; (2) effective collective processes for educators to continue to improve their practices (often referred to as professional learning

communities); (3) aligned, coherent, and supportive system policies; and (4) practices and appropriate allocation of resources (Levin, 2008, p. 120). The project School-In has considered the structural aspects of the learning environment, which have turned out to be of importance (Hattie, 2009), and focused on creating change through networking (Rincon-Gallardo & Fullan, 2016).

Inclusive education has attracted extensive international interest for many years, and there have been many attempts to define and explain the concept of inclusion (Waitoller & Artiles, 2013; Göransson & Nilholm, 2014). Despite this, inclusion remains challenging to define. In School-In, the understanding of inclusion stems from an analysis of different studies on inclusion conducted by Göranson and Nilholm (2014). They discerned four distinct categories of definitions: (A) placement definition – inclusion as placement of students with disabilities, in need of special support in general education classrooms; (B) specified individualised definition – inclusion as meeting the social/academic needs of students with disabilities/students needing special support; (C) general individualised definition – inclusion as meeting the social/academic needs of all students; (D) community definition – inclusion as a creation of communities with specific characteristics (which could vary between proposals) (Göransson & Nilholm, 2014, p. 268). The last category enjoys special focus in the project School-In. Thus, the research in School-In was not based on special education research in particular, where the special needs child tends to be at the centre of attention. Instead, we wanted to apply a systemic and organisational approach to inclusion in schools, aiming to develop an understanding of inclusion connected to schools as communities with specific characteristics of inclusion. To create and strengthen communities with inclusive characteristics, whole communities should be in focus and not only children with specific needs.

2.1.2 Expectations as a key determinant for school culture

School culture is often described as one of the most critical factors in school improvement (Berg, 1999; Schoen & Teddlie, 2008), but international research says little about how school culture develops based on local expectations. In the project School-In, we based our approach on research showing that teachers lower their expectations for different groups of students (Diamond, Randolph & Spillane, 2004). Research shows that expectations are embedded in the school organisation and schools, thus, differentiate their responsibility for students' learning (Diamond et al., 2004). The project established the concept of *expectation structures* to describe a system of expectations, at different levels inside and outside the school, that shape the school culture, the teacher, paraprofessional and student roles, the community, instruction, and understanding of responsibility (Ingebrigtsvold Sæbø & Midtsundstad, 2018). However, expectation structures can also hinder the development of a school's collective responsibility for all students' learning. Therefore, the education sector needs answers to how school culture develops locally and how school culture can be modified to increase the school's collective capacity, improve inclusive practices, and reduce inequalities within and between

schools. Hence, School-In aimed to determine how individual expectation structures of schools develop as a result of the school's adjustment to local community expectations (Luhmann, 2000; Midtsundstad, 2010; Midtsundstad & Langfeldt, 2020).

2.2 Local school development in School-In

The process of local school development in School-In was considered a three-step process: (1) schools adjust to local expectations that are important to them and that influence decisions; (2) these local expectations have an impact on the school's internal expectations for the roles of teachers, paraprofessionals, and students; and (3) these internal expectations form the roles of teachers, paraprofessionals, and students and, thus, also the school culture (Midtsundstad & Langfeldt, 2020; Midtsundstad, 2019).

Innovative research is needed to determine how expectation structures are developed and how they can be identified and changed by creating synergies within the school organisation, outwardly in the school's local community, and across municipal boundaries. By comparing the change in expectation structures of different schools, we sought to identify working methods that school owners (the municipalities) can use in achieving collective capacity building.

The main goal of the project was to develop research-based knowledge on the importance of local expectation structures for school culture and how these structures can be changed to expand the school's collective capacity for inclusion. We have, therefore, developed a model that shows how expectation structures can work together and create synergies in and around schools and between municipalities.

The model of expectation structures (figure 2.1.) illustrates the system of various stakeholders in the education sector and the local community and how their expectations work together and influence each other. The innovation intended to initiate synergies that could change entrenched expectation structures in three focus areas.

2.2.1 School-In's three focus areas for organisational and structural change

School-In focused on three areas, with the following assumptions:

Focus area 1 – mapping of expectation structures that constitute the foundation of school culture. In the project, a mapping procedure (pre-test in a pre/post control design) was developed to compare expectation structures of schools with research-based characteristics of an inclusive organisation with a learning environment that promotes good results. These characteristics included the staff members' practice, shared expectations for the student role, joint academic and social responsibility for all students, and a shared culture (Midtsundstad & Langfeldt, 2020; Aasebø et al., 2017; Dalehefte & Midtsundstad, 2019). The assumption was that this comparison would challenge the staff members' self-understanding and create opportunities for change.

Focus area 2 – change in school culture as a result of collective expectation structures in the school organisation. Comparisons between schools motivated discussion and

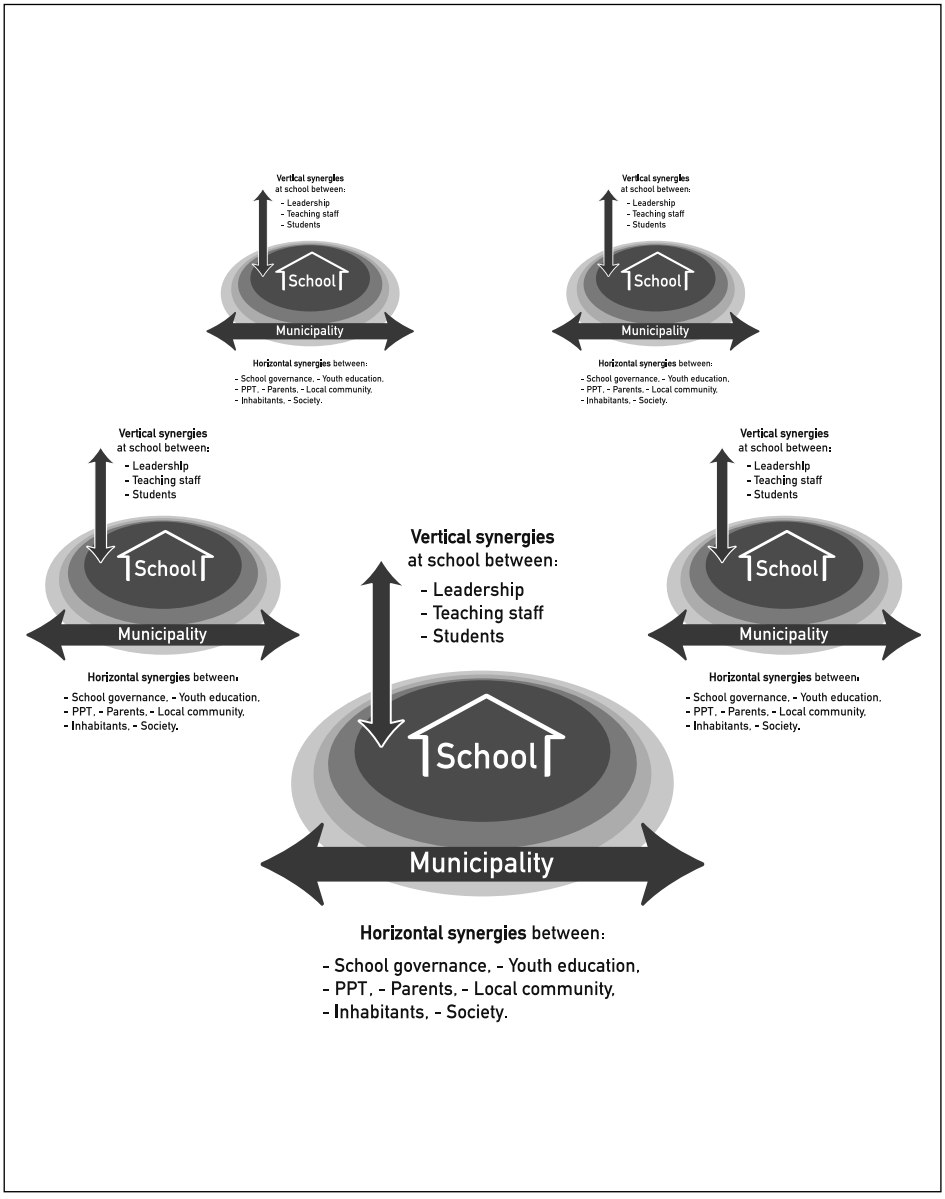


Figure 2.1: Model of expectation structures

joint work through the Mental Mapping Response method and in focus group conversations, Dialogue Cafés, and Reflection Cycles. The whole staff worked to change individual perceptions into common expectations for the student role, relations with local communities, dialogic teaching, and a culture of sharing. The project's working methods aimed to create synergies to develop a collective understanding of the individual school that contributes to collective practices.

Focus area 3 – implementation of new expectation structures in schools and support systems. Working groups were established in each community to create synergies within and between municipalities. These working groups consisted of the school owners, the leader of the Educational and Psychological Counselling Service (PPT), the head teachers of the participating schools, the coordinator, and the project manager (UiA). The schools met for a symposium twice a year to facilitate experience sharing, capacity building, and improvements using available resources. The aim of the symposium discussions was to support the implementation of and continuing efforts to promote the School-In innovation. The municipalities employed a coordinator in a twenty per cent position to ensure relevance, anchoring, and implementation.

School-In's ambition was to create a basis for improving quality through capacity building in service areas – 'horizontally' between a given school and its context, and 'vertically' within the school organisation. The innovation aimed to extend opportunities to develop an inclusive organisation (figure 2.1.).

2.2.2 Research questions

The main research question for the project was: How can awareness of and change in the expectation structures of schools contribute to an inclusive school culture rooted in the local community?

The aims of the project were:

1. To explore how to change the school culture through changing the school organisation's ties to the local community
2. To explore how teachers' participation in work to create change can enable the development of collective capacity for inclusion
3. To explore the potential impact of locally anchored school development on the capacity of schools for change and implementation

The first aim focuses on exploring *how to change the school culture through changing the school organisation's ties to the local community.* When it comes to changing school culture, there is a need for new knowledge on how expectation structures impact local communities and school culture. Even though school culture is an imprecise term, several studies have shown that school culture is one of the most critical factors in school improvement (Berg, 1999; Schoen & Teddlie, 2008). Schoen & Teddlie (2008) define school culture as a construct of four factors: (1) attitudes; (2) communication;

(3) student views; and (4) student involvement. Research has shown that a school's expectation structures are decisive for the evolution of school culture (Midtsundstad & Langfeldt, 2020). Thus, teachers' expectations of themselves, other colleagues, students, and student's parents influence their attitudes, communication, student views, and student involvement (Midtsundstad, 2015). The importance of expectations for the internal school organisation is internationally known (Diamond et al., 2004; Sammons et al., 2006). It is also known that the local culture influences school development through the students (Pritchard, Morrow, & Marshall, 2007), but there is little research on how the link between internal and external expectations shapes school culture.

School-In aimed to create new knowledge on how school culture develops as a result of school adjustment to local expectations. Because of this link between school culture and adjustment to expectations, raised awareness of a school's relationship with the local community can contribute to freeing a school's potential for development. By exposing and comparing expectation structures of school organisations, the research provided answers to how school culture is established and how it can be altered. The questions asked were based on theories regarding the anchoring of schools in their local communities from the Learning Regions project (Horrigmo, 2015; Knudsen, 2015; Aasebø et al., 2017; Midtsundstad & Langfeldt, 2020).

The second aim was to *explore how teachers' participation in work to create change can enable the development of collective capacity for inclusion.* International research has focused on the collective capacity of schools for inclusion (Leithwood, 2010; Fullan, 2010) and shows that the teaching staff at schools are essential when it comes to bringing about change (Stoll et al., 2006; Timperley, 2008; Hopkins et al., 2014; Hargreaves, 2002). Several researchers are concerned about the necessity to exert a certain degree of pressure on teachers, referred to by Michael Fullan as *positive internal pressure* (Fullan, 2012) and as *internal accountability* by Elmore (2003). Other researchers, however, have criticised the pressure placed on teachers, as it is likely to force teachers to participate against their will (Stoll et al., 2006; Hargreaves, 2014).

School-In sought to encourage teachers to work towards change by concretising the strategy called *interruption to thinking*, which is recommended by research on inclusive practices (Ainscow, 2005, p. 109; Hargreaves, 2002, p. 196). School-In challenged the teachers' mindsets by comparing the teachers' schools to schools with characteristics of inclusive practices. This comparison was decisive for enabling the teachers to see their own professional practice and assess its quality. In School-In, we invited the teaching staff to evaluate and discuss the research findings during the innovation, which allowed participation and inspired engagement in collective efforts for change (Dinham, Crowther, & Harris, 2011). This democratic method is unique in international research. Thus, the School-In innovation advocates the impact of the democratic method on the school's collective capacity for inclusion (Dalehefte, Kristiansen, & Midtsundstad, 2017).

According to the School-In research design, development areas were identified based on an initial round of mapping, where focus group interviews and teaching

staff questionnaires (pre-test) were used. The identified development areas or topics to be worked on formed the basis for the intervention. The innovation started with a group session where the staff members discussed their reactions to the findings using the Mental Mapping Response method (chapter 4). They were asked to comment on what they thought was (1) wrong; (2) surprising; (3) recognisable; or (4) what they thought required action. The study showed that this approach started a process where staff members who initially understood the findings as 'wrong' or 'surprising' changed their minds when encountering perspectives and opinions from other staff. This exchange of opinions and ideas allowed different views to emerge and helped turn the discussions into areas believed to be worth developing. The teaching staff worked on the development areas using methods such as Dialogue Cafés (chapter 5) and Reflection Cycles (chapter 6). The discussions were audio recorded to analyse the teaching staff's collective understanding and the change processes that were taking place towards collective capacity for inclusion. These analyses enabled us to find specific examples of and publish research findings concerning democratic methods in innovation efforts. The data from the discussions served as the basis for assuring the quality of professional and collective practices. Furthermore, we identified development, changes, and effects through a post-test.

The third aim of the research was to *explore the potential impact of locally anchored school development on the ability of schools to change and implement new knowledge.* In School-In, locally anchored school improvement was understood as involving both a change in the internal school culture and the development of support for the school's inclusion in the local community. Several studies show that the relationship between schools and their communities is essential for bringing about change (Hargreaves & Shirley, 2009; Harris, 2011). Research on capacity building for inclusion stresses the importance of local support (Fullan, 2010; Hargreaves, 2014; Dyssegaard, Larsen, & Tiftikci, 2014), but the question is often how local communities and networks can provide support on the terms of the school. The conclusion of a meta-analysis of international research on inclusive learning environments shows that forms of exclusion related to school culture are anchored locally (Waitoller & Artiles, 2013). Thus, the development of inclusive practices can be hindered by underlying restrictive expectation structures in the community. Research shows the need to study how the local community plays a role in developing inclusive school cultures, and how schools can obtain local support.

School-In contributes new knowledge in the field by applying findings from Learning Regions showing that schools which adjust to local community values have more inclusive practices and better results than other schools (Kvalsund & Hargreaves, 2009; Horrigmo, 2015; Cresswell, 2015). Adjusting the School-In reference to the local community values in support of an inclusive community creates recognition, trust, and support on the part of parents and other community members (Horrigmo & Midtsundstad, 2020). By using local values and existing networks and structures in the education sector, the innovation creates synergies vertically and horizontally

(figure 2.1.). Thus, this provides good opportunities for implementing innovation in the schools.

2.2.3 Research design

The pre-post control group design allowed us to measure the effects of the innovation on the school organisation's expectation structures. The design is presented in Table 2.1.

Table 2.1: Pre-post control group design (Dalehefte & Midtsundstad, 2019, p. 86)

	Pre	**Post**
School-In (7 schools)	Focus group interviews – teaching staff Questionnaire – teaching staff Questionnaire – students* Focus group discussions – students* Multimapping of the context* Video study – instruction + questionnaire – students	Focus group interviews – teaching staff Questionnaire – teaching staff Video study – instruction + questionnaire – student
Control schools (6 schools)	Questionnaire – teaching staff	Questionnaire – teaching staff

* These methods were used to map the school but did not contribute to the pre-post design

All teachers and paraprofessionals in the innovation schools were asked to fill in a questionnaire in the beginning (pre) and at the end (post) of the semester. The same was done in parallelised control schools. Thus, the purpose of the pre-post control group design was to investigate the extent to which the intervention between pre and post showed an effect. In addition, the teaching staff in innovation schools participated in focus group interviews in the beginning and at the end of the innovation. Also, one to two teachers at each innovation school participated in a video study based on recordings of mathematics lessons and a student questionnaire directly after the lessons. Before the innovation started, the local context was mapped using documents, local experts, and student group interviews (chapter 7). The schools also provided School-In with results from national student tests and surveys. In this way, we collected data at different levels (teacher, class, and student level). We also audio recorded the discussions of the teaching staff during the Mental Mapping Response method sessions, Dialogue Cafés, and Reflection Cycles to gain knowledge on how the staff members shared their knowledge and how the process developed, and to better understand the benefits and pitfalls of our working methods.

Because the teaching staff influenced the development area, the innovation was carried out differently in each individual school. Therefore, the outcome differed from school to school, depending on the area the school needed to develop given the pre-mapping results, and on the concrete topic on which the teaching staff decided to work after discussing the pre-mapping results. Despite these differences in the content

of the School-In intervention, we were able to investigate whether the measures implemented in the different schools affected the corresponding variables and scales in the questionnaires, and whether effects were noticeable in the focus group interviews. Regarding implementation of the intervention in instruction, the video study enabled the identification of interesting aspects of the classroom situation; for example, if and how the teacher linked the content of the instruction to the local context, and how the students perceived the instruction (chapter 9).

The findings from the study showed great consensus in terms of issues such as the local community's relevance for schools, views on the student role, legal obligations, and the school's reputation, as well as increased collegial cooperation after the innovation compared to the control schools (Ingebrigtsvold Sæbø & Midtsundstad, 2018; Horrigmo & Midtsundstad, 2020; Midtsundstad, Dalehefte, Hillen, Horrigmo, Ingebrigtsvold Sæbø, 2022; Dalehefte & Midtsundstad, 2022). The study showed a change in staff attitudes during the project, which is a prerequisite for further implementation of knowledge and actions (Kirkpatrick & Kirkpatrick, 2012).

An important part of the design was ensuring the protection of personal data. It was necessary to register the project with the Norwegian Centre for Research Data (NSD), which is responsible for implementing the General Data Protection Regulation (GDPR) in Norway, and get their approval before recording interviews and classroom instruction. Before any of the interviews and the teaching staffs' conversations could be audio recorded and the mathematics instruction video recorded, everyone involved – students' parents, teachers, paraprofessionals, and leaders – needed to sign a consent form confirming that they accepted and trusted our handling of the data. The university ensured full data protection; participants were free to contact the UiA Data Protection Officer for Research at their convenience to ensure that the data was stored safely according to current rules.

This mixed method design gave us a broad picture of the schools and their local contexts while providing good opportunities for realising the innovation and documenting the development of the school.

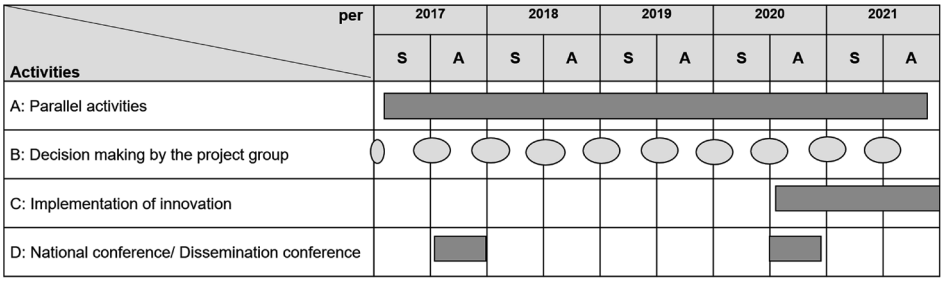
2.2.4 Plan for the realisation of the innovation

Table 2.2. below presents an overview of the schedule for the realisation of the innovation, with explanations for each of the activities.

A: Parallel activities: Simultaneously with School-In, the project owner (one of the municipalities), all the municipalities, and schools cooperated to continue the initiative 'Inclusive Learning Environment' (Knutepunkt Sørlandet, 2015). Achieved results from School-In were presented at meetings with the steering group. Once per semester, the research team arranged network meetings for the project owner, partners, and innovation schools for results dissemination and experience sharing.

B: Decision-making by the project group: The project group was responsible for the progress, implementation, and upcoming decisions to give the project direction and

Table 2.2: Plan for the realisation of the innovation



S=Spring, A= Autumn

develop plans for introducing and implementing the innovation. The project manager (UiA) presented results from School-In throughout.

C: Implementation of the innovation: Theories, results, and working methods developed and quality assured by the research team were prepared for implementation in other schools after completion of the project. The cooperation in School-In was based on established structures for collaboration between the project owner, partners, and users, providing good opportunities for further implementation and dissemination in the education sector. These collaboration structures enabled the school owners to provide implementation support for other schools in their municipalities, in cooperation with the University of Agder. A separate UiA website was recently developed to provide schools with information about this support for implementation and school development (uia.no/en/school-in).

D: National conference/dissemination conference: A national conference was planned in the autumn of 2020, for experience sharing and national dissemination of research findings and related publications. Due to COVID-19, this conference was held digitally.

2.3 Cooperation structures and partners

The cooperation in School-In was organised by using already established local structures from the ongoing project 'Inclusive Learning Environment' (Knutepunkt Sørlandet, 2015). Thus, we knew we were using structures that were familiar to the partners and more likely to appear less laborious for the participants. These structures were used to anchor all decisions at different levels in the project organisation. Figure 2.2. presents an overview of how the cooperation was structured.

School-In was embedded in a network consisting of (1) the project group from the municipalities, (2) the project manager, (3) the coordinator, (4) the municipal working group, and (5) the school working group.

The project group: The project group consisted of municipal executives in charge of childhood and youth services from the five participating municipalities and the coordinator and project manager from the University of Agder. This group was led by the administrative manager of the project – one of the municipalities› leaders. The project

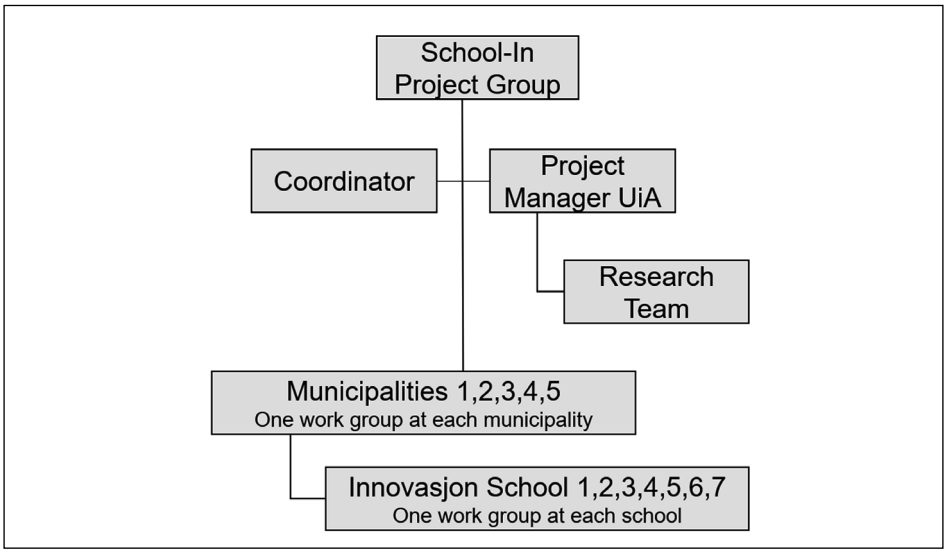


Figure 2.2: The project's cooperation constellations

group and the administrative manager were responsible for implementation of the innovation, in addition to progress, decisions, and budget issues. The group had three meetings per year, with the municipal executives also gathering for monthly meetings regarding continuing efforts on the initiative 'Inclusive Learning Environment'.

Project manager: The project manager was a professor in education at the University of Agder and was responsible for the innovation together with the research team. The research team consisted of five scientific employees at the University of Agder, two of whom were professors, two associate professors, and one an assistant professor. Together they provided the project with an interdisciplinary and multidisciplinary background.

Coordinator: The municipalities engaged a coordinator in a 20 percent position. The coordinator had a master's degree in special education and was also experienced in implementing similar projects and familiar with cooperation between the education sector and research communities. For instance, she was in charge of coordinating the initiative 'Inclusive Learning Environment' in the five municipalities during the period 2013–2016 (Knutepunkt Sørlandet, 2015). In addition to being responsible for coordination, anchoring, and implementation in cooperation with the municipal working group, the coordinator collaborated with the project manager (UiA) to follow up on work with the innovation.

Municipal working groups: In each municipality, a working group was established, consisting of the municipal executive, the school academic adviser, the head of the Educational and Psychological Counselling Service (PPT), and the head teachers of the innovation schools. The tasks of the working group were to ensure anchoring, planning, and implementation of the School-In innovation in their municipality and to cooperate with schools on facilitating and implementing the innovation. The

working groups were chaired by the coordinator in cooperation with the municipal executive.

School working group: At the seven innovations schools, a working group consisting of the school management was established. Responsible for implementing the innovation in their school in collaboration with the project manager, the working group had two two-hour meetings with the project manager throughout the semester during which the school participated in the innovation. Each school had six three-hour staff meetings throughout the semester during which they participated, i.e., a total of 18 hours to implement the innovation.

Network meetings: Synergies associated with participating in School-In included networking with the other innovation schools to identify, describe, and discuss different expectation structures in and around the school, and how these exerted influence and were influenced, to reinforce the quality of teaching and learning in schools. The established cooperation structures between the project owner and partner municipalities were also used to disseminate and adopt results that emerged along the way. School-In sought to reinforce interaction between school owners and school leaders and between schools and the PPT (figure 2.1.).

Every semester, the School-In research team met with an emerging group of participants in the project. Here we presented the project to the new participants and introduced new findings from our ongoing research. We enabled the participants to discuss our findings so we could understand how these were perceived and what the participants experienced as valuable and useful for practical, everyday schoolwork. In the network meetings, the participants developed their own measures, and the school owners met all school leaders in the participating schools to discuss the actions they had tested and what they had learnt. After some of the network meetings, they sent their answers and notes to the project leader and coordinator. In the next network meeting, this valuable input was used to make the content relevant and useful for the participants. These notes were also used to prepare the implementation of the innovation in the remaining schools in the municipalities.

In our project, we were obliged to anonymise the schools participating in the innovation. In the network meetings, this was challenging and we, therefore, asked the schools not to reveal which were control schools and which were innovation schools. For the sake of anonymity, the schools were invited to the network meetings only after they had joined the project, to avoid influencing upcoming schools before participation. Therefore, the network meetings started only with the working groups in the municipalities, but the group grew from meeting to meeting as the number of participating schools increased. Table 2.3. gives an overview of the topics presented, discussed, and worked on in the network meetings during the project.

Table 2.3: Network meetings, presentations, and participants

Semester	Presentations	Participants
Autumn 2017	Project presentation by the research team Research focus presented by each researcher	The municipal working groups in five municipalities
Spring 2018	The project, including how expectations are influenced by how schools organise responsibility	The municipal working groups (5), the school working group in the pilot school, 2 school working groups in the innovation, and 1 control school
Autumn 2018	Local communities and schools	The municipal working groups (5), 3 school working groups in the innovation, and 2 control schools
Spring 2019	Our working methods and the effect on reflection in the school's professional learning communities	The municipal working groups (5), 4 school working groups in the innovation, and 3 control schools
Autumn 2019	Modelling the working methods: Dialogue Café and Reflection Cycle	The municipal working groups (5), 5 school working groups in the innovation, and 4 control schools
Spring 2020	Modelling the Mental Mapping Response method	The municipal working groups (5), 6 school working groups in the innovation, and 5 control schools
Autumn 2020	Local school development	The municipal working groups, 7 school working groups in the innovation, and 6 control schools

2.4 School-In's contribution to professional development and research

From a national perspective, the School-In innovation contributed to new, improved forms of organisation and management by providing knowledge on how local expectation structures shape school cultures and what measures are needed to achieve change. It showed that the structures linked to a school might have a sustaining effect on expectation structures and prevent the development of collective responsibility. Given this fact, the School-In innovation aimed to increase the competence of the teaching staff and other working groups in the education sector, including the Educational and Psychological Counselling Service (PPT) – an important player in hindering a growing diagnostic tendency and avoiding fragmentation of the student and classroom community. Furthermore, the innovation provided the education sector with expertise in selecting measures and working methods that support municipal efforts to strengthen public schools.

This innovation study was also of international significance, since it created new forms of organisation for inclusion and capacity improvement in the education sector. Its design represented an improvement on similar innovation designs in this area because it required an equal focus on all systems, best known through Fullan's 'all

systems go' (Fullan, 2010). It also streamlined and created new knowledge by looking at the individual school's relationship with the local community and identifying inhibiting expectations that sustain the school culture. Moreover, the innovation used the existing organisation of the national education sector to create a greater capacity for development. Streamlining and renewing this type of innovative design is of international interest (OECD, 2015).

School-In profited from experiences in other international intervention programmes. For instance, it drew on the innovation and methods used in the research conducted in the German school development programme SINUS for Primary School (Fischer, Kobarg, Dalehefte, & Trepke, 2013). In School-In, however, separate concepts were also developed, i.e., the new concept of 'Organisational Didactics' (Midtsundstad, Dalehefte, Hillen, Horrigmo, & Ingebrigtsvold Sæbø, 2022), to challenge and motivate teachers to work towards change. The findings from the comparison between the teachers' own schools and inclusively organised schools were used to invite the teaching staff to evaluate the research findings by discussing the need of their schools for development through the Mental Mapping Response method (chapter 4). Differing perceptions of the staffs' own schools marked the beginning of a collective, reflective process towards a common understanding and collective responsibility, which was addressed in Dialogue Cafés (chapter 5) and Reflection Cycles (chapter 6). These working methods are more thoroughly described in other chapters in this book.

Through our cooperation in the municipalities, with schools, in network meetings, and with the international reference group, we aimed to enhance school quality. Several measures were used. By focusing on the importance of expectation structures, School-In provided the education sector with new knowledge concerning how to improve aptitude of schools for change and development. Teachers gained new, relevant competencies, which were developed based on findings from their schools and local communities, enabling them to select measures more accurately. Teacher education programmes, staff in kindergartens, and municipal administrations can also benefit from the School-In findings in the future. The knowledge and methods developed in School-In are transferable to all schools and capable of strengthening existing strategies for enhanced quality.

In addition, a website was recently developed (uia.no/en/school-in), providing interested schools with information and enabling school owners and leaders to, based on a survey (chapter 10), improve their competence in choosing measures and working methods that are likely to be effective in each school. With this website, School-In has created opportunities for a more efficient, less resource-demanding organisation of school development.

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3 The Intervention in the School-In Innovation

Jorunn H. Midtsundstad

In chapter 2, we gave an overview of the innovation and the organisation of the project. In this chapter, the theoretical and empirical considerations related to the intervention in the project are highlighted, with the School-In innovation being presented as a framework for the intervention conducted. The relationship between *innovation* and *intervention* is described and discussed, focusing on drivers and barriers for the process. How the innovation was developed and performed is also presented and discussed together with implications for further research.

3.1 Innovation and innovation research

Innovation is a concept whose meaning is increasingly varied; it is most commonly linked to the private sector, referring to the idea of creating better products and services. Jentoft (2017) argues that, although there are similarities in innovation processes between private and public services, there are also distinctive and important differences (Jentoft, 2017). Research shows that the public sector has different goals, purposes, and institutional cultures, as well as longer chains of implementation, other responsibilities, and formal procedures that provide different conditions for fostering innovation (Hartley, 2005; Moore, 2005; Robertson & Seneviratne, 1995; Damanpour & Schneider, 2009). In Norway, the goal is to promote innovative capacity and create a culture of innovation in the public sector, and to achieve this, political and administrative support is critical according to research (Borins, 2002; Hartley, 2011; Moore, 2005). The importance of innovation research is one of the reasons why the Research Council of Norway (RCN) started an innovation research strategy to help research communities play a more significant role in developing a more knowledge-based and innovative public sector.

This innovation programme illustrates the purpose of the RCN strategy by emphasising the need for more knowledge on the prerequisites and antecedents of innovation and for learning more about how to implement new solutions in the public sector. The Research Council of Norway realises that numerous well-regarded educational and research communities target public sector responsibilities. However, many people in the public sector experience that research efforts do not respond to the knowledge needs of municipal, regional, and state actors. Many public actors fail to use research results that could have been useful and relevant. The Research Council of Norway

would like to contribute to the research generating greater social effects by providing research communities with framework conditions that stimulate collaboration with the public sector. The Research Council of Norway asks for larger joint projects across municipalities, sectors, and directorates, with the active participation of Research and Development institutions, to ensure transparency of processes and results and to facilitate better proliferation (RCN, 2018–2023). One important part of this programme is that innovation should be based on questions from the public sector. As described in the previous chapter, the project School-In came about as a result of some municipalities in southern Norway seeking to continue their efforts on 'Inclusive Learning Environment' (Knutepunktet Sørlandet, 2015) and to reinforce these efforts via research conducted by researchers from the University of Agder. In the following section, theoretical and empirical considerations related to the innovation are presented.

3.2 Theoretical and empirical considerations related to public sector and school innovation

Our considerations are based on previous research (De Vries, Bekkers, & Tummers, 2016) and theoretical and empirical considerations from a Norwegian perspective. The local and contextual considerations were important in our project because we wanted to take the need for a cultural understanding of innovation seriously (Garmann Johnsen & Pålshaugen, 2013a). Even though innovation research is increasing, the number of reviews on public sector innovation centred on education is still limited (Jentoft, 2017). Our argumentation in this respect is based on a systematic review of innovation in the public sector, which included 181 articles and books published between 1990 and 2014 (De Vries et al., 2016) and research reports on innovation in schools with different perspectives. In their review of public sector innovations, the researchers used five analytical questions related to the following topics: (1) the definitions of innovation, (2) innovation types, (3) goals of innovation, (4) antecedents of innovation, and (5) outcomes of innovation.

Based on this analysis, they recommended three approaches to future research: (1) more variety in methods: moving from a qualitative dominance to using other methods, such as surveys, experiments, and multi-method approaches; (2) emphasise theory development and testing as studies are often theory-poor; and (3) conduct more comparative studies, for instance by linking different governance and state traditions to the development and effects of public sector innovation (De Vries et al., 2016). The recommendation of increased variety in methods and designs to allow comparative studies was an important aim for project School-In. We also argued for the need for theory development on inclusion at the system level (Göranson & Nilholm, 2014), aiming to test the theory on the local connections of the schools (Horrigmo, 2015; Horrigmo & Midtsundstad, 2020) and how expectation structures develop and can be changed (Midtsundstad & Langfeldt, 2020; Dalehefte & Midtsundstad, 2022).

These considerations have influenced the answer to the five analytical questions posed in the review. In the following, these five questions are used to make our theoretical considerations transparent and possible to evaluate. We start by defining the innovation and go on to describe School-In's innovation type, our goals, and the antecedents we considered, before highlighting the outcomes we were hoping to see from the innovation. For each of these topics, the Norwegian model of innovation will be part of the discussion.

3.2.1 The definitions of innovation

In the public sector, innovation as a concept is seldom defined, and if it is, a general definition is often given, without reference to the boundaries of the concept (De Vries et al., 2016). It is important that a definition include the difference between the distinctive nature and challenges of innovation on the one hand and 'continuous' change on the other (Osborne & Brown, 2013). The concept of innovation is often used in a sense similar to 'reform' (Garmann Johnsen & Pålshaugen, 2013a, p. 13), but can be distinguished from reform in that reforms are expected to initiate change, whereas innovations are expected to create newness. The Latin concept 'innovare' means to renew or create something new (Garmann Johnsen & Pålshaugen, 2013a). It has also been argued that a definition of innovation can be too literal and narrow (Garmann Johnsen & Pålshaugen, 2013a). Instead, it may be more fruitful to describe the characteristics and boundaries of the specific innovation.

School-In was an innovation project aiming to develop an inclusive learning environment by focusing on the impact of expectations in terms of changing school culture. The intervention took the relevant school as its starting point by mapping the school's expectations structures to initiate a process of changing the school culture. Its boundaries were confined to the seven participating schools, but the comparison between these schools and the six control schools gave a picture of how innovation can create change and newness in different contexts. The intervention focused on the working methods in the innovation to investigate if these methods provided opportunities for change in different contexts. In addition, the innovation had a triple helix (figure 2.1. in chapter 2) approach, allowing an investigation into how the patterns of cooperation between the public sector, academia, and Educational and Psychological Counselling Service (PPT) can develop and influence the cooperation between the systems or create new systems for cooperation (Garmann Johnsen & Pålshaugen, 2013b).

3.2.2 The innovation type

Innovation in the public sector usually varies between *process innovation*, *administrative process innovation*, *technological process innovation*, *product or service innovation*, *creation of new public services or products*, *governance innovation*, and *conceptual innovation* (De Vries et al., 2016). Past research has argued that distinguishing be-

tween types of innovation is necessary for understanding organisations' innovative behaviour because organisations have different characteristics. Innovation adoption is not identically affected by, for instance, organisational antecedents (Walker, 2014). The project School-In combined several of these approaches, but can be characterised as a *process innovation*, based on the process that took place both internally in the individual local schools and in relation to the research cooperation (Triple Helix). In the Norwegian model of innovation, it is recommended to distinguish between (1) factors that trigger or create innovations, (2) processes that facilitate and develop innovations, (3) factors that stimulate and lead to the implementation of innovations (Garmann Johnsen & Pålshaugen, 2013a). These elements draw attention to the fact that the innovation was both a locally based and an employee-driven process innovation – two important aspects of the project. These two aspects will be explained further in the following sections using educational research and cultural characteristics to explore the antecedents of innovation research. First, we present the goals of the School-In innovation.

3.2.3 The goal of the innovation

Researchers and policymakers seldom specify the goals of public innovation research, but the goals that have been mentioned are mostly associated with increasing effectiveness (De Vries et al., 2016). In educational research, this is often related to improving school results and increasing students' possibilities to learn (Fullan, 2010; Greany, 2018) – aspects often referred to as academic goals rather than social approaches. Innovation goals can also be linked to the innovation itself and factors that trigger, facilitate, and stimulate innovation implementation, as described above.

School-In was a type of process innovation focusing on three main areas: (1) *Mapping of expectation structures that constitute the foundation of school culture* (chapter 2). The mapping was used as a trigger to start the process of changing school culture by using this mapping to legitimise the innovation process. (2) *Change in school culture as a result of collective expectation structures in the school organisation* (chapter 2). This involved exploring how to change the school culture through changing the school organisation's ties to the local community. Local support or lack of process support is a main topic for discussions on public innovation in the Nordic countries (Garmann Johnsen & Pålshaugen, 2013a), and is also important for local school development (Midtsundstad, 2019). Consequently, the project aimed to explore the potential impact of locally anchored school development on the ability of the school to change and implement new knowledge. (3) *Implementing new expectation structures in schools and support systems* (chapter 2). Thus, the project aimed to explore how teachers' participation in work to create change can enable the development of collective capacity for inclusion. The project goal was to find answers to the research question: How can awareness of and change in the expectation structures of schools contribute to an inclusive school culture *rooted in the local community?*

3.2.4 The antecedents of innovation

Antecedents identified as influential in innovation processes have been explored in innovation research – 'antecedents can, depending on their level and the specific context, be either a driver or a barrier'. For instance, learning cultures favouring innovation, as well as organisational cultures, have been highlighted in several studies (De Vries et al., 2016). The antecedents have been categorised into drivers or barriers that relate to four main categories at four levels: (1) *community level*: external context; (2) *organisational level*: aspects that include the structural and cultural features of an organisation; (3) *innovation level*: triggers and resistance to new knowledge and realisation of the innovation; (4) *interaction/employee level*: characteristics of colleagues – individuals who innovate (e.g., empowerment). These drivers or barriers can be culturally defined and, in our project, four topics stood out: (1) *local place – connections/structures;* (2) *meaning – understanding;* (3) *learning in interaction – structures for learning;* and (4) *measures*. In our project, we focused on expectations as drivers or barriers. These antecedents are presented in table 3.1. and explored further in the text below.

Table 3.1: Antecedents as drivers or barriers in the project School-In

	Community level	**Organisational level**	**Innovation level**	**Interaction – employee level**
Local place – connections/ structures	Expectations from the administration and the local neighbourhood – parents, youth organisers, etc.	Perceived expectations from school leaders and employees	Internal and external structures for using new knowledge and applying it in different contexts	Internal and external expectations perceived as support or resistance
Meaning – understanding	School owners, e.g., strategies for communication expectations internally and towards the local community	School leaders' communication of legitimacy of new knowledge structures for co-creation	Accepted as important at different levels	Perceived as relevant and useful in everyday schoolwork or not
Learning in interaction – structures for learning	Expectations for learning from each other at different levels. Structures of learning through connections with local communities	Structures of learning from each other at different year levels in the school	Structures for learning from each other at different levels in the innovations of different groups	The personal perception of expectations for learning. Perceived usefulness of the new knowledge in their collegium and their classrooms
Measures – participation	School owners, PPT, and school leaders can use the measures in their different organisations	School leaders, teachers, and paraprofessionals can use the measures at all year levels for 1st–10th grade	The measures apply or do not apply to different innovation levels	The measures are useful and make everyday schoolwork easier or more interesting; self-efficacy increases

*PPT: Educational and Psychological Counselling Service

This table is intended to explain the relationship between *innovation* and *intervention* in our project, since the two concepts are often used without clarifying the difference. In our project, all four levels represent the innovation, but the difference is evident from the table above, with the (1) community level and (3) innovation level representing a special focus on the innovation, and (2) organisational level and (4) interaction – employee level, representing the focus on the intervention of the project. In the following description, the antecedents at different levels will show how the innovation and the intervention are dependent on each other. The focus of the research is the intervention in different schools participating in the project.

Drivers and barriers 1: Local place – connections/structures

Our project investigated the connection between the local school and the local community. Local support can be both a driver and a barrier for innovation and school development. How civil society includes different people in their communities seems to impact how schools can develop as inclusive learning communities (Horrigmo & Midtsundstad, 2020). This connection is not always as simple as expectations related to education; it can also take the form of expectations concerning how to include and support others in life. The local administration's support of the local school and the different communities can, therefore, be a driver or barrier for school development and school results (Horrigmo, 2015).

These local expectations are perceived at the organisational school level and create prerequisites for development (Midtsundstad & Langfeldt, 2020). The perceived expectations from leaders and employees in school determine whether or not schools experience support and trust, and influence the courage and skills of schools with respect to development. A school's connection to the local community seems to be an essential antecedent for development. Learning Regions was a prior research project that aimed to find answers to the question of why a particular region in Norway, Sogn og Fjordane, achieved good school results despite having a relatively low average socio-economic status. We found in Learning Regions that ties of the schools to the local community could be a driver in supporting development of schools (Langfeldt, 2015; Aasebø, Midtsundstad, & Willbergh, 2017; Midtsundstad & Langfeldt, 2020).

The school owner (municipality), the Educational and Psychological Counselling Service (PPT), the leaders in the local school, the cooperation between them, and the manner in which they manage their schools and implement new strategies are examples of structures that may function as both drivers and barriers. In Norwegian innovation systems, this is called 'Innovation through Interaction' (Gustavsen, 2013, p. 39). This expression is used to emphasise the fact that employees are not the only ones involved in innovation; there is also the interaction between different actors such as researchers and schools, or head teachers and teaching staff. How the structures for these internal and external interactions are set up for providing or developing new knowledge and applying it in different contexts can be both a barrier and a driver for innovation.

The staff in different schools have experienced different interaction structures and have distinct cultures for expecting development initiatives and quality work among colleagues (Schoen & Teddlie, 2008). Their former experiences of external and internal expectations as support or resistance will be functioning as barriers or drivers.

Drivers and barriers 2: Meaning – understanding

Innovation has often been justified by the importance of implementing new knowledge in educational organisations (Fixen, Naoom, Blasé, Friedman, Wallace, 2005; Roland & Westergård, 2015). Core elements from research are implemented in different educational contexts and expected to produce the same effect. Different models of innovation may be dependent on the employee's loyalty in order to succeed, resulting in the staff's loyalty becoming the main barrier or driver. In the project School-In, we have tried another approach based on 'Allgemeine Bildung' and 'Didaktik', focusing on the selection of content that the participants might find meaningful (Hopmann, 2007). This approach focus at how new knowledge can become meaningful and create new understanding among the participants at the different project levels. We have developed and used working methods to make the innovation content understandable for school owners, the Educational and Psychological Counselling Service (PPT), employees, and citizens, providing them with methods for asking questions and obtaining information. It is important to create collective capacity inside each school organisation as well as at the community and innovation levels. At the organisational level, school leaders need to communicate the legitimacy of new knowledge, and here, the structures of schools for co-creation can represent barriers and drivers. The content of the intervention is important since it may be a driver or a barrier depending on whether the employees find the new knowledge relevant and useful in their everyday schoolwork.

Drivers and barriers 3: Learning through interaction – structures for learning

Learning is one of the main issues in Norwegian innovation (Garmann Johnsen & Pålshaugen, 2013b). This antecedent is closely connected to meaning and understanding, given that learning at an organisational level requires introducing new information and opportunities so that the participants may interpret the new information together in their special context of meaning-making communities (Luhmann, 2000). Different schools are not always familiar with the activities involved in interpreting new concepts and developing a common understanding. This lack of familiarity can, therefore, be a driver or a barrier to learning and creating new understanding. At a local level, civil society can be engaged to varying degrees in the local school. These same drivers and barriers may also influence the school administrations, depending on how they are informed and, on their opportunities, to interpret the information in their different contexts (school owner, PPT, etc.) and common learning communities.

Schools can have different structures for learning, and School-In emphasised the importance of working together across year levels in schools. Employees from 1st to 10th grade worked together to interpret new knowledge in the school context, not only at the classroom level, but for all students attending the school. Hence, they developed structures for learning from each other and were able to meet their students with more equal expectations as well as new knowledge. The research team presented the content, and the teaching staff perceived and translated that content together – a process which had the potential of becoming a driver or barrier for the intervention. The specific working methods and content were also decisive in determining whether the teachers experienced the expectations for learning as meaningful and useful to their collegium and their daily work in the classrooms.

Drivers and barriers 4: Measures – participation

The measures to be implemented in the project were developed by the teaching staff based on the mapping of the school and the chosen development area. The choice of content was based on this process and on the working methods used to implement the innovation-driven measures developed by the teaching staff. Based on research, we know that participation is a driver for innovation (Kristiansen & Aargaard Terjesen, 2013). We also observed that the school staff members knew what they needed and were able to interpret new knowledge and make it useful and meaningful together based on shared experiences in their common school context. At both organisational level and interaction – employee level, the measures had to be created based on the interpretation of new knowledge in the school context. Hence, participation was a driver or barrier for the whole innovation.

The measures developed for the intervention should be presented and discussed in the local communities. It is important to involve local actors in the discussions to help them understand how the school develops and obtains local support. How the connection to the local community is established can be a driver or a barrier, as mentioned before. One school challenged its relationship with the local community and invited all the parents to discuss how they wanted them to meet their children after the summer. This resulted in a 'kick-off festival' after the summer holidays and was a great success. At the administrative level, working methods as well as measures can be interpreted and discussed, and perhaps realised by different parties within the learning organisation; school owner, staff, PPT, etc. Thus, the structures for learning will be drivers or barriers for the realisation of innovations.

3.2.5 Innovation outcomes

Despite effects being the main goal and outcome for innovation projects, effectiveness is only mentioned for a few (28%). For most of these projects (40%), outcomes are not mentioned at all (De Vries et al., 2016). According to the Norwegian model of innovation, the theoretical framework mainly consists of the factors *learning* and *communi-*

cation (Garmann Johnsen & Pålshaugen, 2013a, 2013b). Consequently, the realisation of the innovation will depend on the antecedents presented in the previous part of this chapter, which is why we chose a broader scope than a focus on the school and the individual teacher only. This approach is supported by other research on innovation (Wiik, 3013). In School-In, we aimed to change organisational-level structures that would create synergies on the community, innovation, and interaction – employee levels. Our primary focus was on the organisation, and the outcome should answer our research question: *How can awareness of and change in the expectation structures of schools contribute to an inclusive school culture rooted in the local community?* The results of this approach were measured in a pre-post control group design (chapter 10) which measured changes in the expectations structures experienced by the participants in the local school and in municipal cooperation.

The intervention was conducted in the local schools. Each of the five municipalities, seven intervention schools, and six control schools needed to be well informed about the project. In the following, we will explain how the schools were prepared for the intervention.

3.3 Introduction and preparation of the schools

Schools in the five municipalities were encouraged to apply for participation in the project School-In. Together with the municipal school owner, they signed a contract clarifying their responsibilities. The contract applied to the municipality and the school throughout the participation period, for example, 'Spring 2017'. The head teacher and the head of the municipality both signed this cooperation agreement, which defined the municipality's and the school's areas of responsibility as well as their roles in the project:

The school's responsibility:

Each intervention school was responsible for establishing a working group in charge of executing the intervention in the school. The head teacher and the school's leadership (assistant head teacher, team leaders, and union representative) participated in the working group, which met with the project manager and the research team at the University of Agder (UiA). In addition, the school committed itself to:

- scheduling six 3-hour staff meetings during the semester in which the entire teaching staff participated
- executing the intervention in collaboration with the UiA research team; the working group participated in networks with other intervention schools, which entailed one all-day network meeting per semester
- contributing to innovation in other schools in the municipality in collaboration with the municipality's working group
- enabling the head teacher to participate in the municipal working group

- participating in the whole project – interviews, video observations, audio recordings
- participating in surveys during the project
- taking into account the teachers' wishes for topics for innovation

The municipalities had the following responsibilities:

- establishing the municipal working group consisting of the school owner, PPT leader, and the head teacher at the intervention school
- ensuring working group cooperation with the UiA coordinator and project manager; anchoring, planning, and implementing the innovation in their municipality
- collaborating with the school on facilitating the intervention
- ensuring implementation of the innovation in the school in question and all schools in the municipality

The schools were prepared by way of the meetings with the municipal and school working groups. At these meetings, the project manager (UiA) informed the head teacher, the school owner, and the leader of the PPT about what to expect for the next semester. Each participating innovation school was awarded NOK 70 000 per semester to participate in the innovation. The teaching staff were introduced to the project through the first step of the intervention, which is described in the following.

3.4 Scheduling of the study in the schools – a typical run

We started the intervention in each school by meeting with the municipal working group. The project coordinator, the head of the municipality, the leader of the PPT, the school's head teacher, and the project manager (UiA) all participated. At this meeting, we reminded the participants of the formal contract (presented above) and showed them a six-step intervention plan (figure 3.1). We also made it clear that our working methods were developed by researchers and teaching staff together in the project (Dalehefte & Midtsundstad, 2019). The six steps were presented to the municipal working groups together with information on time and type of intervention, as well as dates for the research team to visit the school.

The 'municipal working groups' were responsible for enabling the participants' understanding of the project, with their meetings taking place the semester before the current school became involved. Following these meetings, the project manager (UiA) met with the school working group. The schools had selected different people for this working group, but as already mentioned, we tried to use already established organisational and community structures to ensure the best results. We expected these already established structures to have the potential to spread information effectively and to be recognised by those involved. At the meeting with the school working group, we presented the six steps together with the dates for the intervention that would be taking place. We explained a typical run through the process and allowed

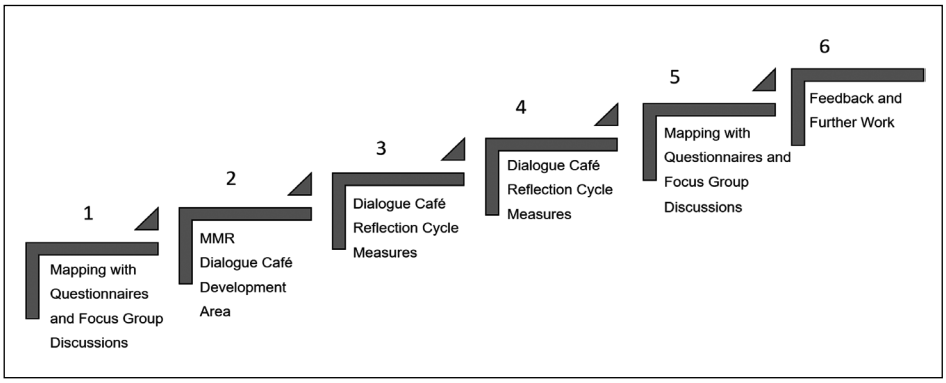

Figure 3.1: The intervention process

the participants to ask questions and discuss their experiences from former development work as well as their staff's usual response to change.

When the semester for the intervention commenced, the teaching staff were well prepared and familiar with the dates for the research-team visits and the progress of the intervention. The leader of the team at the school was asked to divide the teaching staff into groups, which consisted of teachers and paraprofessionals from different year levels. The intention was to let them work together in groups of colleagues representing the range from 1st to 7th, 8th to10th, or 1st to 10th grade, depending on the school type. In some of the schools, the teaching staff had no previous experience with working across year levels. We wanted them to do so in order to discuss their school, not merely their subject or their students. Our findings show that this is of great value when it comes to increasing the collective capacity for developing their school (Ingebrigtsvold Sæbø & Midtsundstad, 2022). These groups cooperated during the whole intervention. It should also be noted that, in some of the schools, we had another group consisting of a school leadership team, participants from the local PPT office, and a school-owner representative. This group discussed the same issues as the rest of the teaching staff and followed the same intervention process.

3.4.1 Step 1 – mapping the expectation structures

When our team, consisting of five researchers, arrived at the school and met the whole teaching staff for the first time, we introduced ourselves and informed them briefly about the project and the participating municipalities. We also asked them to sign a form, approved by the Norwegian Centre for Research Data, stating that they agreed to participate in the study and would allow us to audio record what was said during our meetings. We then involved the groups formed by the school leadership team in focus group discussions. The research team had prepared questions for the focus group interviews (chapter 8). A researcher placed a new question on the table in front of the group members every sixth minute for discussion. Unlike an ordinary interview where the researcher asks questions for the purpose of obtaining answers, this was

an opportunity for the staff to discuss the school and its academic issues with each other in a manner with which they were familiar (chapter 8). Each group discussion was scheduled to take one hour, after which we went back to meet with the other groups. The staff were kindly asked to fill in the questionnaire (chapter 10), which took approximately 20–30 minutes. When this mapping of the school was finished, we gave a short presentation of the project and what we wanted to investigate. We also explained that the findings from the focus group discussions and questionnaire aimed to identify the school's potential for development.

Before the next step and the next school visit, the research-team analysed the focus group discussions and the questionnaire to create a profile of the school. We also utilised a student questionnaire (chapter 10) and conducted group interviews with the oldest students at the school – one group of girls and one of boys (chapter 7). In these interviews, we asked the respondents to talk about the school's local setting, what they did in their leisure time and so on. We also conducted place-analytical investigations and talked to people familiar with the place history and characteristics. We videotaped a teaching situation, and the participating students filled out a questionnaire about how they perceived the instruction (chapters 9 and 10). The essence of the findings was presented to the school's leadership before being presented to the teaching staff, in order to validate our findings and help the school's leadership feel secure and in control of what we intended to present to the teaching staff.

3.4.2 Step 2 – the Mental Mapping Response method – choosing a development area

In step 2, the findings from the mapping were presented to the teaching staff to allow for discussion. To enable this step, we extracted eight bullet points and compared them to characteristics of inclusive practices as described by Göransson & Nilholm (2014) and Ainscow, Black-Hawkins, Vaughan, & Shaw (2000). The purpose of this comparison was to expose the staff members to their development potential in order to challenge mindsets concerning work practice. This kind of 'interruption to thinking' is recommended by research to start the process for change (Ainscow et al., 2000; Hargreaves, 2002). We used a table showing the differences between the eight most significant findings from their school and the characteristics of an inclusive school. Each finding was formulated as a statement, for instance: 'The school enjoys little support locally'. The groups discussed each of the statements, using the Mental Mapping Response method (chapter 4). During the discussion, the members of the group were asked to comment on whether they thought the findings were 'wrong', 'surprising', 'recognisable', or 'requires action', by using paper cards with different colours and meanings. The point of this approach was to enable a process in which different opinions on the findings could became apparent, verbalised, and modified by other viewpoints in the groups (Hillen, 2020; Dalehefte & Midtsundstad, 2019). The different perceptions of their school allowed the staff to become aware of how other colleagues perceived it and its possibilities for learning and inclusion. The staff members

were also able to interpret the research findings in their own 'community of meaning' (Luhmann, 2000). Sharing the intervention in this way was done in order to create conditions for collective, reflective processes towards a common understanding and increased collective capacity. After the group discussions using the Mental Mapping Response method, the research team collected the coloured notes and analysed the feedback from the teaching staff based on the different categories, with particular focus on notes indicating 'requires action' (chapter 4). These results were presented in a plenary session, where the main topic for the intervention was voted on (Hillen, 2020; Dalehefte & Midtsundstad, 2019). This process of participation allowed the teaching staff to decide on the direction of the intervention in a democratic process (Dalehefte, Kristiansen, & Midtsundstad, 2018).

3.4.3 Step 3 – Dialogue Cafés to discuss academic issues

One week later, the research team visited the school again, and work with the development area chosen by the teaching staff commenced. The researchers held a meeting, initiating it by providing theoretical knowledge and research on the development area to highlight its importance. For instance, if the teaching staff had agreed on the development area 'common expectations for the student role', the research team would prepare and conduct a short plenary presentation on that area (table 3.2.).

Table 3.2: Development areas identified in each innovation school, and topics of the short presentations

School	Development area	Topic of the research team's presentations
1	Common expectations for the student role	Expectations in the school organisation, common expectations for students
2	Stronger focus on school community for *all* students	Communities with inclusive characteristics – a community for inclusion, belonging, and expectations
3	A place for everyone – co-creation of community and the school's reputation	Connecting, understanding, and using the school's local community
4	Use of the local community and parents as resources for the school	Using local community resources in teaching – student participation
5	Creative and professional development within the school community	Students' participation in teaching, dialogue, reproductive and narrative style – what promotes academic development?
6	Jointly inspire students to engage and participate using the local community	Students' participation, in-depth learning Prerequisites for student learning and motivation Local community as a resource for the school
7	Together on common expectations for the school's student role	Expectations for the student role socially and academically

The research team used the mapping of the school, the development area, and the presentation of research to formulate five questions for a Dialogue Café (Brown & Isaacs, 2005). At the Dialogue Café (chapter 5), each of these five questions were placed on a separate table with each group taking seats at one of these tables. Also on each table were markers and a large sheet on which the group facilitator was to write the group's comments and ideas on the question. After discussing this first question, the groups dissolved and the staff moved on to the other tables to discuss the other questions with their colleagues. This allowed all participants to discuss their academic perspectives on the different questions in order to learn and develop common knowledge through interaction. When all five questions had been discussed, the original groups reformed to discuss what had been said and noted. The staff then collectively chose one issue they wanted to work with in their daily schoolwork and reported it to the research team before the next meeting.

3.4.4 Step 4 – Reflection Cycles – from reflections to measures

In this step of the intervention, the research team pursued the method of Reflection Cycles (Fischer, Kobarg, Dalehefte, & Trepke, 2012). This method was used to start discussions and learning interactions among the teaching staff in order to enable them to jointly reflect on how to develop their school together. We know from research that reflection is not enough to result in practical change (DuFour, 2004). Thus, the intervention aimed to translate the reflections into measures – concrete measures the teachers themselves knew they could benefit from in everyday life in the classrooms. In School-In, we saw that the Reflection Cycle (chapter 6) had the potential to specify the ideas generated at the Dialogue Café and help ensure their conversion into practical measures by the staff. The five steps were (1) identifying the development area; (2) defining aims; (3) agreeing on measures; 4) putting the measures into action; and (5) documenting and reflecting on the experiences. Each group was to work with their chosen measures at different year levels in the school and report to the research team on their work with the measures. The groups were also responsible for involving the teaching staff and informing them about the measures and how they could benefit from trying them out.

Both steps 3 and 4 – the short presentation and the questions for the Dialogue Café and Reflection Cycle to create new measures – were repeated twice during the intervention. In step five, we mapped the school for the second time to measure the effect, while the teaching staff continued to report on their measures for the reminder of the intervention.

3.4.5 Step 5 – mapping the school's expectations structures

In step 5, the teaching staff participated in focus group interviews and filled in the questionnaire once again. We used the same questionnaire, but different questions in the focus group discussions. This made it possible to map the experiences of the

teaching staff in the project and to evaluate the programme effects. We also videotaped the same teacher(s) and class again, and the students once again filled out a questionnaire directly after the videotaped instruction.

3.4.6 Step 6 – discussing innovation results and further work

In step 6, the school was informed about the effects of the intervention and the leadership invited to discuss the results. Based on prepared suggestions for further work, we started this process to enable the school leaders to continue the good work, establish learning by interaction, and develop meaningful and relevant measures for their everyday schoolwork.

During the intervention, school leaders met separately instead of taking part in the teaching staff's Dialogue Cafés or Reflection Cycles, to enable the staff members to discuss freely and to help give them a sense of ownership of the measures created. The school leaders were given the same questions for discussion to enable them to create measures that would be appropriate for their different contexts – an opportunity that was utilized in different ways by the school leaders.

3.5 What kinds of drivers and barriers did the research team observe?

In this section, both the innovation and the intervention are described, with the differences between the two approaches being explained in table 3.1, showing the four levels of antecedents: (1) community level; (2) organisational level; (3) innovation level; and (4) interaction – employee level. These four levels of antecedents are known to be influential in the innovation process (De Vries et al., 2016). Levels 1 and 3 represent the innovation in our project, while levels 2 and 4 are the focus of the intervention in the project. Thus, innovation and intervention are dependent on each other. To discuss the drivers and barriers encountered in the process, we need to separate the two approaches, starting with the intervention.

3.5.1 The execution of the *intervention* – drivers and barriers

The research team observed that a school's connection to the local place influenced how support from civil society and the school administration was perceived (Horrigmo & Midtsundstad, 2020). If the school had a poor reputation in the local community, it tended to maintain the status quo and be more likely to defend its way of schooling than being open to change. Thus, the need to defend the status quo was one important issue to consider with respect to drivers or barriers for change. The leadership in the schools could express a perception of support and trust from external actors, or one of mistrust and control. Support and trust seemed to correspond

with the adjustment of schools to local expectations and were, thus, important in the consideration of drivers and barriers for change (Midtsundstad & Langfeldt, 2020).

Other factors which influenced the intervention included differences between the schools concerning the nature of the school leader position and the methods used to communicate the opportunities associated with the intervention. The teaching staff were more or less prepared for a semester with intervention, but the staff's understanding of the development area turned out to be different in some schools, even though the development area was chosen by the staff members themselves. This was also an important factor in the consideration of drivers and barriers. Also, the schools had different experiences with working together and different opportunities to meet in order to learn from each other and discuss new knowledge. This begs the question: How do certain organisational forms influence individual learning? or: Does individual learning over time create collective structures? (Garmann Johnsen & Pålshaugen, 2013b). We see that both approaches are necessary for process innovation.

The interaction level in table 3.1. was highly important for the teaching staff, and in almost every school, a union representative took part in all decisions related to the intervention in that particular school. Thus, some possible obstacles were avoided. In schools that were less prepared, and with less involvement by the union, we perceived a hesitance towards audio recording of focus group and Dialogue Café discussions, etc. These external and internal expectations were important barriers or drivers in our project.

All schools participating in the project seemed to be highly satisfied with their work. They seemed to reinforce a positive view on common practices, despite a poor reputation or poor results and evaluations. When we, at the start of the intervention, mapped the school, compared them to another more inclusive school, and claimed they needed to change, their reactions were as expected. Allowing them to discuss our findings and tell us we were wrong, was important for moving past resistance so that collective reflections could start. Of course, they did not share the same opinions on what was wrong and had to modify their resistance. In this way, we began to challenge their internal expectations for each other. We argue that this was an important driver in our approach.

The teaching staff members chose the development area themselves, making it relevant for them as a collegium. The topic of the presentation and the questions developed by the research team assisted them in discussing their area of development. They then developed measures which had the potential to become either drivers or barriers for the execution of the intervention. For these measures to develop as drivers, they would need to be relevant and useful in everyday work. They might even be decisive for the group or for the individual teacher or paraprofessional. As it turned out, the focus group discussions were indeed experienced by most of the participants as useful and relevant.

Despite this, we saw that a few of the participants showed some resistance towards their groups including staff from different year levels, but the discussions and experiences related to the necessity of knowing the whole school convinced most of them.

This resistance could, of course, be a barrier in schools where this approach to school development was not accepted. Nevertheless, we observed that this approach was necessary for the colleagues to be able to discuss school development.

Measures can also be perceived as useful and relevant in everyday schoolwork because of the connections they create between year levels. When discussing their subjects and instruction, teachers tend to discuss their own students; they seldom engage in discussions on how schools allow students to learn or to develop good social or academic roles in the learning community (Dalehefte & Midtsundstad, 2019; Midtsundstad, 2019). The opportunity to focus on the students' situations from the 1st to the 7th or 10th grade helped the staff realise how measures implemented in the 1st grade and things the students learn early on can end up benefiting both students and teachers in later years.

3.5.2 The execution of the *innovation* – drivers and barriers

The innovation was initiated by the five municipalities to reinforce their efforts to enable the development of inclusive learning environments in their schools (chapter 1). They expected our cooperation on innovation in the public sector to be a chance to reinforce these efforts. Our cooperation during the innovation was of great importance and involved a meeting with the project group once per semester, as well as network gatherings where the most recent findings were presented by the research team. The heads of the municipalities were responsible for preparing the schools for the intervention as well as for making sure the innovation was realised after its completion. They also agreed to decrease the pressure on the schools to allow them to focus solely on the project School-In during the semester in which it took place.

In an effort to avoid unnecessary resistance both in the leadership and in the teaching staff, we asked the municipalities to create a municipal working group for cooperation between the heads of the municipalities before and after their schools participated in the project. Nearly all of the municipalities managed to establish this working group. The group was an important driver for the School-In innovation and for communication and learning throughout the process. In these groups, expectations were communicated to both the school leaders and the leader of the PPT.

As mentioned before, the innovation used already established cooperation structures. This was an important driver in the innovation. Nevertheless, the communication, information, and expectations for learning from each other were different in the five municipalities. Here, the intervention and the experiences from the relevant local school were of great help in discussing different opinions on how and what colleagues can learn from each other.

The use of measures developed in the school in different contexts and by different actors at the community level became increasingly important during the innovation. Over time, what seemed to be a barrier became a driver in the innovation process. Acceptance of the project and how it could be meaningful in other contexts gradually displaced resistance both within the school administration and in the PPT. The ac-

ceptance occurred when these groups began to participate in the school intervention. In most schools, the opportunity to take part was not grasped at first, but their participation and observations increased the understanding of the intervention and how it could be meaningful in their own contexts. It might be said that the innovation's different levels allowed people to use local experiences to translate general concepts into an everyday language for new practice (Kristiansen & Aargaard Terjesen, 2013).

3.6 Theoretical, methodological, and practical implications for further research

To explore implications for further research, we will point to the three main areas the project School-In aimed to address: (1) Mapping of expectation structures that constitute the foundation of school culture; (2) Change in school culture as a result of amended collective expectation structures in the school organisation; (3) Implementation of new expectation structures in schools and support systems. The project's goal was to find answers to the research question: *How can awareness of and change in the expectation structures of schools contribute to an inclusive school culture rooted in the local community?*

In this chapter, we have presented the innovation as a framework for the intervention. This has provided us with answers to the research question owing to study of the three areas mentioned above. Of course, there is no simple answer to the question, but rather different answers published in various journals referred to in this book, and surely others yet to be discovered. The theoretical, methodological, and practical implications for further research are discussed in the following chapters. Here, we concentrate on implications for further research concerning the connection between innovation and intervention.

3.6.1 Theoretical implications for further research

Theoretically, the project's evolution from system theory inspired by Niklas Luhman's approach (1990) has been one of its strengths. This theory was used empirically to understand how local schools connect to local expectations and thus develop differently (Midtsundstad, 2010). Explored further in the project Learning Regions (Midtsundstad & Langfeldt, 2020), this theoretical approach and its focus on expectations, structures, interactions, and communication have made it possible to pinpoint the antecedents that are crucial for the connection between innovation and intervention.

We wanted to focus on what characterises inclusion at a system level. Expectations at both the community and administrative level are one way to approach this kind of question. Of course, we see the need for further research on the connections between the school owner, the school's head teacher and leadership, and the teaching staff. The theoretical implication for the link between innovation and intervention then, is that

further exploration of other theoretical approaches may elucidate additional benefits to public sector innovation and especially education.

Further research is important because our study of intervention was intended to create synergies at all levels of innovation. To make it possible to discuss the links between them, we need concepts like expectations and structures that give us opportunities to discuss changes in the public sector. This is also discussed in Norwegian innovation research focusing on what theoretical approach (Luhmann or Habermas) the innovation research will benefit from the most (Garmann Johnsen & Pålshaugen, 2013b).

In Norway, we have a long tradition of local curriculums and the autonomy of the municipalities as school owners. The government emphasises school-based interventions and also decentralised competence raising. This means that, based on several strategies to raise the teachers' competencies, the government leans on research indicating that teachers learn best when they are together in their usual context where they must use new knowledge and change their practice accordingly. School-In is, thus, part of this trend of creating an intervention rooted in the school and based on municipally-driven innovation.

In this chapter, antecedents are used to show the connection between innovation and intervention. Thus, the synergies became visible over the course of the project. These were not universal, but rather specific antecedents chosen to fit this project and to concretise the connection between the innovation and the intervention. Thus, a theoretical implication is that exploration of the antecedents' natures as barriers or drivers will provide a different innovative approach in further research.

3.6.2 Methodological implications for further research

Our methodological approach was first and foremost connected to the intervention and is thoroughly presented in the following chapter in this book. However, our process innovation approach also had implications for the methods used in the intervention, since we had to create new questionnaires and develop working methods throughout the project to reach our goals. This included working methods for local school development. These working methods were to be school-based, taking the experiences of the school into account, and familiar to the municipalities.

Throughout the project, we needed to earn the trust of the various parties and show them how to benefit from the co-creation of the intervention. From beginning to end, the school owners (who were also the project owners) wanted to learn from the project and have the results presented at their project meetings, municipal working group meetings, and the network meetings taking place each semester. The link between the innovation and the intervention benefitted from this interest shown by the local actors. They regularly asked for results, showing an entirely different level of interest in the research than we normally experience when the parties are less involved. Presenting results before they have been published can be challenging, but in our experience, it provided a meaningful response to our results and emphasised

which aspects were significant for the other parties and how our findings were understood. This will be beneficial for future realisation of the innovation in all the schools in the five municipalities.

One methodological implication in our project springs from the fact that our research focused on the intervention and not on innovation as a whole. We did not collect data from all the meetings with the persons involved. This would have been an even more holistic approach but would have required more resources. Nevertheless, the reports from each meeting allowed us to use these to document the discussions. We saw changes in the expectation structures between the school owner and the PPT. We recognised that discussions had emerged between different municipalities about the role of the PPT in schools and the connection between the school owner and this important municipal organisation. It would have been advantageous to the project had this been documented in greater detail and empirically investigated. We have had to consider interviews after the project's innovation period in order to identify how the synergies influenced the project's community and innovation levels, especially the role of the antecedents as drivers or barriers. This is important for future innovation research to consider.

3.6.3 Practical implications for further research

The link between the innovation and the intervention illustrated a number of practical implications. While the researcher was deeply involved in the intervention processes in the innovation schools, other parties in the innovation had only occasional meetings where information was exchanged. Even healthier engagement may have resulted from receiving and providing good information and constantly communicating on all that was done and learnt.

We used a practical administrative coordinator in our project to advise us on what information was useful and necessary throughout the process; this coordinator was the key link between innovation and the intervention. All the required permissions, changes, and questions were discussed with this person before they were formally addressed in the established groups in the project. This aspect took more time than anticipated, however, the project as a whole benefitted from the adjustments and considerations made with respect to occupying the time of the municipal heads.

Our research team communicated well and learnt much from each other during the whole process and felt a sense of joint ownership as well as a conviction that the innovation and intervention were our common responsibility.

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4 Mental Mapping Response Method – a Collective Decision for an Intervention

Stefanie A. Hillen

This chapter presents the Mental Mapping Response method (the MMR method), which was applied in the seven innovation schools in School-In. The method was designed to provide the teaching staff with a sense of ownership in the School-In innovation by making different opinions on the school's mapping results transparent, and by supporting the teaching staff in deciding on a development area.

Different theories and methods build the framework of the MMR method (Hillen, 2020). When applying this method, the school's profile and characteristics first need to be screened and analysed to generate data that can be contrasted, discussed, and reflected on. All kinds of results are of interest in this first phase of analysis, including the findings from the teaching staff's and students' questionnaires, student achievement data, evaluations, focus group interviews, the local expert interview, student group interviews and more (chapter 7–10). School results from other research (national tests and surveys, for instance) may also be of some interest.

Next, the school's teaching staff participate in discussions on the findings. The point of this method is the arousal of cognitive dissonance by presenting statements from research that create tension for the participants. Using the MMR method, the school's most striking findings are extracted and presented to the teaching staff in comparison to important characteristics of inclusive schools known as advantageous from research on inclusion (Ainscow, 2005; Göransson & Nilholm, 2014; Nilholm & Göransson, 2013). The discomfort, perceived individually and by groups, arises from being confronted with the 'uncomfortable truth' derived from the data by the research group and presented as highly condensed statements triggering the staff's involvement. Participating in discussions and exchanging opinions are prerequisites for fruitful reflection and for the staff's discovery of potential improvements in the school culture; in this case, changes in the school's expectation structures.

4.1 Framework of the MMR method

The overall aim of the MMR method was twofold. The first aim was to contribute to start a democratic process by highlighting the staff's differing opinions on the school's mapping results. The second aim was to achieve a meaningful experience of the inno-

vation, a 'consensus', and shared expectations for a development area for their school. Both aims were met through discussions on the research findings.

Research from other projects has revealed that commitment to implementation depends on how teachers identify with the project (Fischer, Kobarg, Dalehefte & Trepke, 2013), and that teachers feel more valued when the school provides the staff with opportunities to actively participate in school decisions (Burns & Darling-Hammond, 2014). The project School-In fostered a democratic process in which different views were open for discussion and valued regardless of the position of the person holding that view, as a teacher or as a paraprofessional. The colleagues were to have equal rights and opportunities to participate and be heard in the decision-making process for a development area. Thus, the process guaranteed everyone a chance to be heard, to contribute insights, and to be informed of the perspectives and expectations of other colleagues, and perhaps to change their opinions. This approach was the starting point for a collective and reflective process towards a common understanding to facilitate involvement, joint responsibility, and ownership of processes of change (Dalehefte, Kristiansen, & Midtsundstad, 2018; Hillen, 2020).

This democratic method formed the basis for agreeing on a development area for each school, with much time and effort being invested in reaching a consensus. Collaborative work can support and foster school development but does not guarantee effective school development per se. Collaboration has to be organised on jointly agreed objectives: a 'consensus' of the teaching staff's collegium (Hargreaves, 1995b). As Habermas mentioned, consensus cannot be forced; it can be reached in a dialogic process of mutual understanding and negotiation based on free will. This is in line with Habermas' paradigm of communicative action (Habermas, 1981).

Habermas' paradigm of communicative action (1981) implies social action as a prerequisite for agreed collaboration. 'Communicative action' is an understanding-oriented approach (Habermas, 1999, p. 143). Language is used as a source of social integration (Habermas, 1999). This means that the listener of free will is motivated and recognises the matter being discussed (Habermas, 1999). The teaching staff's collaboration, understood as collegial collaboration (Hargreaves, 1995a, b), can become a communicative action where the actors jointly try to create a mutual understanding and agreement. Hence, free will is decisive for agreed consensus. An agreement cannot be imposed on one party by another. Pressuring teachers to participate has been criticised because it will force teachers against their will (Stoll et al., 2006; Hargreaves, 2014) and is, thus, counterproductive for mutual understanding. This kind of mutual understanding builds the platform for the actors' actions.

In reference to counterproductive collaboration, Hargreaves states: 'Collaboration is superficial if it lacks purpose and direction, that is, wasteful and pointless' (Hargreaves, 1995a, p. 40). If it is conducted for its own sake without regard to context or purpose it is 'a dangerous educational principle' (Hargreaves, 1995a, p. 42). He stresses that 'collegiality, far from being a synonym for collaboration, invokes an institutional structure – the collegium, or organised society of persons performing

certain common functions …' (Hargreaves 1995a, p. 31). In his literature review, Shah (2012) also highlights the importance of collegiality for school development.

As a conclusion for school development sensu Hargreaves, it is necessary to: (1) create commitment to a shared vision for the school; (2) provide teaching staff with a clear purpose and direction, and thus potentially strong morale; and (3) co-ordinate policies to create a consistent environment and expectations for teaching staff and students. Regarding teaching staff and their commitment to an implementation process, this depends on the extent to which they identify with the project.

It needs to be stressed that *all* teachers and paraprofessionals must focus on the ownership of a school reform concept that can become well implemented (Fullan, 2010). Thus, the MMR method fosters educational change through both (1) collective meaning-giving; and (2) personal sense-making, as Geijsel and Meijers (2005) suggest.

The MMR method originates from various theories, theoretical frameworks, established methods and models, and has been further developed by the research group. The method was initially named 'Metaplan', but the 'Metaplan method' had been introduced by Schnelle already in 1978. Here, it referred to an approach aimed at supporting brainstorming using wall-mounted sheets and visualisation of the final, overall view (meta-view) on cards or sheets of paper, with no evaluation of the ideas. Therefore, the Metaplan concept was inappropriate for the intention of our project. Using the terms 'mapping' or 'mental mapping' only was not appropriate either due to their link to a well-known individual representation approach by Tony Buzan (2006) referred to as the 'Mind Mapping' technique. In addition, these terms would be inadequate for the project's purpose and neglect the need for response and reflection. Finally the process was named the 'Mental Mapping Response method'. It consisted of a combination of four different approaches: (1) the 'Dialogue Consent Method'; (2) 'Mental Models'; (3) 'Cognitive Dissonance'; and (4) the Norwegian-IGP approach.

Core elements of the MMR method are visualisation and reflection. The so-called *Dialogue Consent Method* (Groeben & Scheele, 2000; Scheele & Groeben, 1988, Scheele, 1992) is a genuine psychological approach used as an empirical tool to reveal teachers' subjective theories (Dann, 1994; Helmke, 2015). It contributes to making thoughts visible, and herby, to 'grasping' them, becoming aware of them, and finally adapting or changing them.

Cognitive psychology defines *Mental Models* as one way of illustrating thought processes (Johnson-Laird, 1983). In short, these Mental Models are representations of thought patterns that guide human action. Empirical research has shown that these are used even if they are flawed or inappropriate (Mandl & Spada, 1988), implying that Mental Models need to be elaborated and improved (Hillen, 2004) to be applicable and useful in a certain context. Reflection is one of the prerequisites for change and elaboration (Schön, 1017; Hillen, 2004; Wackerhausen, 2006).

The third approach refers to *Cognitive Dissonance*. Cognitive Dissonance is a psychological construct referring to mental discomfort or a form of psychological stress experienced by a person who simultaneously holds two or more contradictory be-

liefs, ideas, or values (Festinger & Carlsmith, 1959; Perlovsky, 2013). The intentional induction of this arousal of conflicting experiences, statements, or values helps with revealing and then discussing them. The dissonance drives people to (cognitive) action. Festinger (1964) explains this as the motivation of a person to try to reduce the dissonance and achieve consonance.

The fourth related approach is the so-called IGP method, which is a method for organising discussions, (dis-)agreement, and joint decision-making using different phases and social situations (Ertesvåg & Roland, 2013). Short for 'individual, group, and plenary work', IGP is characterised by shifts between individual work, group work, and plenary work through phases of reflection, discussion, and agreement.

4.2 Application of the Mental Mapping Response method in School-In

In School-In, the purpose of the MMR method was to establish a joint development area for the whole staff, allowing everyone to express opinions and views and thus build a foundation for discussion. The application of the method included several types of social situations that structured the method's application process. The process was adapted from the core idea of the IGP method related to phases of individual work, group work, and plenary work. In School-In, the MMR method's process consisted of four phases: (1) individual work; (2) group response; (3) plenary session; and (4) plenary decision-making. A closer description of these phases is presented in the following sections.

The starting point was the result of the school mapping process, which consisted of data from the local expert, the student interviews and questionnaires, the teaching staff's questionnaire, and focus group data. The results were presented and explained by the research group before the MMR method was introduced to the teaching staff. The teaching staff were then divided into groups and accompanied by one of the School-In researchers who facilitated the process according to standardised rules; these are presented below. The groups went to their separate rooms to reflect on and discuss the findings and finally agree on how relevant the results were for their school and future work. This is where the MMR method began.

4.2.1 Phase 1 – individual quiet work

The eight most striking findings concerning the school's comparison with inclusive characteristics were formulated as dissonance-creating statements by the research group. These statements were placed in written form on the table and were meant to trigger reflection and engagement through cognitive dissonance and arousal. Even though the staff members often wanted to begin the discussions immediately, the accompanying facilitating researcher instructed them to first work individually, quietly reading and reflecting on the various statements. Every participant judged each statement by writing it down on a paper card with a specific colour signifying his or

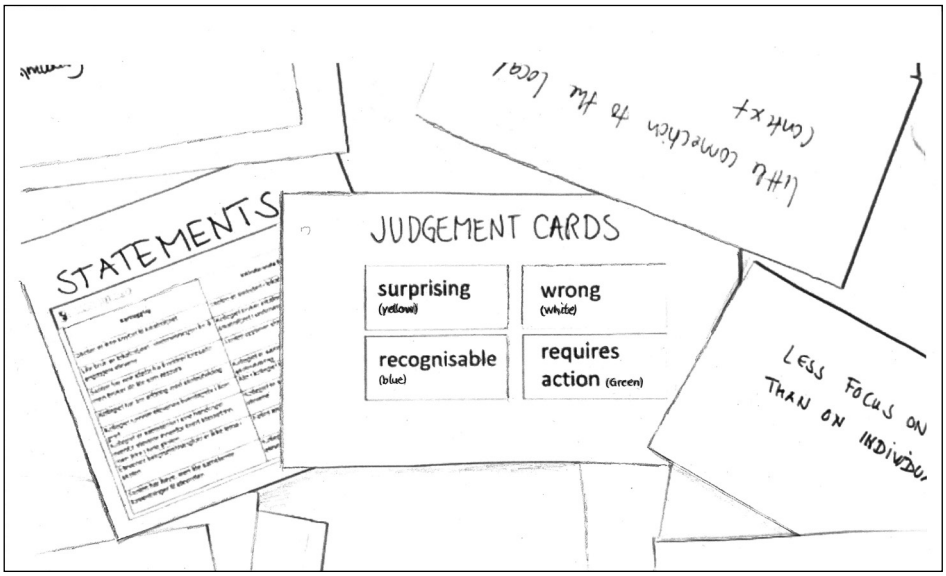

Figure 4.1: Work with statements and judgement cards

her opinion on the statement. The facilitator provided the group participants with an illustration showing the meaning of the colours (white = statement is *wrong*; yellow = statement is *surprising*; blue = statement is *recognisable*; and green = statement *requires action*).

The group participants were asked to work individually and write each statement on a paper card of a colour that indicated whether they felt it was surprising, wrong, recognisable, or required action and further work in the future. Because eight statements were developed, the process was limited to a maximum of eight paper cards per participant.

4.2.2 Phase 2 – group response

The group facilitator from the research team sorted the paper cards according to their colour and explained the next step of the process, which was to agree on two statements per colour. The group was to bring two cards of each colour into the plenary session. The discussions started with the statements on the white cards judged as 'wrong'. The role of the group facilitator was to initiate the discussions, distribute the white cards on the table, and let the participants make their decisions themselves. The group members had to agree and select two white statements. Afterwards, the group continued with the yellow cards and then moved on to the blue cards, with the statements on the green cards being discussed last. This meant that each person in the group needed to argue, justify, and rethink their judgment, share their opinions, and contribute to the group discussion. Finally, the group had to choose two paper cards

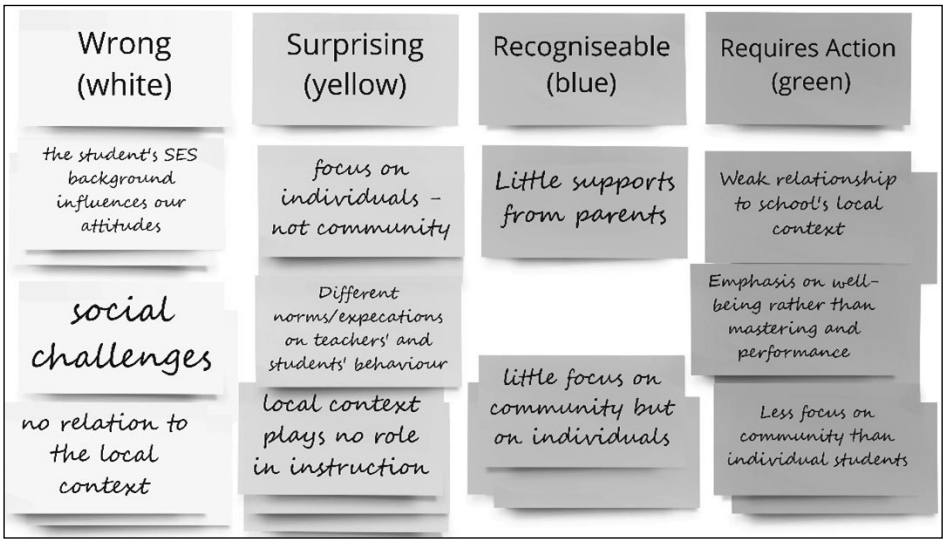

Figure 4.2: Plenary poster

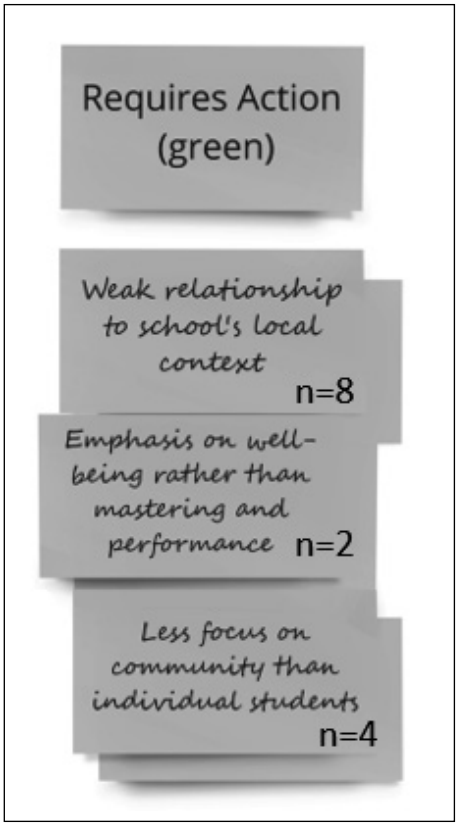

Figure 4.3:
Topics judged as 'Requires Action' by the teaching staff

Figure 4.4: Topics identified as 'Requires Action' were voted for and chosen by the staff

of each colour representing the statements the group felt best matched the colour's meaning.

During the break afterwards, the group facilitators from the research team clustered the selected paper cards on a large wall-mounted paper sheet (plenary poster), grouping the cards according to colour (figure 4.2). Overlapping cards indicated that more than one group had chosen the same statement. More paper cards with the same statement were taken into account by referring to the frequency of this statement. This was an indicator of how this statement had been valued across all groups.

4.2.3 Phase 3 – plenary session

In the third phase, all groups met again in the plenary. The group assessments were all shown together on the plenary poster, with the overall results being presented by the research group. The MMR method thereby contributed to visualising diversity and consensus in the teaching staff with respect to the various statements. The method also elucidated which statements the teaching staff preferred, selected, and above all, felt 'requires action' (green cards, figure 4.3).

4.2.4 Phase 4 – plenary work

During the final phase, the teaching staff decided on a development area for the school. In this process, all areas represented by green 'requires action' cards on the plenary poster were presented as options to choose as the development area.

In preparation for the vote, the research team pinned each 'requires action' statement to a wall-mounted sheet of paper containing a circle (figure 4.3.). Each teacher and paraprofessional received one pink sticky note as a ballot. The teaching staff were encouraged to mingle, talk, and discuss the pros and cons of the statements on the green cards with their colleagues before making their individual choice. The staff members each placed *one* pink sticky note in a circle, to indicate the topic they would prefer to work on within the School-In project.

After the count of ballots, one topic usually stood out as the chosen development area. If two topics received approximately the same score, the selection process was repeated and the staff voted on the two remaining topics. If the final vote was a tie, the development area was formulated from *both* topics mentioned on the green cards.

Finally, a collective decision for the intervention in School-In was made. This was the *development area* agreed on by the teaching staff through a stepwise, democratic decision-making process, which was also the point of departure for the intervention in School-In. Table 4.1 provides an overview of the chosen development areas of the seven innovation schools.

Table 4.1: The development areas of schools, chosen through the Mental Mapping Response method

	Development area
1	Common expectations for the student role
2	Stronger focus on school community for *all* students
3	A place for everyone – co-creation of community and the school's reputation
4	Use of the local community and parents as resources for the school
5	Creative and professional development within the school community
6	Jointly inspire students to engage and participate using the local community
7	Together on common expectations for the school's student role

4.3 Implications for further research and school development

Overall, this chapter shows how the MMR method contributed to involve the whole teaching staff, and how much time and effort was invested in identifying a development area with which the majority of the school staff could identify. This is in line with research which stresses the importance of involving the teaching staff in decisions concerning school development (Fischer et al., 2013). Our claim is that these processes are essential for the teaching staff to get to know the variety of opinions, perspectives, and expectations among colleagues and to gain ownership and acceptance of School-In's implementation activities. The processes gave the teaching staff an opportunity to reflect on needed development in their school, without being limited to their own class and teaching. The MMR method proved to be a valuable approach for disturb-

ing ingrained assumptions about schools and to initiate a collective decision-making process to choose a development area. The method showed how teaching staff as a community can organise and initiate development processes in their own school and is not limited to the topics focused on within School-In. The research team's hope is that schools will benefit from the tool, use it for other purposes, and adapt it to a variety of school development initiatives. It would be of interest to prove the effect of the method in future research on implementation.

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5 Dialogue Café – Bringing up Ideas in Collegial Teams

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This chapter aims to introduce the background of the Dialogue Café and, for replication purposes, present how it was conducted in School-In. The chapter sums up with reflections on experience gained through the Dialogue Café as a working and research method.

In School-In, the Dialogue Café was one essential working method used to implement the intervention. After the mapping of the school, questionnaires, student interviews, and staff focus group discussions (step 1), and after deciding on a development area for the school through the Mental Mapping Response method (step 2; chapter 4 in this book), the chosen development area became the point of departure for the intervention. The Dialogue Café working method, described in this chapter, was the next step in the intervention, always followed by the Reflection Cycle working method (chapter 6). The Dialogue Café was conducted twice in each innovation school and was carefully planned by the research team. The whole teaching staff – both teachers and paraprofessionals – participated, with the School-In research team leading the processes.

5.1 The origin of the Dialogue Café

The Dialogue Café originates from the World Café, developed by Juanita Brown and David Isaacs in 1995 (Brown & Isaacs, 2005). They invented the method while hosting a conference for leaders and researchers from different countries in the field of 'intellectual capital'. As the outdoor conference was surprised by a rain shower, they had to improvise. Thus, they decided to set up small tables all over their house, where the participants could discuss the matter from cross-national perspectives. This happening was the starting point of the World Café. Since 1995, the method has been used worldwide, in different fields, and often with several hundred participants. The World Café has been given different names and has been used in several ways in various countries. In School-In, we called it the Dialogue Café to illustrate the intended purpose of communication.

The World Café is intended to develop or improve visions, strategies, projects, products, or services. In addition, it is meant to motivate and support learning pro-

cesses. A World Café can last from one hour up to several days, or it can be an ongoing process. The number of participants can be from approximately 12 persons up to more than a thousand (Müller & Becker, 2013, p. 71). The method is designed to structure conversational processes by asking good questions and facilitating open discussions. When ideas are linked together, the group gains access to the collective intelligence of the participants, enabling them to understand and learn from each other's different points of view. This design fosters creative and open thinking and is, therefore, not suited to scenarios where there is a predetermined answer or solution (Alnes, Vågen, Midtbust, & Krøvel, 2013).

World Cafés have been useful in multinational groups, municipalities, associations, political organisations, and other learning communities. In multicultural, political, organisational, and professional contexts and in social sciences, education, and economics, it has had the aim of strengthening learning cultures and knowledge exchange (Prewitt, 2011). Here it has also been useful for development purposes within organisations (Fouché & Light, 2010). For instance, the World Café has been used in higher education for the purpose of internationalisation, facilitating both individual and cultural communication styles (Estacio & Karic, 2015). It can contribute to building bridges between races, religions, and socioeconomic status (Tan & Brown, 1995), and has proven to be useful in social services to foster a culture of enquiry and information exchange (Fouché & Light, 2010). In a Norwegian study, the method was used to encourage reflective processes among participants from municipal and banking organisations, fostering employee communication and shared understanding (Thunberg, 2011). The method has also been used at the university level in work with students. Elvekrok & Smith (2013) found that the method led to increased problem understanding and engagement among the students and that the engagement persisted during lectures even after the World Café was completed.

Different aspects of the World Café as a method have also been investigated. For example, the importance of the facilitator's role of ensuring participation and trust, encouraging different viewpoints in the group, and handling the dual purpose of both facilitating and participating (Brown & Isaacs, 2005; Prewitt, 2011; Jorgenson & Steier, 2013). In general, research shows that the more actively the participants engage in the discussions, the more they perceive the dialogue process as positive (Takahashi, Nemoto, Hayashi & Horita, 2014). In Norway, the World Café is often called Dialogue Café.

In School-In, we decided to use the Dialogue Café as a working method because the method has many characteristics that would obviously support teachers' professional development. Findings of O'Connor & Cotrel-Gibbons (2017) show that this method leads to shared ideas, develops opportunities to support students' learning in practice areas, and facilitates interdepartmental work and increased communication between the education department and mentors. Lagrosen (2017) found that the method contributes to profound dialogues with deepening insights, which stimulate creativity, increase understanding of quality issues, and allow a more holistic view. Alnes, et al., (2013) found that the method can promote professional development if

the participants have a common understanding of the purpose and form of the work. These characteristics of the method are helpful when involving the whole staff for learning purposes and joint reflections as a learning community (Fullan, 2010), which was our intention in School-In.

5.2 A typical run of a World Café

The World Café setting should provide a relaxed atmosphere. To attain this, the room may be decorated with flowers or greenery, nice music may play in the background, and hot or cold beverages and refreshments may be served. However, the most significant characteristics of a World Café are small tables dressed in paper cloths, the availability of markers of different colours, and participants who are interested in a common topic. The composition of the group of participants is crucial for the outcome of the method and subsequent research. The more heterogeneous the group of participants is, the more diverse the perspectives and knowledge background will be.

Before discussions begin, the moderator or the organising team divides the participants into groups, one group for each table, and instruct them that the upcoming ideas and thoughts are to be written on the tablecloth or a large sheet of paper placed on the table. Some participants are asked to volunteer for the role as table facilitator. Table facilitators have a special responsibility for ensuring an open, clear, and friendly atmosphere. They stay at the same table through all of the discussion rounds, while the other participants move from table to table, to welcome new participants and summarise the ideas from the previous discussions. The facilitator also makes sure that everyone is invited to contribute and the ideas are written on the tablecloths. The moderators or the organising team move from table to table, encouraging everyone to participate and making sure that the ideas are written down. After multiple sequences of discussions, and with different participants having added their ideas and thoughts to the tablecloths, the facilitator finally summarise the ideas developed in the World Café.

The questions have a central position in the café and invite open discussions and exploration rather than solutions and action. Thus, preparing good questions is an important first step. A good question requires more than 'yes' or 'no' answers; it encourages new ideas and gives new insights. Such a question also fosters reflection and makes it possible for all group members to join the discussion. A powerful question can evoke knowledge-sharing, inspire strategic dialogue, and invite committed action (Vogt, Brown, & Isaacs, 2003). The idea is that the participants should explore the questions, encourage everyone's contributions, connect diverse perspectives, listen together for insights, and share collective discoveries (Brown & Isaacs, 2005). This is why the World Café is also called Dialogue Café.

5.3 The Dialogue Café in School-in

There are several reasons why School-In decided to use the Dialogue Café method in the intervention. As outlined, research shows the method's effectiveness in bridging different groups, sharing knowledge and perspectives, and discussing matters of common interest to the participants. The schools participating in School-In differed in management and organisation. Thus, we needed a method suitable for all kinds of schools. The Dialogue Café seemed appropriate as an intervention measure that could contribute to creativity and ideas for developing measures according to the development that had been agreed upon through the MMR-method (chapter 4). We promoted the idea that the Dialogue Café should be an environment where different persons, in distinct roles and with various competencies, could discuss and reflect across usual boundaries. In School-In, the whole staff participated, both teachers and paraprofessionals.

We knew that in many schools, the teachers work in teams restricted to their year level, often teaching the same subjects. In larger schools, they might not even know all their colleagues. We also experienced that special needs assistants (paraprofessionals) were often not considered on an equal footing with the teachers in the teams. In addition, we realised that members of the staff were familiar with the school's context to differing degrees. Therefore, School-In holistically targeted the teaching staff by involving the entire staff in activities across year levels, different professional roles, teaching experiences, and local affiliations. Thus, School-in focused on inclusion and common expectations concerning the entire school community from a systemic perspective.

The Dialogue Café was meant to be a measure that could contribute to joint reflection on matters of importance for the entire school, concerning both the teaching staff and all the students. Its aspects of encouraging contributions from everyone, connecting diverse perspectives, sharing collective discoveries, and cultivating collective intelligence matched School-In's intentions of developing collective capacity for inclusion. The Dialogue Café also helped explore how commitment to the school's local setting could affect change and development in school since the participants had different connections to and knowledge about the local community.

In School-In, a typical run of a Dialogue Café started with preparing questions (usually five questions, depending on the size of the teaching staff) – one for each table. These questions were based on each school's chosen development area (chapter 4) and were meant to challenge the staff to reflect on and discuss their own and the school's practice to search for ideas for improvement and needs of awareness. Therefore, the research group spent a significant amount of time and effort developing questions that would trigger the teaching staff's ideas and discussions. The teaching staff kept the groups established for the focus group interviews in the very beginning, consisting of 6–8 participants across year levels.

In School-In, the Dialogue Café's cosy café character as described by Brown & Isaac (2005) was limited by conditions in the school building and the budget. We

prepared tables in a classroom and did not provide music and greenery, but the school management supported the participants with beverages and refreshments from a project-funded budget. These were usually enjoyed before we started. Hence, the setting of the Dialogue Café was limited to the most essential elements – group tables with a large sheet of paper and markers of different colours.

In addition, we wanted this method to be part of our research by collecting data that could help us understand the intervention process. In a pilot study, we noted that many of the participants' ideas were only vaguely, or not at all, written down on paper, although the participants were encouraged to do so. Therefore, the team decided to record all the discussions in the Dialogue Cafés by placing an audio recorder on each table to capture the utterances and reflections that became salient in the communication processes. In this way, all ideas were collected in detail, and the process was not so vulnerable to selection processes in terms of what ideas might be worth writing on the paper, or to the facilitators' inexperience in using the Dialogue Café method. In addition, the recordings were used for further research by the research group. Finally, all the 'paper cloths' were photographed and shared with the participants afterwards.

Each group was assigned a table at the start of the Dialogue Café, with a large sheet of paper featuring a question and markers of different colours. The moderator from the research group introduced the Dialogue Café (see the appendix) and informed the participants about the audio recording of the process. The moderator encouraged the staff to reflect on and discuss the question on the sheet of paper, listen to each other, include everyone in the group, give examples for the suggested ideas and thoughts, and write down the thoughts and ideas the participants voiced. Subsequently, the moderator asked each group to choose a facilitator. The facilitator would remain at the table throughout the whole process, while the rest of the group would split up after the first session and go to other tables to discuss a new question with other colleagues. This procedure was repeated until everyone had visited every table. Finally, each person returned to the table where they had started (figure 5.1.).

The facilitators and their groups were asked to highlight three main topics or findings from their sheet of paper. These topics served as a basis for further discussion and reflection in the following Reflection Cycle (chapter 6), where concrete measures were developed from the Dialogue Café ideas. These measures would be worked on in the upcoming weeks of the project.

Throughout the intervention, two Dialogue Cafés were conducted, always followed by a Reflection Cycle, narrowing the ideas from the Dialogue Café to concrete measures. The questions in the second Dialogue Café were built on experiences and outcomes throughout the process. Table 5.1. shows the different questions asked in the Dialogue Café throughout the project in relation to the development areas.

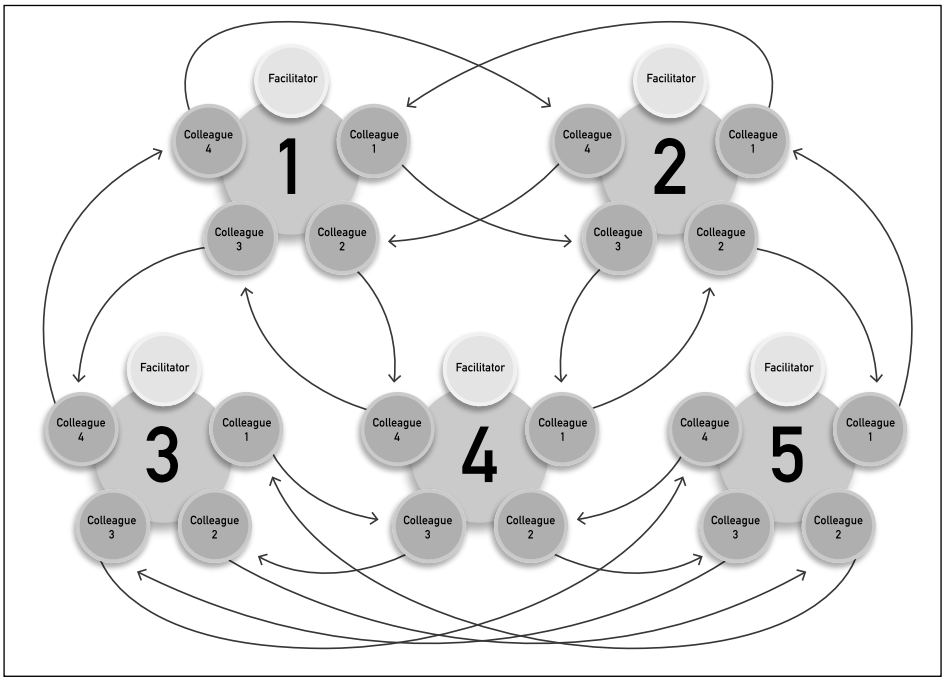

Figure 5.1: The progress of the Dialogue Café

Table 5.1: The development areas of schools and the questions

School 1	
Development area: Common expectations for the student role	
Questions for the first Dialogue Café	**Questions for the second Dialogue Café**
1 What common expectations do we want for the student role?	1 How do we help the students to master the student role – academically and socially?
2 Why can unclear expectations for the student role be problematic?	2 How can we find out if we have lowered the expectations towards students at our school – academically and socially?
3 What behavioural expectations should we commit to in the staff?	3 How do we prevent lowering the student's expectations?
4 How will the students notice that we have common expectations for the student role?	4 How far do we go in taking responsibility for the students – academically and socially? And where is our limit?
School 2	
Development area: Stronger focus on school community for all students	
Questions for the first Dialogue Café	**Questions for the second Dialogue Café**
1 How are boys and girls met in relation to their behaviour? Are there any differences?	1 How can we use the class in the inclusion of challenging students?
2 How can the weak or challenging students be challenged academically in class?	2 Which common expectations for the student role can we realise – academically and socially?
3 How can we be models for how students should meet each other?	3 How can the staff cooperate so that challenging students can be a natural part of the class?
4 Which rules can apply for both teachers and students?	4 What existing measures promote the community, and in what ways?

School 3	
Development area: A place for everyone – co-creation of community and the school's reputation	
Questions for the first Dialogue Café	**Questions for the second Dialogue Café**
1 How can we use students' knowledge about the local community in teaching? 2 How can we raise our awareness of the local community to create good adult-student-relations? 3 How can we make better use of recess to create a community across groups? 4 How can the school influence its own reputation? 5 How can we promote differences as a positive quality in the learning community?	1 How can staff and parents cooperate on handling differences and exclusion among the students? 2 How can recess activities across year levels be a natural part of the students' school day? 3 How can the use of the students' knowledge about the local community ease and streamline the teaching? 4 What positive aspects of our school's community could we highlight and convey, so the students notice? 5 How can the staff use the local community to nuance and elaborate the contents of the curriculum and textbooks?
School 4	
Development area: Use of the local community and parents as resources for the school	
Questions for the first Dialogue Café	**Questions for the second Dialogue Café**
1 What parts of the local community can engage the students, and how can we benefit from this? 2 How can we use the students' knowledge about the local community in teaching? 3 How can parents contribute to the teaching without meeting? 4 How can we motivate parents to attend parent meetings? 5 How can we increase the staff's knowledge of the local community with the help of the parents?	1 How can we find local traditions and use these in school? (e.g., local lyrics, legends, baking traditions, celebration traditions, narrative art). 2 How can we make use of local expert people in instruction to engage the students? 3 How can we use the curriculum to teach locally (across year levels)? 4 How can we cooperate with parents to create a common learning environment and a stronger community for the students? 5 How can we make use of the parents' or families' competence and interests in instruction?
School 5	
Development area: Creative and professional development within the school community	
Questions for the first Dialogue Café	**Questions for the second Dialogue Café**
1 How do we go about teaching when the results on national tests show that the students have to practice different task levels? 2 How can we use creative forms of expression to support the students' academic development? 3 How can we see signs of student experience of academic mastering? 4 How can we make use of each other's knowledge to strengthen the school's academic focus? 5 How can we teach to engage the students?	1 How can we facilitate connecting subjects to the students' common life-world? (relevance) 2 How can we clarify the programme, content, and purpose of our teaching to the students? (teaching quality) 3 How can we show the students that we are passionate about the subject? (interests and enthusiasm) 4 How can we support the students' academic independence and development? (autonomy and competence) 5 How can we recognise and support the students' academic and social role in the community? (relations)

School 6	
Development area: Jointly inspire students to engage and participate using the local community	
Questions for the first Dialogue Café	**Questions for the second Dialogue Café**
1 How can we facilitate the connection of subjects to the students' local community? 2 How can we engage in our teaching and show the students that we are passionate about the subject? 3 How can we make concrete arrangements for student's participation and professional independence? 4 How can collaboration between the school and the local community contribute to security and belonging in the school?	1 How can the students gain a better understanding of subject content based on the local community? 2 How can our knowledge of the local institutions, occupations, history and places be used in the teaching to inspire the students for participation? 3 How can the students participate in the development of assignments based on the local community? 4 How can the students' engagement and participation in local activities be made relevant in their school life?
School 7 (In school 7, the innovation stopped before the second Dialogue Café because of the pandemic)	
Development area: Together on common expectations for the school's student role	
Questions for the first Dialogue Café	**Questions for the second Dialogue Café**
1 How can common expectations for the student role strengthen students' life mastery? 2 What must we do to show that we expect the students to participate? 3 Which common expectations may apply for students in the classroom at both lower and higher year levels? 4 Which common expectations can lay the foundation for the students' security in school?	

5.4 Implications for further research and school development

After reflecting on and discussing the use of the Dialogue Café as an intervention method in the project School-In, we noted that the method was highly fruitful for reflections and discussions. The teachers said they experienced 'active learning' and appreciated reflecting on and discussing common matters with colleagues they did not usually work with. This led to new ideas for teaching and student support and a shared understanding of each other's work and thinking. The discussions focused on common expectations, which brought the participants together as a community.

The Dialogue Café was new to most participants; they had to get used to this intervention method. The facilitator managed the role with varying degrees of success. Some wrote more on the paper cloth, while others wrote less. Some facilitators were dominant, while others were cautious; some were familiar with the method, while others were not. The role of the facilitator might have affected the group discussions to some degree. These are all implications we were aware of from other research. Fortunately, we audio recorded the discussions and could listen to the arguments again, if

needed. In this way, we gathered all comments and ideas regardless of whether or not the facilitator wrote them down.

For practitioners and researchers who want to work with the Dialogue Café, we recommend considering how facilitators can be prepared and trained for their role in the Dialogue Café. We also suggest that enough time and effort is spent on preparing good questions. For research purposes, we clearly experienced an added value from audio recording the discussions. This gave us access to all the reflections, examples, and discussions, without bias from the facilitator, in addition to the notes on the tablecloths. It also gave us an enhanced understanding of the teaching staff's ideas and knowledge as well as the progress of professional development processes within the learning communities.

The teaching staff enjoyed participating in the Dialogue Café the most. This appeared to be a working method they could adapt and use by themselves, not only with the teaching staff, but also in class with their students. One school even used it in a parents' evening to build a better relationship with the school's local context after taking part in this study. In this way, the diverse areas of application and the easy adaptation to different target groups made the Dialogue Café particularly useful as an instrument for joint learning in communities and also for research purposes.

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Appendix

Dialogue Café – introduction

The purpose of the Dialogue Café is to initiate and stimulate conversation and reflection in a group in relation to common issues or topics.

The participants gather in workgroups at separate tables. (Optional: Serve coffee with refreshments). At each table, there is a large sheet of paper and markers of different colours (5 min).

Step 1: The dialogue starts in the workgroup. Each group selects a facilitator, who remains at the table throughout the Dialogue Café, while the rest of the participants choose other tables from session to session. The group starts discussing the question presented to them. They use markers and make a mind map with different aspects appearing through the group dialogue (15 min).

Step 2: All the groups split; the group members go to different tables for a dialogue with other colleagues from other groups than their own. The facilitators remain at their tables. When a new group is gathered at the table, the facilitator briefly notifies the new group of what emerged in the first session. The dialogue continues and leads to new aspects being added to the mind map (10 min).

Step 3: Everyone but the facilitators changes tables again. Again, the facilitator notifies the new group of what has emerged so far, and the dialogue continues. New aspects are written down (10 min).

Step 4: Everyone but the facilitators changes tables again. Again, the facilitator notifies the new group of what has emerged so far, and the dialogue continues. New aspects are written down (10 min).

When everyone has been in a dialogue on each of the questions, the participants gather in their original groups and at their original tables.

Step 5: The different workgroups sum up the aspects on the mind map, preferably using a new, large sheet of paper. This can be an illustration, a new mind map, or just points that the group members find most important and for which they see value in taking further action on (15 min).

Step 6: The workgroups present the points they have chosen as important to their colleagues in a plenary session (max. 3 min per group). The sheets of paper are photographed.

6 Reflection Cycle – from Collective Ideas to Joint Action

Inger Marie Dalehefte & Stefanie A. Hillen

In School-In, the teaching staff used the Reflection Cycle as a follow-up method directly after the Dialogue Café (chapter 5) to narrow and implement specific measures derived from the ideas that came to light in the Dialogue Café. In many projects, this crucial last step – sustainable implementation – often fails (Pinto & Slevin, 1988). This chapter starts with the scope and previous work with the Reflection Cycle, from which School-In has profited greatly. Subsequently, we describe how this working method was adapted and utilised in School-In to foster inclusive processes in school. The chapter closes with reflections on implications for further research and school development.

6.1 Origin of the Reflection Cycle and previous work

The Reflection Cycle is a working method based on the idea of general problem-solving processes (Betsch, Funke, & Plessner, 2011), with its underlying principles having been used in various professional development programmes. We adapted the idea from the German teacher professional development programme SINUS for Primary School (2009–2013). In this programme, the Reflection Cycle was used by teams of mathematics and science teachers in primary school to improve mathematics and science education (Fischer, Kobarg, Dalehefte & Trepke, 2012; Fischer & Rieck, 2014).

The Reflection Cycle approach was derived from the portfolio method (Meentzen, 2009) and the logbook approach (Fischer, Trepke, Dedekind, Rieck, & Prenzel, 2010) used in the previous SINUS programmes. It consists of the five steps: (1) identification of the development area; 2) definition of goals; (3) agreement on measures; (4) implementation of measures; and (5) documentation of and reflection on measures and effects. If necessary, the cycle can be repeated. The value of the Reflection Cycle for school development processes in SINUS for Primary School is well-documented. Trepke (2014) investigated 449 documentations of 79 groups of teachers working with the Reflection Cycle. Core findings indicate that reflections for school development have to be fostered, prompted, and supported regardless of teachers' experience; otherwise, they will not occur. This is in line with other research, such as the scientific work of Wackerhausen (2009), who claims that higher-order reflections have to be

triggered. Trepke (2014) also found that the quality of the work with the Reflection Cycle is directly related to the acceptance and satisfaction of the development programme (Trepke, 2014). Therefore, we aimed to establish good framework conditions for reflection and to elicit tacit knowledge, acceptance, and satisfaction among the participants to ensure good quality.

6.2 The application of the Reflection Cycle in School-In

The Reflection Cycle helps teaching staff to generate written, specific ideas and agreements on how their measures can be realised in practice. Documenting the process in this manner should contribute to more specific measures and to a sense of ownership and responsibility for the measures developed. Furthermore, when the process is documented, individual responsibilities become clear and more binding.

Our choice to use the Reflection Cycle working method in School-In was first and foremost based on its empirical justification and the findings from SINUS. In addition, our choice was based on its many similarities with another model – the SMTTE model (Håstein, 2013). The participating schools in School-In were familiar with the SMTTE model from the programme 'Inclusive Learning Environment' (Knutepunkt Sørlandet, 2015).

In School-In, the Reflection Cycle was further developed and adjusted according to the intention for the project. Unlike previous programmes, we adapted the model to facilitate implementation of measures concerning the entire school (independent of year level or subject area) and enable work on topics such as inclusion and expectations. Therefore, the participants in the Dialogue Café and Reflection Cycle groups were mixed, consisting of teachers and paraprofessionals from different year levels and subjects.

Furthermore, the Reflection Cycle was always used following the Dialogue Café in order to narrow the ideas and knowledge from the Café to specific measures that could be taken into action. These measures were developed jointly through systematic collaborative work. In the Reflection Cycle, the groups worked together to select ideas, develop measures, and finally, to create plans for implementing the measures and discuss what kinds of effects to look for in their school on a daily basis.

This reflection and resulting documentation were also interesting for research purposes, but most importantly, it provided a scaffold and guide for the staff in evaluating their own progress, reflections, and outcome.

6.3 A typical run of the Reflection Cycle in School-In

The starting point for the Reflection Cycle was the development area and the pool of ideas generated in the Dialogue Café. To counteract some groups behaving passively or remaining at a descriptive level, we helped them in their documentation by using prompts (Trepke, 2014). These prompts were provided in log sheets, reminding

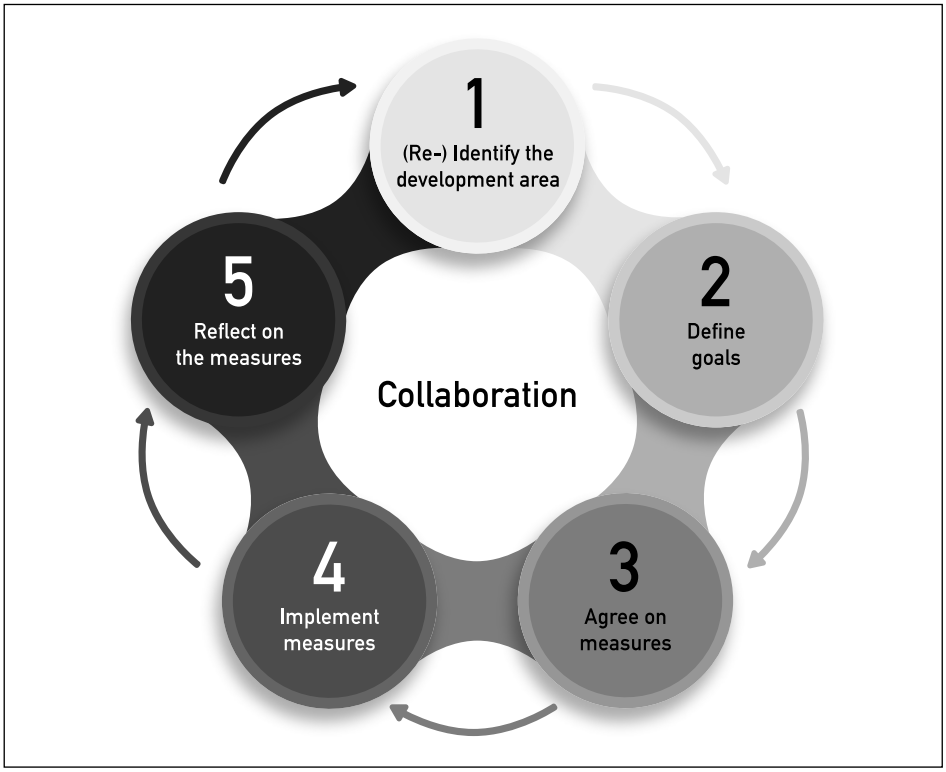

Figure 6.1: The procedure of the Reflection Cycle (in adaption to Trepke, 2014, p. 35)

the teaching staff of what would happen in each step. The advantages of these log sheets were twofold; they helped to introduce this new method to the teaching staff in School-In in addition to being used as a means of documenting the steps of the Reflection Cycle process.

Each group was asked to pick certain ideas from the Dialogue Café to begin planning a measure. We encouraged the teaching staff to be as hands-on and specific as possible. They needed to consider their possibilities in terms of available personal resources, financial resources, and time. We also reminded them that small measures that could be repeated on a regular basis (e.g., daily) would be more likely to have a substantial impact than a major one-time event. In addition, we highlighted the importance of integrating the measures into the school's routines.

The Reflection Cycle in School-In consisted of five main steps, which were provided in written form for the teaching staff group work (see the appendix).

In step 1, the group selected an area that was related to the common development area of the whole school, based on the ideas that emerged during the Dialogue Café discussions. If the school's development area was 'jointly inspire students to engage and participate using the local community', one area could, for example, be enhancing 'student's engagement' in class.

In step 2, the group defined and specified the goal they wanted to achieve, for example 'relating the learning content to the school's local context'. A short plenary presentation about the development area aiming at 'student engagement and participation' had informed the participants of relevant theory (Ryan & Deci, 2017; Prenzel, 1995) in advance. The School-In team had provided the teaching staff with information explaining that the school's local context could be helpful for all students to understand the relevance of the learning content, and that relevance is important for students' learning and motivation processes (Dalehefte & Canrinus, 2022; Dalehefte & Midtsundstad, 2019). Therefore, the staff were familiar with the educational and inclusive relevance of using the local context in instruction.

In step 3, the group defined the measure, for instance, 'using examples from the school's local context in instruction'. The group also defined criteria for identifying effects in terms of changes in student engagement. These criteria should be as specific and objective as possible. Writing 'students are more motivated' (table 6.1, example schools A and B) was not sufficient; the criteria should be more concrete, for instance 'more students than usual are actively engaged', indicated by observance of raised hands, active participation, etc. After step 3, the School-In researchers left the groups to work on steps 4 and 5 on their own for three to five weeks. As a daily reminder of the teaching staff's 'homework' for School-In, posters with all measures created by all groups were hung on the wall in the staff room to attract attention and encourage the teaching staff to talk about the measures and inform each other of progress and perceived success, as well as pitfalls experienced during the implementation.

Step 4 was the implementation phase for the measures that had been planned. In the example presented, the teachers tried to draw parallels to the local context in their teaching. This was done by using local examples, such as a local company in social sciences, local natural resources in natural science, a local author in Norwegian, explaining distances in mathematics by relating to local and well-known places, etc.

Finally, in step 5, the group met again and reflected together on their experiences. They documented this in the log-sheet and evaluated the results. The groups were then asked to provide 'feedback reports' by email and to present the work at the next School-In plenary session. The term 'reflection cycle' implies that the process does not end after step 5 but could be repeated (step 6) with new or improved elements if the group was not satisfied with the measures or if their goals were not reached. The method supports group reflection processes, in addition to contributing to post-reflections by the teaching staff, that is, evaluating the measures and intentions after the implementation took place. Some groups chose to repeat the cycle, whereas others were more eager to try out a new measure in a new cycle.

6.4 Lessons learnt from the Reflection Cycle in School-In

In School-In, we also experienced some challenges that can be highlighted for possible replication purposes. The transition from the work with the Dialogue Café to the

work with the Reflection Cycle involved a great deal of work, not least because the School-In visits were always scheduled after the regular school day and the staff slowly got tired. Under these circumstances, the staff members were expected to switch to a new method and immerse themselves in specific measures. We had to emphasise that the measures should be as specific as possible, and that they should be realisable within the next few weeks. We noticed that the measures tended to be too comprehensive and demanding; thus, we encouraged the staff members to be realistic about their resources and to choose smaller measures that could be implemented in everyday school life. This helped them to see that small measures could have a great impact if implemented in the staff's daily routines.

Altogether, the project generated about 70 different measures. Table 6.1 gives an overall impression of the reflection cycle measures and examples of goals and measures chosen by selected schools.

Table 6.1: Examples of topics chosen for the Reflection Cycle by innovation schools

School/ group	Overall school development area	Group goal	Group measures	Indicators
School A	A place for every-one – co-creation of community and the school's reputation	All students should experience being able to contribute to the (everybody's) learning outcome of the class	(1) 'Hand over' talks between teachers with information on what students have contributed to in other subjects during the school day (2) Picking students individually based on talents, to let them contribute according to their strengths	(1) More active participation of all students (2) Prouder and more content students (3) A better climate in the classroom (4) Classmates speak more kindly of each other
School B	Jointly inspire students to engage and participate using the local community	Use of a variety of teaching methods to better address and involve students	(1) Ask colleagues about their teaching methods (2) Feedback on colleagues' teaching (mentoring) (3) Use the time of the joint meeting for this topic	(1) more positive feedback from students themselves about the teaching (2) more student participation

School/ group	Overall school development area	Group goal	Group measures	Indicators
School C	Together on common expectations for the school's student role	Change of teachers' attitudes towards their students ('Students will contribute if they get the opportunity') Justification: The new general curriculum requires that the student view in teaching be actively respected	(1) Students will experience the lesson as meaningful [to them] (2) Teachers make use of productive questions ('why' questions) (3) The lesson content is adapted to the students' needs	(1) Students experience mastering tasks [and talk about it] (2) Students, together with the teacher, wonder [about learning content/results] (3) Teachers' attitudes become a common thread in the reflection talks between staff [at meetings, etc]

Ensuring that the teaching staff kept up with the intervention was challenging. Between the School-In visits on the innovation days, the groups worked independently with steps 4 and 5. This was a crucial part of the intervention, and we knew from former research that this point in the process was vulnerable, especially for less experienced teachers (Fischer, et.al., 2012). We were concerned that the intervention would perhaps not be prioritised among the school's many daily challenges and activities. This is why we emphasised the importance of making the measures visible with posters in the staff room and why the groups were asked to give feedback and report on their measures by mail before the subsequent project visit. On the one hand, this kind of accompanying support provided the teaching staff with an opportunity to ask for assistance. On the other hand, it emphasised the importance and value of teaching staff's independent work. By the next visit, the groups reported their experiences with the measures in the plenary.

6.5 Implications for further research and school development

Compared to the other working methods used in School-In, the Reflection Cycle has quite a pivotal role. The Reflection Cycle's focus is to enact and specify the many good ideas that emerge, that is, to put the school's development ideas into action. Previous research has discussed the fact that translating objectives into practice does not occur as a matter of course within organisational development (Schuler & Jackson, 2014). The Reflection Cycle helped the participants to focus on the development area, justify their choice of objectives, specify their description of planned measures, and finally, to identify effects of the measures by jointly defined indicators.

The application of the Reflection Cycle, combined with the Dialogue Café, showed promising and evident results (Hillen, 2020). Since the Dialog Café generated many ideas that could be worked on further, the Reflection Cycle was a suitable tool for

narrowing the measures and prioritising a selection to implement. In a way, the Reflection Cycle safeguarded the translation of collectively developed ideas into joint action. The effectiveness of using the Reflection Cycle in School-In can be indicated by the enacted measures and activities supported by the application of the Reflection Cycle (Hillen, 2020).

To summarise, the Reflection Cycle can foster school development in addition to development in other kinds of organisations, particularly when used in combination with the Dialogue Café. The Reflection Cycle is thus considered essential for 'Organisational Didactics' (Midtsundstad et al., 2022). Generally, the Reflection Cycle tool offers a structured and responsible approach to support and challenge 'learning communities' in their activities to implement, for instance, new curricula, educational regulations, etc. With increasing demand for teachers to engage in research-based teaching (Munthe & Rogne, 2015) in school, this tool can also provide valuable support for research on systematic school development for schools in general.

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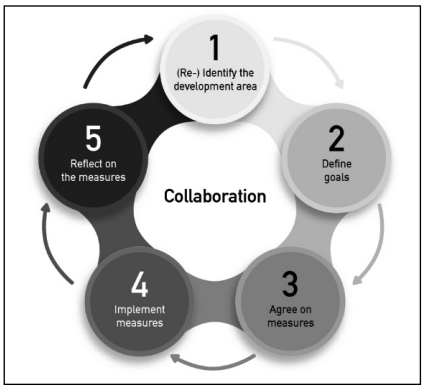
Appendix

Reflection Cycle



Step 1: Development area

_____

_____

Name of the group members

_____

_____

Step 2: Goal definition

Goal (be precise!)
Argument (why is this goal important?)

Step 3: We have agreed on the measure _____

Description of measure (be concrete, not too comprehensive, but realistic!)
Visible signs (How will you recognise if the measure works? What signs can you look for?)

In the plenary session with School-In: Each group presents goals, arguments, measures, and indicators of effectiveness. An overview of this work is summarised on a poster to be hung up in the staff room.

'Homework'

Before we meet next time, put the measures into practice and write down your experiences here:

Step 4: Implementing the measure

Implementing measure (How did you implement?)

Experiences (what did you experience?)

Step 5: Evaluation/reflection

Measures (What indicators of effects did you see? Where are you in the process now? (repeat the cycle?)

Group (How did the collaboration work? What did you learn? How can you use these experiences in further work?)

7 Exploring the Local Context from Multiple Perspectives

Kirsten Johansen Horrigmo

School-In takes a holistic view of 'place', which means that the geographical context is considered a mediator for physical, social, and economic processes affecting the community (Agnew, 2011). As local institutions, schools are a part of the geographical context and are both influenced by and influencing the place. Therefore, the project should consider the local context of the participating schools. As social institutions and parts of the local community, schools offer a central meeting place for youth. Research findings show that expectations in the local community are decisive for inclusion in schools (Midtsundstad & Langfeldt, 2020; Horrigmo & Midtsundstad, 2020; Horrigmo, 2015). Thus, the chosen research approach should contribute to collecting information and exploring how school organisations can benefit from the interplay between school and the local community in terms of inclusion.

To approach this aim, we strove to construct a picture of the place. We were interested in how different schools, as parts of the local community, are affected by different local cultural, social, and economic processes. The picture should include unifying and dividing forces within the local community of each actual place to see the openness and possibilities for inclusion within the local milieu outside school. A challenge when exploring a place is that a place is no longer a clearly delimited geographical unit isolated from other places. Therefore, a place must be seen in relation to other places. A relational perspective on 'place' implies an openness to both internal and external relations.

This part of the project was based on an ethnographic approach and being *inspired by ethnography* (Geertz, 1973; Geertz, 1994; Wolcott, 1990; Bryman, 2004), as well as Berger and Luckmann's *social construction of reality* (1966). To make sense of the place as part of the method, a 'picture' of the place was constructed. In our case, the place referred to the catchment area of the school. The picture of the place included how mechanisms of the local community worked and how the dynamics influenced the place and created tensions within the community formations. Such a picture, or 'place construction', was made for each of the innovation schools participating in School-In, referring to a partly limited location and situated knowledge as described by Haraway (1988). The specific place constructions were based on a performative approach (Law, 2007, 2008). 'Performative' means that the method contributes to constructing the realities they are about to discover (Berg, Dale, Førde, & Kramvig, 2012). For example,

knowledge traditions are performative, helping to create the realities they describe. The performative methodology is built on a 'relational logic', meaning that elements in a system are and achieve their form and character only in relation to each other (Law, 2008).

In School-In, the pictures of the places were social constructions that emerged in conversations between the researchers and strategically chosen representatives of the place. The conversations had two foci: the researchers' understanding of the initiating steps and the local inhabitants' understanding of the place. It was emphasised that the constructed picture should be representative and recognisable to the dwellers of the place.

Places are imprints of a series of collective actions created by those who reside in the place or by those who influence the place through their daily presence (Berger & Luckmann, 1966). Because places are socially powerful and more than just a spatial background (Lefebvre, 1991; Massey, 2005), they must be treated with the same care as personal data in the research process (Clark, 2006). Full anonymisation can be difficult to achieve (Singleton & Strait, 1999). Therefore, repeated reflections on anonymisation have been part of the research process (Clark, 2006; Yin, 2014).

Indeed, persons and their actions and perspectives became the carrier of place information to the School-In project (Andersen, 2013). Thus, in our cases, only the essence of what seemed necessary for the research purposes was highlighted in constructing a place. As far as possible, the place was kept hidden by various types of disguises, and local references were not provided. Site-specific events and activities are omitted for the same reason in the dissemination, and visual illustrations are also withheld (Clark, 2006).

In the School-In innovation, the place constructions were regarded as important background knowledge for interpreting teachers' understandings of the local milieu. They were also considered part of the holistic school mapping process which formed the basis for the Mental Mapping Response method (chapter 4) and the school's choice of development area. Using the place constructions as cases in research makes it possible to compare places and thereby understand significant mechanisms for formations of social patterns in local communities that affect schools or are affected by schools. Yin (1981) points out that the term 'case'… attempts to examine: (a) a contemporary phenomenon in its real-life context, especially when (b) the boundaries between phenomenon and context are not clearly evident (Yin, 1981, p. 59). Thus, in our case, the place constructions are used to gain insight into the interplay between a school and its local community.

Attempts to categorise local communities based on a general understanding of the place, such as industrial, urban, or rural places, did not bring us any closer to an understanding of concrete communities. Such methodological issues are often discussed based on the concepts of 'space' and 'place' (Agnew, 2011; Gieryn, 2000). 'Space' as a concept has developed as universal and general, while 'place' is seen as specific and contextual. This has implications for our methodology because space affects place in different ways.

Space and place represent two analytical approaches for ongoing processes that have impetus for the actual schools. The research approach should also consider how new relational conditions influence place. Methodological trouble related to the lack of contextual understanding and contextualisation is discussed by Atkinson and Ryen (2016). Literature on place methodology pinpoints the value of the connection between theories of place, research procedures, and research results (Dale & Berg, 2012). The methodology has offered a sort of circular dance between theory, method, information, and indicators (Wadel, 1991). Places are part of the wider space meaning that region and municipality merge with the school and the school's local community. Agnew (2011) pinpoints the necessity of taking *location, locale,* and *sense of place* into consideration as elements when studies are anchored locally.

7.1 Mapping the terrain for the innovation in School-In

To make a place construction, the dynamics of the school's *local context* and a wide range of information and indicator sources were needed. These were collected and integrated into a place construction in the sense of a *thick description* (Geertz, 1994). The descriptions considered how *macro-* and *mesostructures* influence local practices of the community (Hammersley & Atkinson, 1983). It was of particular interest in School-In to investigate what people had in common and what they shared, because this could contribute to explaining parts of the school's culture and its interplay with the local community. In the following, we explain how constructions were made based on documents, map reading, 'driving around', local expert interviews and group interviews with teachers and students.

The mapping was done according to *Place Theories* (Massey, 1984, 1991; Agnew, 2011, 2014; Cresswell, 2015; Aarsæther, 2016), and the place constructions were made in line with Berger and Luckmann's work *The Social Construction of Reality* (1966), referring to ordinary people's constructions of knowledge and world views based on experiences in their everyday lives.

Places as milieus *exercise a mediating role on physical, social and economic processes and thus affect how such processes operate* (Agnew, 2011, p. 2). This view allows the school and its community to be seen as partners in an ongoing co-creative interplay concerning the community, *the local milieu*. To illustrate this, what happens in the classroom or schoolyard matters in leisure time, and vice versa.

When investigating the local milieu as a territorial unit or place, *location* comes to the foreground as a phenomenon having consequences for daily life and *sense of place* (Agnew, 2011). The location in space, in terms of relative placement and proximity to other places, has consequences for how communities are formed, draw their boundaries, and are developed with reference to the physical, social, and economic structures. Therefore, we were interested not only in historical, social, and economic information about the place but also in its relative location to nearby places.

The patterns of community formed through different *social ties* were of vital importance for understanding the dynamics of inclusion rooted in the local place. Based on questions concerning the qualities of social ties (Granovetter, 1983), we constructed an understanding of local community types (Putnam, 2000). *Weak social ties* are based on interests and acquaintances with little emotional involvement, but are open to linking various alliances and groups in society, such as networks. *Strong social ties* have similarities with ties in primary groups, between people who already know each other well. The social ties, and density of interconnections, as well as the community patterns, were read through the lenses of Putnam's operationalising of the concept of *social capital – bridging social capital* and *bonding social capital*, associated with *types of solidarity and trust* (Putnam, 2000, 2007) as well as *community trust* (Wollebæk, Lundåsen, & Trägårdh, 2012). Putnam (2000) sees weak ties as a source of bridging social capital that strengthens the community's openness and ability to act inclusively. In contrast, the strong bonds bind together a small group that closes around itself and appears exclusive and closed to others. A local community will consist of both types of social ties.

To construct a picture of the place's social community, we were interested in which social ties had the strongest influence in the local community and how the smaller groups were interrelated (Massey, 2005). This was to be able to gain an understanding of the possibilities for inclusion and exclusion. Places are relational and are localised relatively to other places. It is, therefore, necessary to form a picture of the geographical direction of the social ties – internally at the place or externally towards other places. When involving internal and external movements by examining social ties, it is possible to get a picture of where people are involved – on-place or off-place.

7.2 Seven-step method for mapping the local milieu

Against the backdrop described above, a seven-step method was initiated to map the terrain and make constructions of the actual places. In a multiple-step method, every step should contribute something unique to understanding the place as a supportive milieu to the inclusiveness of schools. The seven steps guaranteed a wide range of information and indicators.

7.2.1 Step 1 – gathering information for the constructions of place

Places are in continuous change and should be viewed as time-space configurations made up of intersections of many encounters between *actants* – things and people (Agnew, 2011). Acknowledging that concerns of local communities were affected by emplaced forces rooted in history and traditions, and by spatial forces such as centralisation, urbanisation, and commuting, we considered place and space to converge in practical life, mediated through existing structures. To capture both the place-based

and spatial processes, we used different sources to gain an overview of the place, such as (1) statistics; (2) local history; and (3) website information.

Statistics Norway offered information at the municipal level. The municipalities provided graphs of population growth going back to 1950, which enabled an understanding of how such growth has changed up to the present day. More variables were found in statistics, including age distribution, proportions of immigrants, and patterns of 'stayers' and 'movers' in the municipalities. Statistics showed the size of homes in relation to the number of residents, the number of single parents and couples living with and without children, as well as the median income for different categories of families. We used graphs showing the type of work in which the inhabitants were engaged as well as graphs showing the population's level of education to construct a picture of the occupational composition at the place and the extent to which people commuted. The enrolment of children in kindergartens could be used as an indicator of mothers' participation in the workforce. Statistics indicating the number of students using public transport to local schools added elements to the construction of the density of place. The number of local association assemblies and teams in which inhabitants participated gave an impression of activities during leisure time. These statistical variables gave us indicators of standards of living, equality, and inequality among the inhabitants of the place that could influence the local school and milieu.

Another source was text dealing with *local history*. As part of the identity of the place, local history was a valuable starting point to understand the community and its practices and possible centripetal and centrifugal forces. The Norwegian Institute of Local history (NLI), a part of The National Library of Norway, was our source of information. Local history was often written through the lenses of individuals who had done something extraordinary, however, stories or unusual happenings that became part of the inheritance of the place could also punctuate the historical narrative. These local characteristics could contribute to the inhabitant's pride in being part of the place. It was also common to describe the struggles of daily life, livelihood, traditions, religious life, and community. The narratives were presentations of the place and its people that gave a glimpse of former and existing structures.

Websites were indicators of how a place was presented to the world outside. For instance, a place could be promoted as a relational place, a place for recreation, a place of urbanisation and centralisation, or a place of traditions and history. Thus, information could be built into the place construction on whether the places presented themselves as urban, rural or as hybrids.

7.2.2 Step 2 – map reading and place

The new regionalism that emerged in the 1980s and 1990s (Daniels, Douglas, Vodden, & Markey, 2019) recognised regions as proper and effective spatial frameworks for development. Planners and politicians embraced the idea of 'fluidity' for fostering regional development characterised by open and elastic boundaries for both geographical and jurisdictional reasons. The ideas of functionally divided areas, such as

shopping malls, office parks, and designated work areas, stem from this framework where space is an essential geographical category, a spatial specialisation of functions. Based on these ideas of functionally divided areas, we pursued the construction of functional work and residence regions.

The use of space as the main category in planning and decision-making poses challenges for academics thinking about places and the relationship between space and place as analytical categories (Agnew, 1989, 2011, 2014; Massey 1991; Gieryn 2000). With respect to the relationship between space and place, the places used in School-In had to be located relative to and delimited from other places. We found that *map reading* was a fruitful entrance to the process of constructing a picture of the place, keeping in mind that increased mobility to and from the place had resulted in a shift away from a former self-referential local system with total particularism. The map itself served as an artefact representing space as an ordered surface in relation to a certain position, providing information about distances and locations. We read the map bearing in mind to look for opportunities for the schools to obtain support for inclusion from the local community.

On the map, the spot where the place name appeared was chosen as a starting point to identify the place's connections to the surrounding world. Roads, railroads, motorways, airports, and coastlines within range were all indicators of how the place could relate to other places both within and outside the region. This made it possible to gain an understanding of how easy areas were to reach and the availability of infrastructure. The spatial avenues led both to and from the place. The map helped trace structures of space that could affect the community locally and, thus, delivered information about prerequisites for centripetal and centrifugal forces for the place construction.

Through map reading, we perceived the extent of the place and how it was not necessarily limited by boundaries drawn for governmental reasons. Map reading gave us an impression of internal spatial distributions, such as where people lived, whether housing was scattered or clustered, and whether the place had one centre or several central places. It also provided the place construction with indicators of opportunities for networking internally and externally at the place.

7.2.3 Step 3 – driving excursions and reading the landscape

The place was also mapped through touring in the form of local driving excursions to 'read' the landscape. Landscapes consist of both nature and man-made structures. Typical characteristics such as architecture, settlement patterns, meeting arenas, sports facilities, distances, and more general infrastructure can supply information about social conditions. Litter or tidiness can provide information about the place conditions, and buildings can bear the mark of decay or prosperity. Social similarities and differences can be read through the lenses of architecture because social structures are, for the most part, related to material structures and local epochs of development.

Human settlements have transformed the natural environment and made it into what can be observed as permanent fixtures of the landscape (Ingold, 2008). Equality or inequality can be interpreted in the architecture and size of houses as well as the location. These might be indicators of injustice born and manifested locally through, for instance, segregated neighbourhoods. Examination of primarily the physical environment reveals structures that are important for people's opportunities for involvement in the place. These types of information were discussed further with one or two local experts.

During these touring excursions, stops were made to write down impressions and to speak with random people about the place. Observations of the landscape provided an opportunity to observe the same elements as students and other residents, as well as daily visual images that become part of their subjective life-world (Berger & Luckmann, 1966).

One strategy for obtaining information was the use of occasions that arose during the stops we made on our excursions. These occasions were situations where we had a chance to talk to various people about random things, and could arise at the grocery store, at the petrol station, in the café, in the park, outside a workplace, etc. If there was an opportunity to ask questions, we would take it, and as a result, some *elucidating moments* (Hastrup, 1992) grew from the empirical world. We would test the situation by commenting on the weather or other general issues, and then ask if the person knew the place and was aware of information that could be of interest when constructing a picture of the local community. What could be of importance for a newcomer to know? What do the inhabitants do for a living? What do people do on ordinary days? Where do people meet, and how are they informed of activities in which they can participate? These were questions that were asked in random settings to complete the picture. The answers to the questions were adapted to former findings, making the descriptions and the picture thicker.

The touring activity was conducted three to four times, with a duration of about five to six hours at each place. The point of going on these excursions was to make sense of the place. It created a better understanding of the place conditions and resulted in greater resonance in conversations with local experts, teachers, and students. The places were relatively spread out, consisting of several smaller places located far apart. Having visited every nook and cranny in the area helped us to understand what the students, in particular, expressed and referred to during the interviews. This local knowledge lent legitimacy to the interview situation and enabled us to distinguish between what students and teachers knew something about and what they did not know about. Information from the touring activity was influential in the innovation in that it enabled us to provide professional input to the staff who had chosen the local community as their development area.

7.2.4 Step 4 – the local expert interview

The use of key informants is derived from a technique applied in the ethnographic research method (Payne & Payne, 2004). Key informants have more information to share than 'ordinary' dwellers (Meuser & Nagel 2009). Thus, we were looking for a person who was well known for their local knowledge and had legitimacy among 'ordinary' dwellers as one who knew the people and place well. Local experts were chosen as key informants for the purpose of gaining insider information in the most effective way. Given our interest in community and community formation, the local expert needed to know of structures representing unifying and dividing forces within the local place. It was crucial to find the right persons or '*strategic informants*'. All communities have one or two individuals that possess special skills as informants. These are called 'natural observers' (Tremblay, 1957, p. 693). We were looking for people who could provide information about place development and also speculate and draw conclusions about the place.

The eligibility criteria for School-In informants were assessed in line with Tremblay's criteria for selecting important informants: *community role, knowledge, willingness, communication skills, and impartiality*. There are some pitfalls when a local expert is chosen. Some informants may be so detail-oriented that an overall understanding is lost. Others may have an interest in conveying the place in a certain way, such as in an idyllic way or with a bias in relation to certain interests. To avoid this type of bias as much as possible, contact with local people is important when experts are selected. Therefore, the process of selecting local experts was conducted by asking three different people to list two or three names of people who could tell 'the story of the place'. The name that occurred on all the lists was contacted as a key informant, considering the agreement as a sort of validation of choice. As it turned out, the key informants were mostly people with long residency in the place, 50–70 years old, male or female.

Questions likely to supplement the knowledge provided in the previous steps were asked. The questions concerned (1) place characteristics and community; (2) socio-economic factors; (3) mentality; (4) homogeneity vs. diversity; (5) working life and opportunities; (6) equality and women's role; (7) recreational activities; (8) population compositions; (9) attitudes towards school and the school system; (10) youth; and (11) values. Examples from the semi-structured interview with the local expert are gathered in table 7.1.

The interview with the key informant was conducted as a conversation. The first question was designed to trigger the informant's own construction of the place based on his or her personal interest and knowledge. However, the following questions in the interview guide served as more of a checklist to ensure we got all the information we needed since local experts are often good storytellers and might present their place in the way they see fit. The information was compared to the data material obtained in the other steps, and discrepancies were clarified. This was ideal for achieving internal consistency within the different steps of the final construction, and for obtaining a reliable picture of the place (Tremblay, 1957).

Table 7.1: Topics and examples from the local expert interview guide

	Topics related to the place	Examples from the semi-structured interview guide:
0	Introduction	Please describe an overall picture of the local community
1	Place characteristics and community	What does the term 'local community' mean to you? What were the old livelihood activities and income sources? What do the people here do for a living now? Do you know how many inhabitants this place has? Where do they live? Where do they work?
2	Socio-economic factors	How would you describe social equality and inequality in this place? What about criminality? Drugs? Are there any 'dark sides of life'?
3	Mentality	Is there a kind of 'place mentality' here? How would you describe a person from this place? Where do the lines of communication go? Who interacts with whom?
4	Homogeneity vs. diversity	Does the place have one central place or does it consist of several smaller places? If it consists of several smaller places, are there differences between those surrounding the school? Are there any borders defined socially, religiously, ideological, or based on different activities or work?
5	Working life and opportunities	What does working life look like and what kind of workplaces does the place have? Is there diversity of professions? What about commuting?
6	Equality and women's role	Who provides for the family? Who stays at home during maternity leave?
7	Recreational activities	What activities (religious, cultural, sporting, political) are offered in this place? Is there any polarisation (new vs. old, immigrants, religions, political parties, etc.) between any of these groups? Are there connections between age groups or gender, activities?
8	Demographics	Are there any immigrants? From where do they come? How do you think they like the place? Why do people continue to live here? Are there any dialect differences within the place? Any changes?
9	Attitudes towards school and the school system	How are peoples' attitudes towards education? How do they speak about school? What role do you think the school plays for the future of this place?
10	Youth	What status does the school have among youth? What leisure activities do the youth take part in? Do they have any 'heroes'? Do they spend their time in the place, or are they seeking something elsewhere?
11	Values	What are people proud of at this place? What are they embarrassed about? If you were to give the place a compliment, what would you say? What is the school's most important undertaking for the local community and what is the most important thing students should learn in school?

The conversation with the key informant was recorded, and essences and core elements were noted. The storyteller's story, voice, and words delivered necessary details about the place to contribute additional information to the place construction.

7.2.5 Step 5 – group interview with students

During the group interviews, the students were invited to talk about the place and common activities for those who live there. Preferably two boys' groups and two girls'

groups at each school were interviewed, with the optimal number in the groups being 5–7 students. Students were to be as old as possible, preferably belonging to the oldest class cohort, which means those from 7th grade (in 1st to 7th grade schools) and 10th grade (in 8th to 10th or 1st to 10th grade schools).

The topics for the group interaction were to provide the study with information from students' opinions of the place with reference to location, locality, and sense of place, including normal experiences and common or typical things to do. The use of focus groups with students had three purposes: (1) to reach more individuals and get more information; (2) to reveal information from the interaction among people when discussing place; and (3) to consider issues among young people. Thus, the students were an obvious link between school and the local milieu. The interview technique allowed for the discovery of what students agreed or disagreed on when talking about typical activities and what created enthusiasm and engagement regarding the place and each other. The intention was to form a picture of the students' commonalities. The togetherness expressed in the groups showed ways of being together in the local community (Horrigmo, 2015). The interviews provided information about what the school could expect when looking at the local milieu as a supportive element for inclusion.

The interviews were not strongly orchestrated, and interruptions were allowed to get an impression of tensions in the groups and to see to what extent the students could handle focus on topics that affected them. The role of the researcher was to guarantee that all questions were asked and to gather the necessary information (table 7.2.).

Table 7.2: Interview guide – group interview with students

	Topics related to the place	**Examples from the semi-structured interview guide:**
0	Location of students within the place	Where do you live (not house number)? How far away from the school? Have you always been living here? What does the term 'local community' mean to you?
1	Everyday activities and relations	What is typical for young people to do when not at school? Together with family, friends? What are the most typical things for people in general to do? Where do people meet? Are there normally many individuals at the same place or just a few? Do you meet with each other in your spare time? Do you visit each other's homes? Where do the people you spend time together with live?
2	Leisure activities and interests	What are young people interested in here? What kind of music do people listen to; what kind of movies do they watch; do they enjoy sports activities; do they talk about politics, fishing trips? Do young people do many of the same activities? Where do these activities take place?
3	Gender and activities	Do girls and boys take part in the same activities?
4	Homogeneity vs. diversity	Does the place have one central place, or does it consist of many smaller places? If the latter, are there differences between the smaller places whose residents attend the school? Do you think there are any differences between the people who live here? Is there any difference between those who participate in different activities based on e. g., religiosity, place of residence?

	Topics related to the place	Examples from the semi-structured interview guide:
5	Working life and opportunities	What do people who live here work with? Is there a type of job that is dominant in the place? Is there a diversity of professions here in this place? What about commuting?
6	Sense of place/ Values	Is there anything about the place that makes you proud? What is the best thing about living here? Is there anything that makes you embarrassed by the place? What do you think people from … say about people who come from here? If I were to compliment the place, what could I say? Do you think people here experience a sense of belonging to this place? How would you describe a person from this place? What would happen if I forgot my wallet outside?
7	Life at school	What is the best thing about school? What do you like least about school? How would you describe good free time at school or a bad break at school? Do you notice anyone being excluded from the other students at the school?
8	Teachers	What would you say is typical of a good teacher (without providing a name)? What would you say is typical of a bad teacher (without providing a name)? Do teachers use the place in teaching, as examples or for projects? Do you use the place itself as something to learn from? Are teachers involved in what is happening in the place? Do the teachers live here? Do you learn about the place in school? Does it matter where the teachers live?
9	Future	Ten years from now, where will you live, what kind of jobs will you have, will you have a family? Where do you foresee living in 10–15 years? Will you have lived here, lived away for a few years, moved for good? Do you think most people will stay here or eventually return to this place?
10	Newcomers	What would it be like for a newcomer to this place and at this school?
11	Open question	Can you think of something else I should have asked you about?

Listening to the interviews afterwards proved to be a suitable way to understand group dynamics. The nuances in how the students talk to each other (jokes, petty quarrels, claims) gave a good impression of them as a social group. The essence of each answer was transcribed from the recorded interviews and added to the place description.

7.2.6 Step 6 and step 7 – teaching staff's focus group interviews and questionnaire

Step 6 and step 7 concerned other mapping instruments in School-In that were supplementary sources to the construction of place pictures. Step 6 related to the teaching staff's focus group discussions described in chapter 9. Some of the questions concerning the local milieu in the focus group interviews provided valuable insight into the staff's knowledge and understanding of the place, local nature, and ties to local businesses and regional activities. In this way, the focus groups supplemented the place construction with an understanding of social, economic, and man-made structures affecting the local community. Step 7, the last step, involved information from the questionnaires described in chapter 10, including information on the makeup of the teaching staff in the different schools, their belonging to the place, as well as information on expectation structures and the link to the local context.

As a whole, the seven steps provided information used to generate the construction of the place picture. Of course, this method is influenced by many aspects and subjective interpretations. Thus, these must be treated and valued as 'thick descriptions' (Geertz, 1994) of the place and the people involved in the community.

For the school development in School-In (chapter 3), the constructed pictures of the different places have been used in various ways. After the first meeting with the schools, the focus group discussions among the teachers were analysed, adding further information to the picture of the place. At the same time, the already constructed picture served as a background for interpreting the teachers' expressions. This information showed what the teachers knew about the students' homes, and how the teachers perceived the place and community. The teachers' reflections were discussed, and the students' discussions during the group interviews were analysed. For schools that had chosen a development area related to the local community, the local research was used to design the questions for the Dialogue Café and as theoretical and research inspiration for work with school development.

7.3 Theoretical, methodological, and practical implications for further research

In School-In, there was a need for a method that could contextualise school and identify structures of how it was anchored in the local milieu, considering the fluidity of regionalisation. The place was often affected by spatial forces that had to be taken into consideration to understand the opportunities of schools for gaining support from the local community based on inclusion. The seven-step method was instrumental in helping construct the picture of the school context, the structures in the community, and the spatial forces.

In making place constructions of each specific school context, we observed a variation in regionalisation structures. Hence, there is a need to develop geographical and sociological concepts that can facilitate research on school contexts. For instance, the geographical rural-urban dichotomy could be supplemented with ideas of regionalism and aspects of mobility, commuting, centralisation, urbanisation, and migration.

The theoretical approach of Agnew (2011, 2014) linked to the three concepts of *location, locality,* and *sense of place* and the discussion on the relationship between *space and place* seem promising for further elaboration of the theoretical and methodological implications of the research. Knowing that spatial forces do affect places is not enough; there is also a need to understand how spatial forces matter. This could be of vital importance for the development and future of the school and the region.

Based on theories of place, we developed a research design where constructions of 'places as cases' could enable comparisons between the different places surrounding the schools participating in School-In. Although places have specific features, some governmental, spatial, social, cultural, and political traits will be pervasive, making comparisons interesting (Agnew, 2011). This was the case in School-In. How spatial

forces mattered for the actual places surrounding the schools, and how the schools were dependent on existing structures within the community were pivotal, for instance, to the capacity for inclusion (Horrigmo & Midtsundstad, 2020).

Our method sheds light on a school's role in a local place. It shows important aspects for students' inclusion, knowledge of their region, identity development, and their belonging to the place. In addition, it sheds light on mobility issues and community changes that significantly influence schools (Horrigmo & Midtsundstad, 2020). What role schools should have as dynamic but established institutions in times of change must be further investigated.

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8 Focus Group Discussions – Teaching Staff

Jorunn H. Midtsundstad

In the project School-In, the aim was to analyse the expectation structures in the school community (chapter 2). We used several methods to answer our research questions, including questionnaires for the teaching staff and students (chapter 10), but we were also interested in the opinions of the teaching staff. One way to obtain data would, of course, be to ask individual teachers to tell us what they perceive to be the main expectations in their schools. However, not all expectations are explicit. The teachers would probably state obvious, formal expectations from laws and regulations. The project School-In, however, sought to explore the kind of expectations that have become a structural part of the school organisation over the years – the *expectation structures*. These are mostly implicit, tacit, and perhaps also inconvenient. There was a need for a method that could make individual, implicit, tacit knowledge of expectation structures explicit through communication. This is why we decided to use focus groups interviews with the teaching staff.

Thus, the teaching staff were encouraged to discuss questions relevant to their school and environment in focus group interviews to identify what expectations they had in common and to what extent they differed. By recording focus group interviews in different schools, we were able to conduct comparisons of the expectation structures that came to the forefront through the teaching staff discussions. The qualitative focus group interviews, together with the quantitative teaching staff questionnaires, provided valuable information on the participating schools before and after the innovation and were an essential part of the school mapping.

This chapter shows details about why we chose the method of focus group interviews, the origin and effectiveness of the method, and how we used it in the project School-In. The chapter ends with discussing implications for further research.

8.1 The origin of focus groups

Focus group interviews have been used for different purposes, but generally aim to reveal group opinions on various matters. Social scientists have used focus group interviews since as early as the 1920s. However, the use of focus group interviews has been widespread since the 1950s, when market researchers developed this strategy for consumer motives and product preferences. In the 1980s, this research strategy was adopted by the academic community (Kvale & Brinkmann, 2009).

A focus group usually consists of four to six people, led by a facilitator who conducts a non-governing interview (Creswell, 2014b). The purpose is to get many different views from the group on a specific topic. The group facilitators present the issues to be discussed and facilitate the exchange of opinions (Kvale & Brinkmann, 2009). The method has many advantages but also some disadvantages. It efficiently delivers data on collective processes, such as interactions, interpretations, and norms in groups and circumstances where the participants influence, support, or correct each other. Nevertheless, the method is often criticised because of the impossibility of replicating findings and its vulnerability towards 'strong' and 'weak' voices, hierarchies, and intellectualising processes within a group (Halkier, 2015; Bryman, 2014).

To investigate the expectation structures in the school community, we chose a variant of the method called 'focus group discussions' – a concept and methodology used by Bohnsack (2004). This approach differs from ordinary group interviews because of its specific emphasis on the conversation between the participants on the one hand and the researcher's reticent role throughout the discussion on the other (Bohnsack, 2004). Several researchers underline the organic interaction between participants (Willis, 1977; Willis, Jones, Canaan, & Hurd, 1990; Kitzinger, 1994). Thus, the role of the researcher is *'… to create the right conditions to make it possible for the structure of the case to unfold according to its own typical rules'* (Bohnsack, 2004, p. 218). Bohnsack states that when a discussion group belongs to *'the same milieu or the same interpretative community'*, its structural expressions are *'representing their milieu'* (Bohnsack, 2004, p. 216). This methodological approach made it possible to investigate the expectations of the teaching staff – the group representing their milieu in School-In.

8.2 Bohnsack's approach to focus groups

Bohnsack refers to the development of the method as a group discussion procedure in Germany, where it emerged as a result of criticism against the isolation of interviewees in questionnaire research (Bohnsack, 2004). In the 1980s, Bohnsack started developing the method both as a methodology for qualitative research and as a method for practical empirical inquiry (Bohnsack, 2004). Originally, it was used in the context of group discussions and for the analysis of talk.

The main goal was to investigate the process character of interaction and conversation, pointing to one crucial aspect – the emergence of *meaning* (Bohnsack, 2004). It was of interest to question the normative rightness, the depictions, and the subject of research that the group's people took for granted (Mannheim, 1982). The point was to turn from the question of cultural and social facts and focus on how cultural and social realities are accomplished and generated in their social environment (Mannheim, 1952). Therefore, the method allowed asking what is taken for granted as cultural and social facts. 'In this respect, it is not the content, the "What" of objective meaning that is of predominant importance, but the fact and mode of its existence – the "That"

and the "How" (Mannheim, 1952, p. 67). Mannheim was inspired by constructivism and stated that the world itself is unobservable. He recommended relying on how the 'world' or reality is constructed. Bohnsack refers to Niklas Luhmann, who formulated: 'The questions of "What" are transformed into questions of "How"' (Luhmann, 2000). Thus, focus group discussions are about the group's perception of *what* is real and *how* it is real in their context.

The method has been criticised for its limitations in generating hypotheses and, thus, its problems in producing generalisable results. On the other hand, Morley (1998) argues that focus groups deliver satisfactory scientific findings by bringing up other (qualitative) criteria. Bohnsack (2004) uses the focus group approach to point to another understanding of the conversation in the group. He explains that communication consists of orientation structures that process other structures in a homologous fashion in relative independence of the specific topics. What is continuously reproduced in the discussion is recognised as the constitution of the 'structure of the case'. Bohnsack argues that it must be recognised in the sense of reconstructive methodology. Thus, it depends on how the researcher creates the right conditions to make it possible for the structures of the case to unfold according to its own typical rules. This approach is different from standardised procedures, where replicability of results and, therefore, reliability are questioned.

The method's empirical background is founded on the understanding that the discussions between people in an organisation represent the same interpreting community. Thus, the discussions follow typical orientation patterns that can be identified and analysed to understand how reality is constructed in a particular organisation. This understanding of the method's empirical background has implications for how the method is conducted and for the analysis of transcriptions from focus group discussions.

8.2.1 Bohnsack's principles for group discussions

Bohnsack has formulated eight reflexive principles for the conduct of group discussions, to explain the researchers' practice: (1) *the entire group is the addressee of interventions*; (2) *suggestions of topics rather than a prescription of propositions*; (3) *demonstrative vagueness*; (4) *no interventions in the allocations of turns*; (5) *generation of detailed representations*; (6) *inherent follow-up questions*; (7) *exherent follow-up questions;* and (8) *the directive phase* (Bohnsack, 2004, p. 219–220). These criteria were emphasised in our study as follows:

First, the interviewer must address the questions to the whole group and not to individuals. The interviewer, or more precisely, the facilitator, must not directly influence the distribution of turns. The questions must be open to prevent 'yes' and 'no' answers and to avoid any influence. The group has to make choices about how and in what direction the discussion will evolve. The questions should also be somewhat vague to invite group interpretations. The facilitator should avoid follow-up questions because these influence the groups' discussions of the topic. Thus, follow-up ques-

tions should only occur when the conversation grinds to a halt rather than a pause (Bohnsack, 2004). The reticence required of the facilitator of a group discussion allows the participants to conclude on a topic and organise who speaks when and how to take turns independently of the facilitator. The goal is not to insert new topics with follow-up questions but to let the group take the initiative for new framing or issues. At the end of the discussion, the facilitator might refer to contradictions and other notable observations.

These principles for conducting focus group discussions are prerequisites for the analysis of the transcribed interviews as orientation patterns chosen by the group. The reticence required of the leader in a group discussion is also of decisive importance since it enables the understanding of the group as an interpreting community. The point is that the participants should discuss together and understand one another without focusing on understanding the researcher's requests. They should be able to create their patterns of orientation in the discussion. Thus, the researcher can identify the patterns that underlie their communication to unveil their orientation structure in analysing the groups' conversations.

8.2.2 Analysing focus group discussions

In general, when focus group discussions are analysed, the preparations involve making distinctions between different spaces or milieus, particularly those specific to generations, genders, or education (Bohnsack, 2004). These are described as types. In our study, the group consisted of colleagues of teachers and paraprofessionals in the same school representing their milieu. The group can be understood as an *epiphenomenon for the analysis, that gives valid empirical access to the articulation of collective meaning contexts* (Bohnsack, 2004, p. 218). The researcher can interpret the expressions used by the participants as ceremonial or as habits. Thus, they mirror implicit rules, structures, and roles experienced as appropriate in the group. The group is the articulation and representation of a specific milieu. Mannheim's (1952) method utilised this form of sociality to analyse meaning structures. When researchers interpret the orientation structure on behalf of the informants, they carry out what Mannheim (1952) has called 'documental' interpretation. That is, the researcher 'extracts' the conceptual and theoretical explication of the mutual (intuitive) understanding of the subject. Thus, the researcher distinguishes meaning content from the inherent literal meaning by taking account of the discourse process, focusing on the speech turns related to one another (discussion organisation), and identifying the focused metaphors.

Researchers should transcribe and analyse the group discussions to identify collective orientation patterns in the discussions among the participants (Bohnsack 2004). The basic units for the analysis should be (a) *interactions rather than individual action* and (b) *interactions in their social context* (Morley, 1998).

Comparative analyses must concentrate on what becomes a *topic* in the discussion, focusing on how the group treats the topic and in what kind of framework. Comparative analyses can corroborate the orientation framework in a transparent and em-

pirically verifiable way by comparing how different groups deal with the same topic (Bohnsack, 2004). The basic structure is the thematic composition and how the group decodes the typically implicit thematic structure (Bohnsack, 2004). The aim of the reflecting interpretation is the reconstruction of the orientation pattern or framework.

8.3 Use of focus groups in School-In

In our project, the purpose was to explore the expectation structures in school organisations. There was a need for mixed methods in the study design and both quantitative and qualitative approaches to map each school's point of departure and to identify the eventual effects of the innovation. Thus, the design offered the possibility of a triangulation of methods, which is often used to enhance the accuracy of projects (Creswell, 2014a).

For the *data collection process* in School-In, we chose focus group discussions to find out how the teaching staff discussed our questions. This choice was based on the empirical knowledge that those who are bound to one another through a familiar milieu of mutual experience will comprehensively articulate their meanings. We could also expect the discussions of the 4–5 focus groups in each school, consisting of 6–8 teaching staff members, to represent the school's milieu because they were shared 'in one another's presence'. This frame of 'one another's presence' is necessary because the frame is the milieu the group members represent. Thus, how we formed our focus groups was decisive. Because our project focused on the school as a professional learning community and the development of an inclusive school, we wanted groups to be represented by persons from all year levels to inspire the colleagues to discuss their school holistically. We assumed that the discussions would be too narrow for our purpose if, for instance, we grouped them according to subjects or year level.

In conducting the focus group discussions, the facilitator had to take a reticent role. We introduced the focus group discussions by saying that we did not want the group members to primarily answer our questions but to discuss the question at the table. We had prepared ten identical questions for all schools and conducted the interviews during our first visit to each school (pre-interview).

The facilitator had to make sure to change the questions approximately every six minutes to finish within one hour and to guarantee standardisation and that all focus groups were done at about the same time. Accordingly, we presented our questions on the table printed in a large font, ready for the group members to start the discussion. We could say some encouraging words to support the discussion, but follow-up questions were only permitted if the discourse grounded to a halt and momentum needed to be re-established (Bohnsack, 2004). Emphasising the possibility for the group members to discuss in their usual way enabled us to analyse the discussions, focusing on how the group framed our questions. Table 8.1. presents the questions.

Table 8.1: Overview of the focus group questions (pre-post) in School-In

Pre focus group questions	Post focus group questions
1. What characterises the best classes to teach?	1. In what way have your measures contributed to change according to the teaching staff and students?
2. What kind of students make you worry?	2. How do the students notice the measures? How did they respond?
3. What happens when your school gets the results from national tests?	3. How can you continue working on common measures? What do you need to continue with this collaboration?
4. What experience do you have from working with inclusive learning environments?	4. What does the term inclusion mean?
5. How would you characterise the local context of (the place)?	5. What reflections have you made concerning your development area* during the project?
6. How would you characterise students coming from different parts of the municipality?	6. In what ways can the development area* make work at the school easier?
7. What kind of image does the local community have of the school?	7. How can a well-functioning school community increase opportunities for creative and professional development?
8. How would you describe the teaching staff?	8. What motivates collaboration across year levels?
9. What characterises your school culture?	9. What do you think about the teaching staff's efforts in the project School-In?
10. What characterises a good teacher in your school? What does this teacher do?	10. What has come out of the reflections in the group discussions in the project?

*Different schools discussed their experiences from working with their chosen development area

The questions seemed to be perceived as open and easy to discuss for most of the groups. Of course, some groups asked for detailed definitions of some of the concepts, for instance, 'student response' to the measures tried out in the classrooms or the 'place of the school'. We did not answer, asking them to define the concepts themselves.

Because we had little time to prepare the data between the day of data collection and the next school visit, we needed to develop a strategy for providing the school with feedback from the focus group discussions. Thus, we conducted a *screening* by listening to the audiotapes from each focus group and writing down core elements for each question in a table with a column for each group. This allowed us to identify and compare central points of the group discussions for the different groups. It also allowed us to identify commonalities or distinctions across the groups and to communicate the core elements of the discussions to the respective schools at our next visit. These findings from the focus group discussions and other data sources played a central role in the decision on a development area in each school (chapter 4).

We also conducted focus group discussions (post-interview) at the end of the semester to collect data about the development and acceptance of the project after project completion (table 8.1.) in each school. The procedure was identical to that used for the first focus group discussions, with the exception of the different questions.

The *process of analysis* for research purposes started with transcription work performed by the researchers as well as university students participating in the project. We analysed the transcribed group discussions with a view to identifying collective orientation patterns in the reflection among the participants (Bohnsack, 2004; 2013). Thus, the basic units for the analysis were to be (a) interactions rather than individual action; and (b) interactions in their social context (Morley, 1998). Thus, the orientation patterns in different focus group discussions were the focus of the analysis and were used as a comparative approach.

The topic of interest together with the research questions formed the basis for deciding on a methodological approach and on how to analyse the transcripts. One example from our analysis is the article on changes in the reflections from the focus group discussions where we identified and analysed the discussion patterns in different contexts (Ingebrigtsvold Sæbø & Midtsundstad, 2022). In this case, a deductive approach was chosen, relying on the theory of Wackerhausen (2009) to analyse five different identified patterns: (1) first-order reflections – descriptions of how the school's praxis is and how it should be; (2) second-order reflections – critical comments on the staff members' and the school's praxis and reflection on what to do; (3) use of pronouns (you, one or we, I); (4) disagreements and personal statements; (5) references to the members of the school ('your students'/'our students'). These patterns gave an impression of the reflection patterns in the different schools. Comparing the patterns before and after the intervention also revealed how the reflection changed in the groups. Focusing on orientation patterns allowed us to analyse and compare the discussions in different schools and to discuss changes in the patterns of reflection.

8.4 Theoretical, methodological, and practical implications

The theoretical background of this method of focus group discussions was essential because of its implications for the methodology. It influenced how we organised the teaching staff in groups, how we conducted and chaired the discussions, and how we analysed the transcriptions. This epistemological coherence was decisive to our qualitative research approach and was essential for us to be able to argue our findings.

Authors using traditional focus group interviews can present and illustrate their findings using quotes from individual group members or present the number of group members that agree to the quotes. Our epistemological approach required a focus on the *discussions* and the *orientation patterns* in the conversation. In order to publish our findings, we had to defend our focus on the discussions themselves; if we wanted to use quotes, they needed to illustrate typical patterns emerging in the discussions. Thus, publishing findings from focus group discussions implies an awareness of the epistemological coherence.

A practical implication for future research is a call to be very clear about how to conduct a focus group discussion, and the challenge for facilitators to abstain from fol-

low-up questions. It is, of course, very difficult for good researchers with professional knowledge and necessary curiosity not to intervene and use follow up questions. As a researcher, it was essential to keep in mind that this was first and foremost about the teaching staff's discussions in *their* milieu, and influencing the data collection would cause a negative impact on the results. In School-In, we profited from adhering to a standardised description of how to conduct the focus group discussions.

The focus groups were not only a necessary part of the research. They were also a good way to initiate productive discussions appreciated by the teaching staff. The participants in some schools even told us that the focus group discussions were the best part of the innovation overall. They told us they appreciated the opportunity to discuss their school and considered the focus groups more like a working method for fostering reflection than a research method. Thus, we emphasise that this was a fruitful and exciting approach, not only for researchers but also for school staff to discuss questions targeting their specific school.

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9 The School-In Video Study

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School-In aimed to elucidate how the school's link to the school surroundings and the expectation structures in school play a role for school development, inclusion, and learning. The systemic approach adopted in the project made it necessary to investigate this at different school levels and from different perspectives. By considering Desimone's conceptual framework of professional development in school (Desimone, 2009), we highlight (1) professional development; (2) teachers' knowledge and attitudes; (3) teachers' practice in instruction; and finally, 4) students' learning. This model also considers the context, such as teacher and student characteristics, curriculum, school leadership, and policy environment, which is in line with the systemic approach of School-In (chapter 2).

In School-In, pre-post questionnaires revealed valuable insight from an insider's perspective into how the teaching staff experienced their school and its development (step 1). During the focus group discussions, we gained insight into the teaching staff's knowledge of factors such as school surroundings, expectation structures, and their values and attitudes (step 2). We were also interested in taking an outsider's perspective on the learning conditions in class and teacher's practice (step 3) and an insider's perspective on students' learning (step 4). This is the reason we decided to utilise a video study using both observation and questionnaires as methods in the innovation schools as part of project School-In.

9.1 Framework of the video study in School-In

In the video study in School-In, we focused on supportive learning conditions in instruction and in relation to students' learning processes. We were curious if and how expectation structures (Rubie-Davis & Rosenthal, 2016; Midtsundstad, 2019; Ingebrigtsvold Sæbø & Midtsundstad, 2018), inclusive conditions (Booth & Ainscow, 2002; Göransson & Nilholm, 2014), and ties to the local community (Langfeldt, 2015; Dalehefte & Midtsundstad, 2019) could be identified in the instruction. It was also of interest to investigate how learning conditions that were provided in the instruction could be related to students' learning outcomes and motivation (Ryan & Deci, 2017; Prenzel, 1995; Seidel et al., 2007).

We developed and used instruments based on the theories and empirical findings mentioned above. These consider how expectation structures and local context

play a role in the school, with regard to inclusion, motivation and learning. We were also curious as to whether the intervention and presence of School-In would make a difference in instruction during the intervention. One semester was a brief period in which to expect development. However, since the intervention was quite intense and encouraged concrete actions in class, we hoped to recognise some results of the reflection processes in the Dialogue Café (chapter 5), as well as results of the measures developed in the Reflection Cycle (chapter 6). Other video studies have attempted to describe development over time, such as in the SINUS for Primary Schools video study (Kobarg, Dalehefte, & Menk, 2012).

Our video study involved two instruments: (1) video recordings of instruction; and (2) student questionnaires about the videotaped lesson. This data collection procedure was tested and optimised in a pilot study before the main project started in 2017. We profited greatly from the technical report of the IPN Video Study, which describes how to conduct a video study (Seidel, Prenzel, & Kobarg, 2005). Based on this framework, we operationalised the video study in School-In.

9.2 The operationalisation of the video study in School-In

One or two mathematics classes were videotaped in each school. We videotaped in the 7th, 8th or 9th grade, depending on whether the school was a 1st to 7th grade, an 8th to 10th grade or a 1st to 10th grade school. We videotaped at the beginning (pre) and at the end (post) of the semester in order to reveal eventual development over the intervention period. This part of the study had to be permitted by both students and parents. Students who did not participate spent their time in a parallel class for the duration of the recording.

We conducted the video recordings according to standardised guidelines adapted from the IPN Video Study (Seidel, Dalehefte, & Meyer, 2005). One dynamic camera (teacher camera) was placed on a '1/3 position', filming the students from the side in the classroom. This camera was connected to the teacher's wireless microphone and handled by a person to capture the 'zone of interaction'. One fixed camera was placed at the front of the classroom, on the same side as the teacher camera, capturing the entire class (overview camera). Another person handled this camera, which was connected to the microphone of the second teacher or paraprofessional in the class. If the teacher was alone in class, his/her microphone was recorded by both cameras. Both cameras were provided with wide-angle lenses, and, as a general rule, the cameras were zoomed out to capture as much information as possible. The teachers were told to give a normal lesson as they would have with no video recording; they did not get any suggestions from the School-In team.

Immediately after the lesson was finished, the students filled in a questionnaire about how they had experienced the lesson according to experienced learning conditions and cognitive and motivational outcomes. We adapted much from the questionnaire about teaching and learning processes from the IPN Video Study (Rimmele,

Seidel, Knierim, Kobarg, Dalehefte, Schwindt, & Meyer, 2005). This questionnaire was translated into Norwegian and shortened and modified for our purposes. We also added questions important for our research related to students' perception of expectation structures, inclusion in class, and links to the school's local context in instruction. Scales and relevant characteristics of the questionnaire are provided in chapter 10 in this book.

This chapter presents the video material and information about how we analysed the videos. Overall, we investigated 16 video recordings from nine classes in the seven participating innovation schools. Unfortunately, one video recording session had to be cancelled due to COVID-19. Table 9.1 gives an overview of the recordings and the topics.

Table 9.1: Overview over video recordings of mathematics instructions in School-In

Video – pre	Topic	Duration
1. 010101_08	Basic operations in Excel	39 min; 10 sec.
2. 010201_09	Geometry, area, and perimeter	41 min; 30 sec.
3. 020101_09	Algebra, calculus in parentheses	35 min; 20 sec.
4. 030101_08	Letter expressions, variables, and constants	62 min; 30 sec.
5. 040101_08	Calculation order	39 min; 30 sec.
6. 050101_07	Number patterns and systems	44 min; 00 sec.
7. 060101_08	Division	37 min; 20 sec
8. 060201_09	Recognise patterns	57 min; 15 sec
9. 070101_07	Use of terms, angles	
Video – post	**Topic**	**Duration**
10. 010102_08	Rehearse tasks	56 min; 30 sec
11. 020102_09	Exchange and currency	46 min; 00 sec
12. 030102_08	Volume	45 min; 17 sec
13. 040102_08	Fraction	45 min; 31 sec
14. 050102_07	Mirroring and rotation (class split – two rooms)	48 min; 00 sec
15. 060102_08	Recognise patterns	41 min; 13 sec
16. 060202_09	Recognise patterns and problem solving	42 min; 00 sec
17. 070102_07	No video recording due to COVID-19	

In School-In, we adopted a mixed-method approach using both quantitative and qualitative methods. We used the software Videograph (Rimmele, 2013) for the transcription and quantitative coding of the video recordings. We applied a low-inference category system from the IPN Video Study in physics education (Seidel, 2005) to overview the 'surface structures', or the main activities, in instruction. This category system has been used in several other video studies (Najvar, Janík, Janikova, Hübelova, & Najvarova, 2009; Kobarg, Dalehefte, & Menk, 2012), among others in mathematics instruction in primary school. For the qualitative approach we applied Qualitative Content Analysis procedures (Mayring, 2014).

In School-In, we were interested in how expectations for students' learning activities were expressed in instruction and how cognitively demanding the instruction was in the innovation schools. This was also of particular interest because an official Norwegian report had highlighted that deep-learning processes should be emphasised more strongly in the new curriculum (LK2020) in Norway (Norwegian Ministry of Education and Research, 2015). Thus, we were required to develop a category system for this purpose. We developed a low-inference category system based on Bloom's revised taxonomy (Anderson & Krathwohl, 2001), aiming at coding uttered expectations and learning activities according to this classification (Olsen, 2020). In the following section, this category system is presented.

9.3 Category system of cognitive and knowledge dimensions

Bloom's revised taxonomy is a model that classifies *learning activities* on a cognitive process dimension from lower-order to higher-order thinking skills, and classifies a *knowledge* dimension on a scale ranging from concrete to abstract (Anderson & Krathwohl, 2001). The taxonomy is originally regarded as helpful for planning instruction. For our video study, however, the purpose of the taxonomy was changed to create an observational coding system. Assuming there is a link between higher-order thinking skills and deep learning, we considered this model important for fostering deep learning processes in instruction.

The intention of this coding system was, firstly, to investigate the frequencies and duration and, secondly, to identify the targeted cognitive level of the instruction and tasks. The *cognitive process dimension*, consisting of the categories *remember*, *understand*, *apply*, *analyse*, *evaluate*, and *create* (ranging from lower-order to higher-order thinking skills), was coded separately for the teacher and the students. The *knowledge dimension,* consisting of the categories *factual*, *conceptual*, *procedural*, and *metacognitive* (ranging from concrete to abstract knowledge), was not coded separately but could be linked to the teacher and student taxonomy coding afterwards. Within all three systems, 'none' and 'other' could also be coded if the categories did not occur (none) or fit (other). The coding systems were coded simultaneously. Figure 9.1 shows an overview of the category systems.

We developed the category system in a cyclic manner (Seidel, 2005) and used the theoretical background to describe the categories and the videos to exemplify them. We coded the categories in 10-second intervals using the software Videograph (Rimmele, 2013).

The categories were considered disjunct, meaning that only one category could be coded within a category system at a time. We tested the inter-rater reliability after two people had coded 1/3 of the total sample. The development process ended with an inter-rater agreement of Cohens kappa > .94 for all subcategories. Table 9.2 shows the inter-rater reliability values (number of coded intervals, Cohen's Kappa-value and the

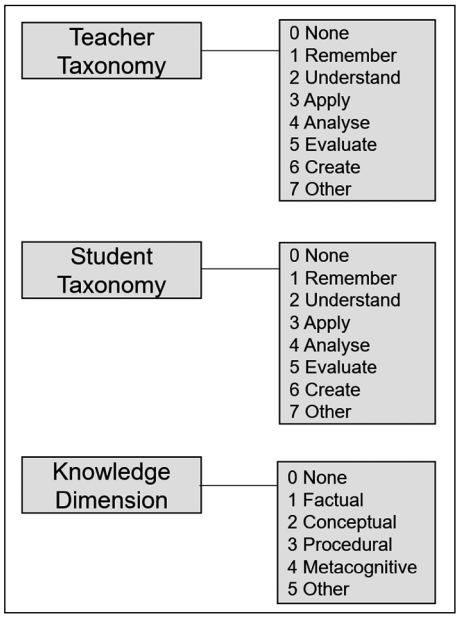

Figure 9.1:
Overview of the category systems

Table 9.2: Inter-rater reliability category systems in School-In (Olsen, 2020)

	Intervals	Kappa	Agreement in %
Taxonomy teacher	868	.96	97
Taxonomy student	868	.94	97
Knowledge dimension	868	.96	98

inter-rater agreement in per cent) of the category systems 'teacher taxonomy', 'student taxonomy', and 'knowledge dimension'.

In the following, we present the category systems for coding the cognitive dimension (9.3.1) and the knowledge dimension (9.3.2) (Olsen, 2020).

9.3.1 Category system for coding the cognitive dimension

Mental processes are not observable. Therefore, the coding must be oriented towards verbal communication and/or visible actions in class.

The category systems, one for the teacher and one for the student taxonomy, consist of the categories (0) None; (1) Remember; (2) Understand; (3) Apply; (4) Analyse; (5) Evaluate, (6) Create; and (7) Other. The explanations and descriptions of the categories in the cognitive dimension are identical for both teacher and student. What the teacher or the student says, or sometimes does, determines which category is the best alternative. There is one important basic rule: If multiple categories are questioned in a sequence, the higher-order category is considered. In the following sections, each category is explained and exemplified.

Category 0: None

Content determination:

Refers to video sequences in which either the teacher or student has no verbal expressions related to the learning component in the classroom.

If the student and/or the teacher does not communicate or ask questions during the video sequence, the code 'none' is chosen. It also refers to situations where the student only answers 'yes', 'no', 'I don't know', etc., and where it is unclear to which category the question/answer belongs. This category is more common for the students than for the teacher.

Description at the observation level:

When the student and/or the teacher speaks or communicates something not related to the learning content in the class, for example, when the teacher announces that the lesson will be videotaped at the beginning of the lesson, or provides information about upcoming tests, etc.

Specific rules for coding:

If communication has nothing to do with the learning content in class.

Category 1: Remember

Content determination:

Activities that require the students to recognise and recall prior knowledge.

The classroom activities focus on 'how much', 'how far', 'when did this happen', etc. The students must retrieve prior, relevant factual knowledge from long-term memory. This category is often paired with 'factual knowledge' in the knowledge dimension.

Description at the observation level:

Activities that can be understood as routine exercises, for example '3 x 3', '7 + 5', or repetitions of knowledge, for instance, 'do you remember what happened?'. The teaching is characterised by reminding the students of what the facts are. The content in the classroom is not contextualised.

Specific rules for coding:

Depends on what the teacher focuses on and what type of knowledge is demanded.

This category is used to distinguish from the category 'understand'.

Category 2: Understand

Content determination:

Relates to relevant skills like interpreting, exemplifying, classifying, comparing, and explaining, etc.

This category often co-occurs with 'conceptual knowledge' in the knowledge dimension. The 'understand' category implies explanations to a phenomenon, often with examples to aid understanding. Central to this category is also determining the meaning of instructional messages given by the teacher. Teaching strategies that focus on using everyday examples, stories, and experiences belong in this category.

Description at the observation level:

Instruction characterised by conversations, discussions, and explanations.

For example, the student and/or the teacher explains something related to the learning content by using examples. This category is coded when the teacher asks the students questions that demand explanations and descriptions. If the students answer, 'I don't understand', etc., this category is coded. It is also coded when the teacher asks if the students understand the assignment or the goal of the lesson.

Specific rules for coding:

More complex than the previous category, but also used to distinguish from the next, more complex category.

For example, in this category, the focus is on explanations and understanding of a phenomenon. In the next category, the focus is more extensive, considering both understanding of a process and how to carry out a procedure.

Category 3: Apply

Content determination:

Focuses on two cognitive processes: executing and implementing.

'Apply' is coded when the sequence reveals that the teacher and/or the student is working on and explaining how a procedure is solved and carried out. The category involves the use of factual knowledge and an understanding of a procedure, model, or formula, as well as knowledge of how to use this in practice. The situations often switch between 'apply' and 'understand' because the teacher often explains why the students have to learn the given procedure and, in the next moment, how they are going to do so. This category often co-occurs with 'procedural knowledge' in the knowledge dimension.

Description at the observation level:

Coded if questions and activities reveal knowledge about procedures and how to apply them.

This includes students explaining to the teacher what they have done to solve the problem or students asking questions about mathematical procedures. For example, 'apply' is coded if the teacher explains how to solve a specific problem step by step and then asks the students to apply the knowledge. The students use knowledge either from a book or from the teacher to solve problems. This category is coded if the students ask or communicate anything that can be understood as applying knowledge to procedures or processes to solve a problem. It is also coded if students are executing procedures they already know, or applying knowledge to new and unfamiliar issues, such as solving a mathematical problem using a learned procedure and/or a digital software (Excel).

Specific rules for coding:

Applies to sequences that focus on approaching a problem and solving it, although it implies that there might be both right and wrong ways to solve the given problem.

Category 4: Analyse

Content determination:

Used about breaking material into its constituent parts and detecting how the parts relate to one another and an overall structure or purpose (Krathwohl, 2002).

The students should possess the knowledge that enables them to establish connections, such as between numbers, and to recognise systems and explain them. They should identify what is relevant and essential in a message and comprehend the underlying meaning in a communicated message. Analysing also involves students discovering an error in their problem solving and then deducing what happened, which step went wrong, and how to fix it.

Description at the observation level:

Focuses on student analyses of the how or why concerning a problem.

In mathematics, a problem is often given as a text assignment including a significant amount of information. The students have to analyse and consider what the relevant and important parts of the text are. In class, they might have to analyse the procedure they have applied to a problem-solving process and be able to explain how and why they did what they did. The teacher's focus is on students' ability to solve problems by themselves, without the teacher's explanations. They will explore the academic chal-

lenge by themselves. Teacher questions like 'what did you find?', 'how did you do it?', 'how could you do this in a different way?', 'why do you think it's like that?', and 'are there other relevant ways to solve this problem?' often support the analysis process.

Specific rules for coding:

Pertains to a logical analysis of a problem.

This category can be understood as an extension of the category 'understand'. Nevertheless, the core thing is not the learning process per se but the process of analysing. Furthermore, what is of interest is not whether something is right or wrong, but how students find the solutions based on analyses and reasoning.

Category 5: Evaluate

Content determination:

Pertains to the skills to judge something based on external and internal criteria and standards (e.g., quality and efficiency).

Checking and critical questioning are essential concepts in this category. Evaluation based on criteria, values fostering critical thinking, and the ability to judge a procedure and commenting on its value are expected in this category. Students should recognise inconsistencies and compare procedures and methods to discover positive and negative aspects of a procedure/method/product.

Description at the observation level:

Pertains to the students when they are encouraged to evaluate something they have learnt and/or accomplished.

For example, the students may evaluate the effectiveness of the way in which they solved a problem. Such an evaluation is performed by judging if their solution was the best way to solve the problem and by explaining and reflecting upon the method by pinpointing both negative and positive outcomes.

Specific rules for coding:

Situations or sequences where the teacher encourages his or her students to be critical to information and procedures or encourages them to evaluate their own work or that of others (often based on criteria).

Category 6: Create

Content determination:

Characterised by aspects such as planning, generating, and producing.

This implies combining elements to form a new product or reorganising elements to form a new structural pattern that has not yet been explicit. The students must possess qualities that enable them to use various sources to create a new product.

Description at the observation level:

Applies when students use creativity to produce a new idea.

For example, the students are assigned the task of developing a plan showing how mathematics can play a role in sustainability issues and a 'cleaner' world. An assignment like this does not always have a right or wrong answer, but it highlights the importance of creativity and new ways of thinking.

Specific rules for coding:

Also implies the use of other categories, but an aspect of 'creating' is required to code 'create'.

Category 7: Other

Content determination:

A cognitive process that is not included in the other categories.

Description at the observation level:

Communication or actions that cannot be identified within any other category (0–6), for example, if a student guesses the answer to a question.

Specific rules for coding:

None

9.3.2 Category system for coding the knowledge dimension

This category system consists of the following categories: (0) None; (1) Factual; (2) Conceptual; (3) Procedural; (4) Metacognitive; and (5) Other. In the following sections, each category is explained and exemplified.

Category 0: None

Content determination:

Refers to video sequences in which either the teacher or student has no verbal expressions related to the learning component in the classroom.

Description at the observation level:

When the student and/or the teacher talks or communicates something unrelated to the learning content in the class.

For example, the teacher announces that the lesson will be videotaped at the beginning of the lesson, or provides information about upcoming tests next week, etc.

Specific rules for coding:

If communication has nothing to do with the learning content in class.

Category 1: Factual knowledge

Content determination:

Refers to basic knowledge and the focus on isolated facts.

This category reveals knowledge of concepts, facts, and specific details and elements, and often occurs with the category 'remember' in the previous category system.

Description at the observation level:

Instruction based on questions and teaching what concepts are.

Examples include 'what is pi?', 'what is 7 multiplied with 3?', 'can you tell me what the formula for calculating area/circumference/diameter/radius etc. is?'

Specific rules for coding:

Basic factual knowledge that does not require a long answer or an explanation.

Category 2: Conceptual knowledge

Content determination:

Refers to knowledge of classifications, categories, principles, and generalisations and includes knowledge of theories, models, and procedures.

The category often occurs with the category 'understand', but not exclusively. It is a more complex organised form of knowledge than the previous category and includes explanations and providing context.

Description at the observation level:

Reveals insight through a focus on phenomena, concepts etc. and through examples and explanation.

At the core is an understanding of structures, models, principles, etc., and gaining knowledge of these concepts to apply them later on.

Specific rules for coding:

When the teacher focuses on explanations and examples.

This knowledge dimension often, but not exclusively, occurs with 'understand' in the previous category system.

Category 3: Procedural knowledge

Content determination:

Focuses on knowledge of subject-specific skills, algorithms, techniques, and methods.

This category also contains knowledge of criteria for determining when and why to use an appropriate procedure, such as choosing a good way to correctly solve a mathematics equation.

Description at the observation level:

Occurs in instruction when it is obvious that the students must learn a procedure or method to achieve a goal.

Examples include how to solve an algorithm in the mathematics textbook. The teacher conveys and explains different formulas and shows the students how an algorithm can be calculated.

Specific rules for coding:

Applies when knowledge is revealed concerning procedures and methods for solving a problem or reaching a goal.

The category is often paired with the category 'apply' in the former category system, where the students are supposed to learn how to apply proper techniques and methods, but can also occur with other categories, for example 'understand', if the teacher explains the procedure without showing how to use it.

Category 4: Metacognitive knowledge

Refers to knowledge concerning one's own knowledge (knowledge of one's own strengths and weaknesses in relation to cognition and learning) and strategic knowledge (general strategies for learning, thinking, and problem-solving).

This category is about understanding and comprehending that different problems demand different cognitive strategies and levels of cognitive activation. It implies understanding that tasks can be experienced as rather difficult or easy, depending on different individual personal skills and knowledge.

Description at the observation level:

Coded if awareness is expressed about personal skills, knowledge, and arguments for making choices.

An example is 'I am good at calculating with one unknown in algebra, but for calculating with two unknown numbers, I would need more practice'. This category can also be coded if students describe what they were thinking about and why they performed a certain action. The category also covers considerations of ways to act in the sense of 'I think this method/formula is difficult; that's why I will make it easier and write down every single step in the process' or 'if you are building a house, you have to be able to calculate the angle of the roof, and this seems more important to me than learning how to calculate with abstract formulas'.

Specific rules for coding:

None

Category 5: Other

Content determination:

A kind of knowledge that is not included in the other categories.

Description at the observation level:

Communication or actions not identified within any other category (0–4).

Specific rules for coding:

None

9.4 Implications for further research and school development

The video study in School-In aimed to identify conditions in instruction relevant for students' learning and motivation, focusing specifically on conditions related to inclusion and learning. It was also of interest to investigate how instruction was linked to the local context. The latter became difficult because we experienced that this linkage hardly occurred in the lessons we had videotaped. Thus, investigating how the local context can play a role in teaching, inclusion, and learning presupposes that the local context is considered in instruction.

Nevertheless, our findings gave valuable insight into how cognitive and knowledge processes (as described by Andersen & Krathwohl, 2001) are uttered, initiated, and expected in instruction (Olsen, 2020). We used mixed methods by quantitatively capturing the amount and duration of the distinct categories presented above. Thereby, we stated that the instruction, in general, aimed at surface learning processes. Deep learning strategies were targeted to a much lesser degree. In addition, our qualitative findings indicated that expectations, for example in terms of the aims of the lessons, were not properly expressed to the students. This might have made it difficult for them to understand the relevance of the learning content (Olsen, 2020).

Due to the small sample size, we must, of course, question the generalisability of the findings. We also had to both develop and train for the coding system by using the videos in the sample, which is not optimal. Thus, further research is needed to apply the coding systems to a larger, independent sample. Nevertheless, these findings are of great value with respect to school development in the participating schools and also for other schools that will be included in the follow-up of School-In (uia.no/en/school-in).

Further research is planned in which the observational data will be linked to the student questionnaire (chapter 10) on instruction, completed directly after the end of the lesson. This has proven to be a successful approach, for example in the IPN Video Study (Seidel, Prenzel, Schwindt, Rimmele, Kobarg, & Dalehefte, 2009). Thus, we assume that this will reveal insight into how learning conditions are linked to learning processes and how students feel included in mathematics instruction in the innovation schools in the project School-In.

In School-In, we advocate clear expectations towards the students. We also suggest relating the instruction more often to the local context and claim that the local context

has so far been an underestimated resource for learning and inclusion (Dalehefte & Midtsundstad, 2019). Yet more research is needed to understand the impact of expectations and the use of the local context for learning outcomes, inclusion, and the student role in instruction.

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10 The Questionnaires in School-In

Inger Marie Dalehefte

This chapter presents the questionnaires used in the project School-In (2017–2020), consisting of (1) a teaching staff questionnaire used in the innovation schools and the control schools; (2) a student questionnaire used in the innovation schools; and (3) a student questionnaire used in the video study (chapter 9) related to instruction in the innovation schools.

In School-In, we needed research instruments to map and evaluate the conditions of the schools and to be able to give the schools feedback and stimuli for school development. We developed questionnaires by adapting some existing items and scales from earlier research, but above all, we had to create several new items in order to conduct our research. The teaching staff questionnaire and the student questionnaire related to instruction were developed and piloted before the project began. The student questionnaire was developed at the beginning of the main project because there was a need for additional accompanying data from the participating schools.

The questionnaires were an essential source of data in School-In. A pre-post control group design seemed appropriate for noting changes and effects, and therefore the teaching staff questionnaire was also distributed to parallelised control schools. An overview of the use of the questionnaires in School-In is listed in table 10.1.

Table 10.1: The questionnaires in School-In

	Pre	**Post**
School-In schools (7 schools)	Questionnaire – teaching staff Questionnaire – students Questionnaire related to instruction – student	Questionnaire – teaching staff Questionnaire related to instruction – student
Control schools (6 schools)	Questionnaire – teaching staff	Questionnaire – teaching staff

The *teaching staff questionnaire* was distributed in both the innovation and the control schools. It was distributed at the beginning of the semester to identify development areas, and at the end of the semester to analyse the effects of the intervention in the innovation schools compared to the control schools.

The *student questionnaire* related to the school and its surroundings was administered in 7th grade (in 1st to 7th grade schools) or 8th grade (in 1st to 10th grade schools,

or 8th to 10th grade school) classes at the beginning of the semester to identify possible development areas of innovation schools from a student perspective.

The *student questionnaire related to instruction* was distributed in the innovation schools at the beginning and at the end of the semester, immediately after the video recording of mathematics lessons in 7th, 8th, or 9th grade. The purpose of the questionnaire was to get an impression of the extent to which links to the local context, clarifications of expectations and roles, as well as other important conditions for inclusion, motivation, and learning processes were embedded in mathematics instruction in the innovation schools.

Challenges connected to the small sample size in School-In were to some degree compensated for by supplementing the data with other existing quantitative data sources from Statistics Norway (SSB) and results of national tests and surveys conducted by the Norwegian Directorate for Education and Training. Additional qualitative data sources (i.e., focus group interviews and student group interviews) allowed for in-depth analyses and a mixed-method approach.

This chapter presents the items used in the School-In study and the scale characteristics with their descriptive values calculated with SPSS 25 (IBM, 2017). The items were translated from Norwegian into English to make them internationally accessible. The information about the items includes mean values (M), standard deviations (SD), selectivity (r_{it}), and Cronbach's alpha value if the item was deleted (a). The information at the scale level includes reliability (Cronbach's α/Spearman Brown's ρ), the scale mean (M), the standard deviation (SD), as well as the sample size (N).

10.1 The teaching staff questionnaire

The development of the questionnaire for the teaching staff was based on the composition of educational theories and existing empirical findings related to inclusion and the role of school context. Based on our theoretical background, we developed questions related to the local context (Langfeldt, 2015), roles and expectations (Midtsundstad, 2019), and inclusion (Booth & Ainscow, 2002; Göransson & Nilholm, 2014). About 460 (pre) and 340 (post) participants, consisting of both teachers (78.4% (pre)/80.6% (post)) and paraprofessionals (21.6% (pre)/19.4% (post)) from innovation and control schools, filled in the questionnaire at the beginning (pre) and end (post) of the semester. The teaching staff answered the questions on a rating scale from 0 (completely disagree) to 5 (completely agree).

The questionnaire consisted of four parts, plus one extra evaluation part for the innovation schools at the second measuring point. The parts were: (1) teachers'/paraprofessionals' perceptions of what the local community/parents expect from school; (2) teachers'/paraprofessionals' perceptions of what the school can expect from the local context/parents; (3) teachers'/paraprofessionals' perceptions of the school culture (colleagues, class, students); (4) teachers'/paraprofessionals' perceptions of school conditions; and (5) teachers'/paraprofessionals' perceptions of School-In's contribu-

tion to school development (innovation schools only). In this way, we collected data on how staff perceive the relations to the surroundings of the school and expectations from the local context and how they experience expectations, roles, and conditions within their school. In the following, we present the items and scales of the teaching staff questionnaire.

10.1.1 Perceptions of what the local community/parents expect from the school

Table 10.2: Teaching staff's perceptions of local context expectations

Intro: The local community expects that …	
Variable	**Item**
Lok_f02	… the school reacts to problems in the local community
Lok_f13	… the school contributes to a safe local community
Lok_f17	… the school makes changes in line with local needs
Lok_f18	… the school contributes to a sound local community

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Lok_f02	3.73	.987	.511	.778	3.74	.933	.508	.740
Lok_f13	4.25	.861	.607	.725	4.39	.731	.546	.715
Lok_f17	3.91	.942	.565	.746	3.89	.887	.517	.730
Lok_f18	4.21	.826	.705	.680	4.26	.779	.699	.634
Scale	α=.79 M=4.03 SD=.71 N=461				α=.76 M=4.07 SD=.64 N=340			

Table 10.3: Expectations about the school's reputation

Intro: The local community expects that …	
Variable	**Item**
Lok_f09	… the school is mentioned in the media (i.e., newspapers) in a positive way
Lok_f21	… the school does not have a poor reputation

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Lok_f09	4.03	1.077	.614	–	4.11	.912	.631	–
Lok_f21	4.05	1.170	.614	–	4.22	.907	.631	–
Scale	ρ=.76 M=4.02 SD=1.03 N=458				ρ=.77 M=4.18 SD=.82 N=342			

Table 10.4: Perceived external expectations about follow-up of governmental directives

Intro: The local community expects that …	
Variable	**Item:**
Lok_fo6	… the school follows current school legislation
Lok_f16	… the school follows governmental guidelines

	Pre				**Post**			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Lok_fo6	4.85	.465	.597	–	4.87	.390	.745	–
Lok_f16	4.80	.532	.597	–	4.85	.452	.745	–
Scale	ρ=.75 M=4.82 SD= .45 N=466				ρ=.85 M=4.84 SD= .44 N=346			

Table 10.5: Expectations about the school's connection to the local community

Intro: The local community expects that …	
Variable	**Item**
Lok_fo1	… the school contributes to students' development of positive relationships with the local community
Lok_fo4	… the school shows interest in the local community
Lok_f11	… the school uses relevant learning arenas (places/people/activities) in the local community
Lok_f14	… the school encourages students to participate in the local community
Lok_f20	… the school considers the local community as a resource for learning

	Pre				**Post**			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Lok_fo1	4.24	.781	.488	.787	4.24	.697	.628	.853
Lok_fo4	4.20	.830	.596	.755	4.24	.791	.738	.825
Lok_f11	4.03	.887	.576	.762	4.07	.873	.677	.841
Lok_f14	3.93	.945	.609	.751	4.02	.823	.672	.842
Lok_f20	4.14	.873	.636	.742	4.18	.856	.733	.826
Scale	α=.80 M=4.10 SD= .65 N=462				α=.87 M=4.16 SD= .65 N=343			

Table 10.6: Expectations about handling diversity

Intro: The local community expects that …	
Variable	**Item**
Lok_fo3	… the school is able to meet students who exhibit challenging behaviour
Lok_fo8	… the school contributes to students' development of respect for fellow persons
Lok_f10	… the school has space for diversity
Lok_f15	… the school enables learning for all students

	Pre				**Post**			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Lok_fo3	4.36	.826	.520	.760	4.37	.781	.560	.791
Lok_fo8	4.68	.594	.611	.696	4.70	.553	.635	.748
Lok_f10	4.75	.573	.530	.735	4.70	.640	.597	.758
Lok_f15	4.63	.675	.664	.660	4.64	.646	.703	.706
Scale	α=.77 M=4.60 SD=.63 N=467				α=.80 M=4.60 SD=.52 N=346			

Table 10.7: Expectations about students' learning and development

Intro: The local community expects that …	
Variable	**Item**
Lok_fo5	… the school contributes to the children's personal development
Lok_fo7	… the school helps children to acquire knowledge for future working life
Lok_f12	… the school enables good student performance
Lok_f19	… the school contributes to the children's academic competence

	Pre				**Post**			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Lok_fo5	4.65	0.60	.584	.767	4.64	0.58	.591	.790
Lok_fo7	4.61	0.71	.619	.753	4.51	0.75	.649	.774
Lok_f12	4.50	0.71	.616	.754	4.61	0.63	.658	.760
Lok_f19	4.78	0.53	.674	.735	4.76	0.53	.691	.754
Scale	α=.80 M=4.63 SD= .51 N=466				α=.82 M=4.62 SD= .52 N=345			

10.1.2 Perception of what the school can expect from the local community (parents/guardians, politicians, municipality, media, and others)

Table 10.8: Expectations about the follow-up of governmental directives

Intro: At school, we experience that …	
Variable	**Item**
S_oplo6	… parents/guardians are concerned about the school's compliance with current school legislation
S_opl10	… parents/guardians are concerned that the school follows governmental guidelines

	Pre				**Post**			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
S_oplo6	443	4.05	.833	–	339	4.10	.827	–
S_opl10	443	3.96	.891	–	339	4.05	.887	–
Scale	ρ=.84 M=3.99 SD=.82 N=456				ρ=.81 M=4.06 SD=.79 N=349			

Table 10.9: Support for students' learning and development

Intro: At school, we experience that …	
Variable	**Item**
S_oplo1	… parents/guardians support children's academic development
S_oplo5	… parents/guardians contribute to children's personal development in a positive way
S_oplo7	… parents/guardians see the importance of children's competence for future working life
S_oplo8	… parents/guardians are interested in students' performing well

	Pre				**Post**			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
S_oplo1	3.83	.725	.606	.796	3.87	.767	.685	.796
S_oplo5	3.81	.699	.636	.783	3.91	.730	.656	.808
S_oplo7	3.88	.788	.693	.756	3.99	.793	.663	.806
S_oplo8	3.81	.760	.658	.773	3.98	.780	.702	.788
Scale	α=.82 M=3.83 SD=.60 N=466				α=.84 M=3.93 SD= .63 N=350			

Table 10.10: Experience of support from parents and the local community

Intro: At school, we experience that …	
Variable	**Item**
S_opl02	… the local community supports the school's work with students who exhibit challenging behaviour
S_opl04	… parents/guardians are a resource for the school
S_opl09	… the local community is interested in the school's current challenges
S_opl12	… the parents'/guardians' local knowledge is used in school

	Pre				**Post**			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
S_opl02	3.40	.956	.490	.744	3.40	1.023	.679	.757
S_opl04	3.76	.873	.529	.726	3.74	.912	.627	.784
S_opl09	3.23	1.020	.676	.642	3.29	1.075	.635	.778
S_opl12	2.91	1.100	.570	.706	3.06	1.128	.643	.776
Scale	α=.76 M=3.31 SD=.76 N=455				α=.82 M=3.37 SD=.83 N=343			

Table 10.11: Expectations of the school's reputation

Intro: At school, we experience that …	
Variable	**Item**
S_opl03	… the local community talks about the school in a positive way
S_opl11	… parents/guardians are a resource for the school

	Pre				**Post**			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
S_opl03	3.50	1.034	.728	–	3.56	1.001	.674	–
S_opl11	3.51	1.036	.728	–	3.67	1.001	.674	–
Scale	ρ=.79 M=3.49 SD=.94 N=455				ρ=.76 M=3.61 SD=.89 N=343			

10.1.3 School-culture

The questions about school culture are related to (1) colleagues (table 10.12 to table 10.17); (2) instruction (table 10.18 to table 10.24); and (3) students (table 10.25 to table 10.28).

Table 10.12: Collaboration and sharing culture

Variable	Item
Kollo1	The colleagues collaborate on teaching/projects
Kollo4	The colleagues cooperate on planning instruction
Kollo7	The colleagues share teaching materials
Koll18	Colleagues are happy to share teaching arrangements

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Kollo1	4.30	.788	.702	.800	4.14	.876	.749	.836
Kollo4	4.13	.879	.624	.833	4.00	.982	.742	.843
Kollo7	4.26	.865	.705	.797	4.24	.833	.744	.839
Koll18	4.37	.815	.715	.793	4.37	.781	.719	.850
Scale	α=.85 M=4.27 SD=.69 N=460				α=.88 M=4.19 SD=.74 N=349			

Table 10.13: Teaching staff's view on students' socio-cultural background

Variable	Item
Kollo5	The staff complain about the students' socio-cultural background
Koll13	Students' socio-cultural background is important for learning
Koll19	The students' background can explain differences in learning outcomes
Koll20	Colleagues are concerned about the educational background of the students' parents
Koll22	The parents' educational background is relevant for follow-up of school-home collaboration

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Kollo5	1.79	1.315	.269	.621	1.60	1.271	.412	.671
Koll13	3.84	1.075	.353	.575	3.60	1.145	.330	.699
Koll19	3.23	1.095	.392	.557	2.79	1.289	.512	.628
Koll20	1.53	1.164	.425	.539	1.51	1.165	.594	.598
Koll22	2.31	1.429	.447	.523	2.09	1.440	.456	.655
Scale	α=.62 M=2.55; SD= .77 N=446				α=.70 M=2.31; SD=.87 N=338			

Table 10.14: Staff's joint actions for following up students

Variable	Item
Kollo8	The staff have common ways of making use of the student conversation*
Koll15	The staff enforce common norms for student behaviour
Koll17	The staff have a common approach in conducting student assessment
Koll21	The staff agree with what they expect from the student role

*In Norway, regular, semi-annual, mutually informing conversations between teacher and student are part of governmental regulations for public schools.

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Kollo8	3.63	1.190	.478	.727	3.69	1.205	.478	.727
Koll15	3.91	1.081	.506	.692	3.85	.945	.506	.692
Koll17	3.47	1.063	.645	.610	3.58	1.000	.645	.610
Koll21	3.84	.889	.537	.684	3.87	.813	.537	.684
Scale	α=.77 M=3.70; SD= .81 N=439				α=.74 M=3.75; SD= .74 N=341			

Table 10.15: Perceived quality of own teaching staff

Variable	Item
Koll11	Most colleagues are skilled teachers
Koll14	The school has good teachers

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Koll11	4.52	.617	.633	–	4.68	.259	.599	–
Koll14	4.61	.566	.633	–	4.53	.345	.599	–
Scale	ρ=.78 M=4.56 SD=.54 N=465				ρ=.75 M=4.59 SD=.50 N=349			

Table 10.16: Staff's well-being and collegial climate

Variable	Item
Kollo9	The staff are concerned about maintaining good relations with the students
Koll12	The school has a good working climate
Koll23	The colleagues get along well with each other

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Kollo9	4.80	.462	.407	.635	4.76	.483	.522	.548
Koll12	4.41	.714	.480	.562	4.46	.663	.456	.642
Koll23	4.66	.572	.545	.442	4.65	.545	.503	.552
Scale	α=.65 M=4.62 SD=.46 N=467				α=.67 M=4.56 SD=.54 N=350			

Table 10.17: Transparency about challenges

Variable	Item
Kollo2	The staff talk about the students' socio-cultural background
Kollo3	The staff discuss the school's everyday issues

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Kollo2	4.11	.911	.554	–	3.99	.972	.485	–
Kollo3	4.43	.785	.554	–	4.42	.721	.485	–
Scale	ρ=.71 M=4.27 SD=.75 N=466				ρ=.65 M=4.20 SD=.76 N=351			

Table 10.18: Staff's beliefs about students' knowledge of school's expectations

Variable	Item
Und04	Students know what expectations of behaviour apply to instruction
Und10	Students know what is expected of them in class
Und16	Students know the expectations of participation in instruction

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Und04	4.29	.735	.667	.702	4.31	.669	.602	.756
Und10	4.17	.723	.666	.703	4.28	.687	.701	.654
Und16	4.08	.813	.603	.775	4.11	.797	.621	.747
Scale	α=.80 M=4.18; SD=.64 N=464				α=.79 M=4.23; SD=.61 N=351			

Table 10.19: Beliefs about and valuing the local context as a resource in instruction

Variable	Item
Und05	References to the local context help to make the instruction's content relevant for the students
Und11	The parents' profession is used as a resource in instruction
Und14	The local context should be given space in the instruction
Und17	The students' knowledge of the local context is used in instruction
Und22	The parents' local knowledge is used as a resource in instruction

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Und05	3.38	1.035	.503	.753	3.66	1.055	.422	.722
Und11	2.13	1.229	.615	.715	2.24	1.201	.605	.650
Und14	3.60	.932	.410	.779	3.95	.849	.369	.736
Und17	3.11	1.016	.619	.716	3.28	.918	.598	.663
Und22	2.12	1.250	.626	.711	2.35	1.169	.536	.680
Scale	α=.80 M=2.83 SD=.81 N=446				α=.74 M=3.08 SD=.74 N=341			

Table 10.20: Beliefs about and valuing students' role as a resource in instruction

Variable	Item
Und06	Teaching that allows student input increases the possibility that more students understand
Und12	Using students in teaching shows they are valued
Und21	Using students' thoughts and opinions in teaching makes the instruction more interesting
Und23	Individual student can use other students as a model for the development of their student role
Ele05	Students contribute with their thoughts and ideas in instruction
Ele13	Students contribute with their knowledge in instruction

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Und06	4.43	.701	.539	.692	4.47	.605	.499	.686
Und12	4.23	.891	.454	.716	4.33	.790	.488	.685
Und21	4.61	.608	.563	.693	4.63	.543	.468	.697
Und23	3.95	.923	.416	.730	4.14	.809	.442	.701
Ele05	3.83	.804	.503	.699	3.86	.796	.419	.708
Ele13	3.82	.762	.467	.709	3.92	.739	.515	.677
Scale	α=.74 M=4.14 SD=.53 N=454				α=.73 M=4.23 SD=.47 N=344			

Table 10.21: Quality of togetherness

Variable	Item
Und02	Staff and students have a good tone with each other
Und08	Staff and students treat each other in a respectful way

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Und02	4.41	.586	.542	–	4.45	.588	.462	–
Und08	4.23	.803	.542	–	4.27	.714	.462	–
Scale	ρ=.70 M=4.33 SD=.61 N=468				ρ=.63 M=4.36 SD=.56 N=351			

Table 10.22: Innovation-inhibiting factors

Variable	Item
Und01	Facilitating students' mastery is difficult to realise in everyday school life
Und20	Using the school's local context in teaching is difficult to realise in everyday school life
Und24	Using the students' input in instruction is difficult to realise in everyday school life

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Und01	2.61	1.290	.405	.335	2.48	1.271	.369	.506
Und20	3.14	1.124	.302	.503	2.90	1.202	.365	.510
Und24	1.63	1.231	.341	.446	1.67	1.273	.430	.411
Scale	α=.54 M=2.45 SD=.88 N=460				α=.58 M=2.35 SD=.92 N=348			

Table 10.23: Exclusionary beliefs about students with challenges

Variable	Item
Und03	It is the weakest students who disrupt the teaching
Und07	Difficult questions should only be directed towards students who will master them
Und15	Most students with challenges need to be addressed separately outside class and classroom

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Und03	1.91	1.277	.337	.304	1.91	1.224	.354	.372
Und07	1.89	1.384	.217	.496	1.91	1.484	.265	.507
Und15	1.99	1.536	.332	.296	1.94	1.512	.362	.336
Scale	α=.54 M=1.92 SD=.97 N=464				α=.51 M=1.91 SD=1.01 N=349			

Table 10.24: Single Items

Variable	Item
Und13	Every student at our school experiences the same expectations
Und18	The degree of assignment difficulty should be adapted to the students' prerequisites for mastery
Und19	In instruction, students get a new chance every day
Und25	Only the smartest students participate actively in teaching
Koll16	The teachers contribute to good results in national tests

	Pre		Post	
Variable	**M**	**SD**	**M**	**SD**
Und13	3.18	1.237	3.28	1.243
Und18	4.43	.763	4.41	.687
Und19	4.31	.840	4.37	.825
Und25	2.61	1.319	2.49	1.313
Koll16	3.76	.914	3.83	.921

Table 10.25: Students' social behaviour

Variable	Item
Ele09	Students help each other with instructional tasks
Ele14	Students show mutual respect
Ele17	Students listen to each other

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**α**	**M**	**SD**	**r_{it}**	**α**
Ele09	3.99	.731	.390	.729*	3.96	.750	.395	.729*
Ele14	3.66	.811	.555	.526	3.59	.850	.545	.548
Ele17	3.70	.761	.577	.500	3.65	.785	.592	.487
Scale	α=.69 M=3.62 (* Ele09 excluded) SD=.72 N=462				α=.68 M=3.75 (* Ele09 excluded) SD=.65 N=351			

Table 10.26: Students' potential for change

Variable	Item
Ele03	Students' work habits can be improved
Ele06	Students' motivation for learning can be changed
Ele10	Students' involvement in instruction can be changed
Ele15	Students' behaviour in class can be changed

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Ele03	4.03	.824	.313	.818	4.13	.786	.339	.855
Ele06	4.04	.845	.621	.671	4.07	.843	.673	.710
Ele10	3.92	.907	.691	.626	3.93	.896	.720	.682
Ele15	3.84	.985	.634	.659	3.89	.965	.714	.683
Scale	α=.76 M=3.96 SD=.68 N=458				α=.79 M=4.00 SD=.69 N=345			

Table 10.27: Students causing concern

Variable	Item
Ele04	Students who exhibit non-compliant behaviour cause more concern than others
Ele08	Students who exhibit a withdrawn, silent behaviour cause more concern than others
Ele12	Students who do not collaborate cause more concern than others
Ele16	Students who do not adapt to school expectations cause more concern than others

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Ele04	3.62	1.219	.429	.658	3.63	1.215	.486	.662
Ele08	3.77	1.000	.380	.675	3.77	.932	.442	.680
Ele12	3.32	1.015	.513	.596	3.28	1.008	.483	.656
Ele16	3.36	1.031	.579	.553	3.38	1.056	.594	.587
Scale	α=.69 M=3.51 SD=.77 N=456				α=.71 M=3.51 SD=.77 N=342			

Table 10.28: Students as proactive learners

Variable	Item
Ele02	Students take responsibility for their own learning
Ele07	Students are eager
Ele11	Students like to learn

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Ele02	2.85	.922	.369	.717	2.89	.919	.426	.741
Ele07	3.62	.796	.584	.412	3.63	.844	.599	.511
Ele11	3.94	.774	.481	.553	3.97	.778	.553	.580
Scale	α=.69 M=3.46 SD=.65 N=459				α=.70 M=3.50 SD=.67 N=349			

10.1.4 School conditions

Table 10.29: Knowledge of the school's expectations

Variable	Item
Maalfoo1	The staff are aware of the expectations of the school organisation
Maalfoo2	The colleagues are aware of the requirements that are expected of them in school

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Maalfoo1	4.06	.846	.761	–	4.07	.767	.737	–
Maalfoo2	4.26	.731	.761	–	4.30	.722	.737	–
Scale	ρ=.86 M=4.16 SD=.74 N=463				ρ=.85 M=4.19 SD=.69 N=463			

Table 10.30: Common understanding and cohesion among colleagues

Variable	Item
Maalfoo3	The colleagues stand together to achieve the school's goals
Maalfoo4	The colleagues have good cohesion

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Maalfoo3	4.32	.767	.645	–	4.34	.681	.578	–
Maalfoo4	4.54	.677	.645	–	4.64	.579	.578	–
Scale	ρ=.77 M=4.43 SD=.66 N=465				ρ=.73 M=4.49 SD=.56 N=348			

Table 10.31: Consistency in expectations between school and staff

Intro:	*My school responsibilities …*
Variable	**Item**
Oppgo1	… support my competence development
Oppgo8	… are designed in my and the school's best interest
Oppg10	… are a topic I can discuss with the leadership if necessary

	Pre				Post			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Oppgo1	3.97	.853	.437	.599	4.02	.883	.540	.680
Oppgo8	3.83	.913	.550	.442	3.83	.927	.602	.606
Oppg10	4.23	.938	.420	.626	4.28	.932	.549	.670
Scale	α=.77 M=4.00 SD=.70 N=462				α=.74 M=4.04 SD=.76 N=347			

Table 10.32: Perceived workload

Intro:	*My school responsibilities are …*
Variable	**Item**
Oppg04	… perceived as stressful
Oppg09	… experienced as a heavy workload

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Oppg04	2.37	1.379	.664	–	2.36	1.402	.710	–
Oppg09	1.84	1.326	.664	–	1.80	1.407	.710	–
Scale	ρ=.80 M=2.11 SD=1.24 N=448				ρ=.83 M=2.12 SD=1.34 N=348			

Table 10.33: Experienced control

Intro:	*My school responsibilities are …*
Variable	**Item**
Oppg03	… formulated based on the school organisation's needs
Oppg06	… perceived as binding

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Oppg03	4.00	.844	.333	–	3.96	.968	.351	–
Oppg06	4.24	.801	.333	–	4.31	.884	.351	–
Scale	ρ=.50 M=4.12 SD=.71 N=455				ρ=.50 M=4.15 SD=.76 N=347			

10.1.5 School-In has contributed to …

Table 10.34: More reflection on activities in

Intro:	School-In has contributed to …			
Variable	**Item**			
Bidrag01	… me thinking more than before about my routines in everyday school life			
Bidrag02	… me reflecting more often about my teaching			
Bidrag03	… me being more aware of the student role			
Bidrag05	… me reflecting more often about the sharing culture among the staff			
Bidrag12	… me thinking more often about how I can use the students as a resource in my teaching			
	Post only			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Bidrag01	3.20	1.170	.708	.845
Bidrag02	3.09	1.209	.783	.826
Bidrag03	3.00	1.325	.735	.837
Bidrag05	2.99	1.373	.624	.867
Bidrag12	3.15	1.213	.667	.854
Scale	α=.87 M=3.10 SD=1.02 N=173 (post-test, innovation schools)			

Table 10.35: Increased initiatives and processes for change in the school

Intro:	*School-In has contributed to …*			
Variable	**Item**			
Bidrag06	… new input and ideas we can realise in everyday school life			
Bidrag11	… processes being initiated and followed up jointly			
Bidrag15	… us realising that even small measures can contribute to change			
Bidrag18	… us starting processes to change something			
	Post only			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Bidrag06	3.81	1.076	.640	.800
Bidrag11	3.34	1.085	.577	.828
Bidrag15	3.75	1.009	.716	.767
Bidrag18	3.87	1.045	.727	.761
Scale	α=.84 M=3.66 SD=.87 N=172 (post-test, innovation schools)			

Table 10.36: Increased awareness of the local community and the parents' role

Intro:	*School-In has contributed to …*
Variable	**Item**
Bidrag04	… me thinking more than before about the local context's role in the school
Bidrag07	… me thinking more than before about the role of parents in school
Bidrag13	… me using more examples from the local community in instruction

	Post only			
Variable	**M**	**SD**	$\mathbf{r}_{it}$	**a**
Bidrag04	3.64	1.254	.633	.732
Bidrag07	2.85	1.467	.652	.718
Bidrag13	2.81	1.241	.647	.718
Scale	α=.84 M=3.11 SD=1.11 N=178 (post-test, innovation schools)			

Table 10.37: Clarity in expressing expectations to students

Intro:	*School-In has contributed to …*
Variable	**Item**
Bidrag14	… me expressing my expectations for the students in instruction more strongly than before
Bidrag19	… me being more explicit in what I expect from my students

	Post only			
Variable	**M**	**SD**	$\mathbf{r}_{it}$	**a**
Bidrag14	2.80	1.323	.801	–
Bidrag19	2.74	1.273	.801	–
Scale	ρ=.89 M=2.76 SD=1.23 N=170 (post-test, innovation schools)			

Table 10.38: Collaboration and sharing

Intro:	*School-In has contributed to …*
Variable	**Item**
Bidrag16	… me experiencing that colleagues are interested in my teaching
Bidrag17	… me experiencing a more robust sharing culture among the staff

	Post only			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Bidrag16	2.92	1.285	.697	–
Bidrag17	2.84	1.357	.697	–
Scale	ρ=.82 M=2.91 SD=1.23 N=172 (post-test, innovation schools)			

Table 10.39: Negative experiences

Intro:	*School-In has contributed to …*
Variable	**Item:**
Bidrag08	… new input and ideas that are difficult to realise because there is not enough time
Bidrag09	… new ideas that are difficult to realise because the staff do not want them
Bidrag10	… new ideas that are difficult to realise because the given framework conditions do not fit

	Post only			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Bidrag08	3.25	1.208	.277	.586
Bidrag09	1.53	1.101	.296	.549
Bidrag10	2.46	1.227	.542	.133
Scale	α=.55 M=2.47 SD=.88 N=173 (post-test, innovation schools)			

10.2 Student questionnaire

The student questionnaire was distributed to students in 7th (1st to 7th grade schools) or 8th grade (1st to 10th or 8th to 10th grade schools). This questionnaire aimed to map students' views of their school before the innovation and was, therefore, only distributed in the innovation schools. The questionnaire was an essential source of information in the decision on a development area. Based on our theoretical background, we developed questions related to the local context (Langfeldt, 2015; Dalehefte & Midtsundstad, 2019), roles and expectations (Midtsundstad, 2019), and inclusion (Booth & Ainscow, 2002; Göransson & Nilholm, 2014).

The sample consisted of 134 students (53.5% boys and 46.5% girls) with the data being collected in seven innovation schools. 53% reported good grades in most subjects, and 49.6% reported receiving support to assist with progress in most subjects if needed. 37.4% of the students reported getting help with their homework in school. Most students seemed to be connected to their place: 65% reported having friends, and 58.4% reported having grandparents who lived nearby; 88.7% felt at home where they were currently living, and 63.6% wanted to live at their present place after finishing school. Nevertheless, 38% reported having lived more than three years in another place. In the following, the scales in the student questionnaire are presented. The students answered the questions on a rating scale from 0 (completely disagree) to 5 (completely agree).

Table 10.40: School quality from a student perspective

Variable	**Item:**
Sopplo7	We have good teachers
Soppl13	Our school has a good reputation
Soppl14	Our teachers work well together
Soppl15	I am proud of my school

	Pre			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Sopplo7	4.13	1.146	.707	.789
Soppl13	3.59	1.258	.631	.822
Soppl14	4.34	.978	.649	.819
Soppl15	3.51	1.436	.765	.765
Scale Skvali	α=.84 M=3.83 SD=1.04 N=128 (pre-test only, innovation schools)			

Table 10.41: Parents' involvement in school from a student perspective

Variable	Item
Sopplo1	My parents help me with my homework assignments
Sopplo4	My parents are interested in school
Sopplo6	My parents are concerned about good school results
Soppl11	My parents often help out in school

	Pre			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Sopplo1	4.21	1.264	.691	.695
Sopplo4	4.12	1.275	.722	.680
Sopplo6	4.12	1.226	.506	.779
Soppl11	3.23	1.760	.539	.794
Scale Foreld	α=.79 M=3.94 SD=1.09 N=128 (pre-test only, innovation schools)			

Table 10.42: Students' link to the local community

Variable	Item
Sopplo3	I participate in activities (sports/youth clubs, etc.) in my local community
Sopplo5	Many students in the classroom participate in the same leisure activities
Sopplo8	I often meet my classmates after school

	Pre			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Sopplo3	4.14	1.503	.434	.637
Sopplo5	3.46	1.521	.508	.537
Sopplo8	3.74	1.412	.504	.546
Scale Tilkn	α=.67 M=3.78 SD=1.15 N=134 (pre-test only, innovation schools)			

Table 10.43: Students' well-being in class

Variable	Item
Sopplo2	We care about each other in class
Sopplo9	I enjoy my class
Soppl16	We support each other in class
Soppl19	The students listen to each other

	Pre			
Variable	**M**	**SD**	**r_{it}**	**a**
Sopplo2	4.06	1.230	.684	.873
Sopplo9	4.30	1.185	.773	.838
Soppl16	3.82	1.277	.802	.826
Soppl19	3.74	1.123	.726	.857
Scale Trivsel	α=.88 M=3.99 SD=1.02 N=132 (pre-test only, innovation schools)			

Table 10.44: Clarity of expectations in school from a student's perspective

Variable	Item
Soppl22	The teachers have common rules for how students should behave
Soppl25	The teachers can count on us doing mostly as they say
Soppl29	The class knows how the teachers expect the class to behave during instruction

	Pre			
Variable	**M**	**SD**	**r_{it}**	**a**
Soppl22	3.73	1.428	.554	.680
Soppl25	3.74	1.118	.644	.565
Soppl29	4.14	1.136	.511	.706
Scale Forv	α=.74 M=3.88 SD=.99 N=131 (pre-test only, innovation schools)			

Table 10.45: Students' experience of being noticed

Variable	Item
Soppl17	The teachers help me if something is too difficult
Soppl23	The teachers are interested in the students' opinions
Soppl24	The teachers notice when I make an extra effort with my homework

	Pre			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Soppl22	4.31	.913	.618	.729
Soppl25	3.99	1.092	.690	.631
Soppl29	3.68	1.305	.601	.759
Scale Linter	α=.78 M=3.98 SD=.95 N=130 (pre-test only, innovation schools)			

Table 10.46: Students' awareness of their own efforts

Variable	Item
Soppl10	I feel that my efforts in the class play a role
Soppl12	I know that I can contribute to the instruction

	Pre			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Soppl10	3.70	1.384	.645	–
Soppl12	3.95	1.273	.645	–
Scale Aktiv	ρ=.78 M=3.82 SD=1.19 N=134 (pre-test only, innovation schools)			

10.3 Student questionnaire on perceived classroom conditions in mathematics instruction

The student questionnaire on perceived classroom conditions was administered among students in 7th (1st to 7th grade schools), 8th, or 9th grade (1st to 10th or 8th to 10th grade schools) in the innovation schools and aimed to map students' learning conditions and processes in class before and after the innovation process. In combination with video recordings (chapter 9) of mathematics instruction, the questionnaire was to provide insight into students' perceived learning conditions and learning processes in 1–2 classroom sessions in each innovation school.

The sample consisted of 144 students (50.7% boys and 49.3% girls, M=13.0 years; SD=.84) from seven innovation schools at measurement point 1. At measurement point 2, the sample decreased to 112 students (53.2% boys and 46.8% girls, M=13.22 years; SD=.72) from six innovation schools. Because of the COVID-19 outbreak in March 2019, the second measurement point of the seventh school had to be cancelled.

The questionnaire contained questions about how students experience cognitive and motivational learning processes and perceive learning conditions in class, based on theories and ideas of Prenzel, 1995; Seidel, 2003; Oser & Spychiger, 2005; Ryan & Deci, 2017; Midtsundstad, 2019; and Langfeldt, 2015). Many questions originated from a questionnaire used in the IPN Video Study in physics instruction (Seidel, Prenzel, Kobarg, 2005) but were expanded, reformulated, and modified for the research purposes concerning mathematics instruction in School-In. The students answered the questions on a rating scale from 0 (completely disagree) to 5 (completely agree).

Table 10.47: Surface learning processes

Intro:	*During the lesson …*
Variable	**Item** (c.f. Seidel, Prenzel, Kobarg, 2005, pp. 256–257)
Over1	… I understood how the lesson was structured
Over2	… I understood what was most important
Over3	… I understood what was important and what was less important

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Over1	4.14	1.042	.642	.651	4.17	1.112	.744	.745
Over2	4.09	1.094	.653	.632	4.05	1.161	.773	.712
Over3	3.76	1.308	.530	.788	3.67	1.301	.613	.878
Scale	α=.77 M=3.98 SD=.97 N=140				α=.84 M=3.98 SD=1.02 N=111			

Table 10.48: Deep learning processes

Intro:	*During the lesson …*
Variable	**Item** (c.f. Seidel, Prenzel, Kobarg, 2005, pp. 256–257)
Dyb1	… I thought about how different things are connected to each other
Dyb2	… I tried to imagine procedures in my mind
Dyb3	… I tried to summarise the most important things in my mind

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Dyb1	3.50	1.379	.700	.626	3.70	1.379	.716	.803
Dyb2	3.51	1.438	.664	.663	3.53	1.401	.748	.772
Dyb3	3.45	1.384	.517	.819	3.41	1.371	.710	.809
Scale DYB	α=.79 M=3.98 SD=.97 N=140				α=.85 M=3.53 SD=1.21 N=110			

Table 10.49: Knowledge of expectations/processual knowledge

Intro:	*During the lesson …*
Variable	**Item** (c.f. Seidel, Prenzel, Kobarg, 2005, pp. 256–257)
Prosess1	… I always knew what to do
Prosess2	… I understood what my tasks were

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Prosess1	3.70	1.343	.707	–	3.81	1.134	.740	–
Prosess2	4.23	1.072	.707	–	4.14	1.111	.740	–
Scale PROS	ρ=.83 M=3.97 SD=1.11 N=137				ρ=.85 M=3.98 SD=1.04 N=108			

Table 10.50: No motivation/external motivation

Intro:	*During the lesson …*
Variable	**Item** (c.f. Seidel, Prenzel, Kobarg, 2005, pp. 258–261)
Amot1	… I did not want to participate
Amot2	… I was mentally absent
Extern	… I paid attention to get as many correct answers as possible on the upcoming test

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Amot1	1.65	1.743	.412	.416	1.49	1.679	.420	.411
Amot2	.86	1.225	.455	.406	.97	1.329	.423	.433
Extern	2.04	1.741	.310	.587	1.90	1.655	.322	.570
Scale AMOT	α=.57 M=1.50 SD=1.17 N=142				α=.57 M=1.48 SD=1.13 N=109			

Table 10.51: Introjected motivation

Intro:	*During the lesson …*
Variable	**Item** (c.f. Seidel, Prenzel, Kobarg, 2005, pp. 258–261)
Intro1	… I participated in the lesson because I always do
Intro2	… I participated in the lesson because it is something that is expected of me as a student
Intro3	… I did what was expected of me

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Intro1	3.48	1.563	.434	.477	3.37	1.495	.413	.733
Intro2	3.34	1.594	.478	.409	3.11	1.605	.620	.477
Intro3	3.24	1.591	.336	.616	3.05	1.627	.535	.591
Scale INTRO	α=.61 M=3.37 SD=1.18 N=136				α=.70 M=3.17 SD=1.24 N=109			

Table 10.52: Intrinsic/interested state of motivation

Intro:	*During the lesson …*
Variable	**Item** (c.f. Seidel, Prenzel, Kobarg, 2005, pp. 258–261
Intri	… I thought the lesson was exciting
Inter1	… I wanted to know more about the topic
Inter2	… I wanted to work more with the topic

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Intri	2.00	1.654	.679	.870	1.90	1.628	.741	.871
Inter1	2.54	1.653	.800	.759	2.39	1.504	.759	.854
Inter2	2.46	1.643	.757	.799	2.40	1.616	.836	.784
Scale INTER	α=.87 M=2.32 SD=1.46 N=141				α=.89 M=2.26 SD=1.42 N=110			

Table 10.53: Relevance of content

Intro:	*During the lesson …*
Variable	**Item** (c.f. Seidel, Prenzel, Kobarg, 2005, p. 262)
WIR1	… it was obvious that what we learnt was important for us
WIR2	… we learnt how important the topic was for other subject areas and topics

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
WIR1	3.23	1.541	.644	–	3.46	1.433	.543	–
WIR2	2.70	1.677	.644	–	2.88	1.567	.543	–
Scale WIR	ρ=.78 M=3.00 SD=1.46 N=135				ρ=.70 M=3.17 SD=1.33 N=111			

Table 10.54: Perceived quality

Intro:	*During the lesson …*
Variable	**Item** (c.f. Seidel, Prenzel, Kobarg, 2005, p. 263)
WIQL1	… the teacher gave an overview of the content we were going to learn
WIQL2	… I was told what goals we were to achieve through the teaching

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
WIQL1	3.63	1.359	.590	–	3.35	1.530	.599	–
WIQL2	3.50	1.501	.590	–	3.49	1.616	.599	–
Scale WIQL	ρ=.74 M=2.32 SD=1.46 N=141				ρ=.75 M=3.42 SD=1.39 N=110			

Table 10.55: Perceived enthusiasm and interest

Intro:	*During the lesson …*
Variable	**Item** (c.f. Seidel, Prenzel, Kobarg, 2005, p. 264)
WIL1	… I had the impression that the teacher thought the topic was interesting
WIL2	… I noticed that the teacher thought it was fun to teach us

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
WIL1	4.02	1.192	.639	–	3.98	1.095	.720	–
WIL2	3.93	1.167	.639	–	4.06	1.137	.720	–
Scale WIL	ρ=.78 M=3.90 SD=1.16 N=139				ρ=.84 M=4.02 SD=1.04 N=106			

Table 10.56: Perceived autonomy support

Intro:	*During the lesson …*
Variable	**Item** (c.f. Seidel, Prenzel, Kobarg, 2005, p. 267)
WAU1	… I had the opportunity to make my own choices
WAU2	… I had the opportunity to try things out on my own

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
WAU1	3.63	1.338	.497	–	3.25	1.438	.524	–
WAU2	4.16	1.051	.497	–	3.78	1.332	.524	–
Scale WAU	ρ=.66 M=3.90 SD=1.05 N=142				ρ =.69 M=3.53 SD=1.19 N=110			

Table 10.57: Perceived competence support

Intro:	*During the lesson …*
Variable	**Item** (c.f. Seidel, Prenzel, Kobarg, 2005, p. 266)
WKU1	… the teacher trusted that we would be able to complete the tasks we were given
WKU2	… the teacher had the confidence that we were able to solve difficult problems

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
WKU1	4.40	.809	.603	–	4.21	1.026	.709	–
WKU2	4.27	.907	.603	–	4.24	.913	.709	–
Scale WKU	ρ=.75 M=4.34 SD=.78 N=140				ρ=.83 M=4.23 SD=.88 N=108			

Table 10.58: Perceived social relatedness

Intro:	*During the lesson …*
Variable	**Item** (c.f. Seidel, Prenzel, Kobarg, 2005, pp. 264–265)
WSE1	… I felt comfortable in the class
WSE2	… we had a good atmosphere in the class

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
WSE1	4.47	.995	.566	–	4.35	1.068	.589	–
WSE2	4.04	1.033	.566	–	4.09	1.124	.589	–
Scale WSE	ρ=.72 M=4.25 SD=.96 N=139				ρ=.74 M=4.23 SD=.97 N=111			

Table 10.59: Perceived recognition by the teacher

Intro:	*During the lesson …*
Variable	**Item** (c.f. Seidel, Prenzel, Kobarg, 2005, pp. 264–265)
WSEL1	… I know that the teacher noticed me
WSEL2	… I had the feeling that my teacher thought I was important

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
WSEL1	3.80	1.397	.667	–	4.03	1.216	.623	–
WSEL2	3.57	1.460	.667	–	3.95	1.360	.623	–
Scale WSEL	ρ=.80 M=3.72 SD=1.28 N=138				ρ =.77 M=3.97 SD=1.14 N=111			

Table 10.60: Perceived positive learning climate

Intro:	*During the lesson …*
Variable	**Item** (c.f. Seidel, Prenzel, Kobarg, 2005, pp. 267–269)
WFK1	… making mistakes was permitted
WFK2	… I could get help from the teacher if something was too difficult

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
WFK1	4.66	.777	.653	–	4.50	1.073	.720	–
WFK2	4.59	.758	.653	–	4.35	1.200	.720	–
Scale WFK	ρ=.79 M=4.61 SD=.70 N=141				ρ=.84 M=4.42 SD=1.05 N=110			

Table 10.61: Perceived negative learning climate

Intro:	*During the lesson …*
Variable	**Item** (c.f. Seidel, Prenzel, Kobarg, 2005, pp. 267–269)
WFKN1	… asking questions was embarrassing
WFKN2	… doing or saying something wrong was embarrassing
WFKN3	… I was afraid of being the focus of attention

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
WFKN1	1.42	1.603	.711	.744	1.19	1.419	.786	.819
WFKN2	1.65	1.720	.699	.753	1.43	1.625	.766	.834
WFKN3	1.32	1.739	.657	.797	1.38	1.557	.758	.838
Scale WFKN	α=.83 M=1.49 SD=1.45 N=139				α=.88 M=1.39 SD=1.40 N=109			

Table 10.62: Perceived collaborative culture

Intro:	*During the lesson …*
Variable	**Item**
Samarb1	… the students supported each other
Samarb2	… the students collaborated well
Samarb3	… the students helped each other if somebody needed help

	Pre				**Post**			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Samarb1	4.06	1.228	.628	.682	3.82	1.509	.744	.709
Samarb2	4.06	1.121	.579	.738	3.96	1.175	.615	.835
Samarb3	3.74	1.393	.647	.665	3.68	1.378	.727	.723
Scale SAM	α=.78 M=1.49 SD=1.45 N=139				α=.83 M=3.83 SD=1.16 N=105			

Table 10.63: Perceived culture for student participation

Intro:	During the lesson …
Variable	**Item**
Deltak1	… the teacher seemed fine with the students discussing their own solutions or ideas
Deltak2	… the teacher seemed to appreciate the students' contributions to the lesson
Deltak3	… the teacher took the students' answers seriously

	Pre				**Post**			
Variable	**M**	**SD**	**r_{it}**	**a**	**M**	**SD**	**r_{it}**	**a**
Deltak1	4.52	.862	.631	.597	4.20	1.142	.591	.737
Deltak2	4.36	1.067	.656	.564	4.14	1.070	.667	.645
Deltak3	4.47	.815	.462	.776	4.37	.939	.605	.721
Scale DELT	α=.75 M=4.43 SD=.78 N=138				α=.78 M=4.24 SD=.86 N=109			

Table 10.64: Perceived links to the local context

Intro:	During the lesson …
Variable	**Item**
Lokal1	… we used examples from the place where we live
Lokal2	… familiar examples from our everyday lives were used
Lokal3	… the teacher used examples from his own life

	Pre				**Post**			
Variable	**M**	**SD**	$\mathbf{r_{it}}$	**a**	**M**	**SD**	$\mathbf{r_{it}}$	**a**
Lokal1	1.28	1.746	.633	.758	1.51	1.711	.634	.388
Lokal2	2.18	1.957	.649	.744	2.76	1.665	.376	.723
Lokal3	1.50	1.813	.686	.703	1.78	1.778	.481	.599
Scale LOK	α=.81 M=1.73 SD=1.57 N=134				α=.68 M=2.02 SD=1.40 N=107			

10.4 Implications for future research and school development

This chapter has presented the items and scales used in the School-In questionnaires. The data show that most scales perform satisfactorily based on reliability criteria. Nevertheless, since this project is rather new and the instruments needed were developed for this purpose, a few scales and items are still not sufficient and will need to be improved for use in further projects. There is a need to investigate the validity and generalisability on a larger sample. Although the qualitative validation performed by comparing the results from the questionnaire with findings from the focus group interviews indicates that the results from the questionnaires coincide with findings from the focus groups, a more sufficient validation of the scales would be of importance. As the teaching staff questionnaire will be available for further schools wishing to work with the School-In approach in the future, we look forward to collecting more data in an expanded area and achieving a sample size that allows for more sophisticated calculations.

We also emphasise that there are still open questions, especially with respect to students' perceptions of changes caused by the intervention. In School-In, we had a comparison between innovation and control schools at the teaching staff level only. Further research could, for instance, compare the innovation and control schools from a student's perspective, also applying the student questionnaires in a pre-post control design.

All in all, we are satisfied with how well the scales performed in identifying development areas in the innovation schools. This initial mapping enabled a tailored intervention in the innovation school, allowing progress in the school development to be

measured after the intervention. Thus, we learnt that the questionnaires in School-In are not only important research instruments for exposing overall effects in a project; they can also be a very useful tool for the school leadership in working with school development. The questionnaires provide the schools with knowledge about areas where they can improve and measuring changes achieved. In this way, the questionnaires serve as an important compass for each individual school in its developmental work.

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11 Reflections on Relevance and Quality in School-In

Jorunn H. Midtsundstad & Inger Marie Dalehefte

According to the critique of innovation research, we know that few projects report on their goals or results (De Vries et al., 2016). In School-In, we publish research findings in reviewed articles and books, but we also think that the quality and results of a project can be discussed in terms of international and national relevance and from an external perspective. This chapter aims to exemplify and shed light on these aspects.

A national goal in Norway is to promote innovative capacity and create a culture of innovation in the public sector. Thus, there is a desire for new forms of cooperation and collaboration (Meld. St. 30 (2019–2020)). In School-In, the municipal heads asked researchers at the University of Agder to collaborate on finding answers to their questions. For several years, they had worked together within the project 'Inclusive Learning Environment' (Knutepunkt Sørlandet, 2012, 2015, 2017). However, despite the similar measures and efforts provided by the project group (municipal executives), the schools in 'Inclusive Learning Environment' developed very differently. School-In was considered a reinforcement measure within 'Inclusive Learning Environment' (Knutepunkt Sørlandet, 2017), which had introduced new research on inclusion (Nordahl, 2012; Haug, 2014) as well as theories for implementing new practices (Roland, 2013; Fixsen et al., 2005) to establish and improve inclusive cultures in the schools in the five municipalities. As part of the collaboration, we wanted to explore the different effects of the measures. We also defined the innovation goals together with the project group. In this way, we aimed to facilitate political and administrative support and ownership of the project.

The project School-In built on empirical findings from the 'Learning Regions' project (Langfeldt, 2015). The findings from this study showed that the school's local context could explain the different implementation results. Thus, the starting point for our discussions was the idea that the school's surroundings impact the school's capacity for inclusion and that inclusion itself is associated with a locally anchored culture. Therefore, the overall goal for the project School-In was to develop research-based knowledge on the importance of local expectation structures for school culture and how these structures can be changed to expand the school's collective capacity for inclusion.

Many innovation projects (28%) have effectiveness as their primary goal and outcome, but most of them (40%) do not mention any results at all (De Vries et al., 2016).

Effectiveness and results are the main issues for international innovation research, whereas the Norwegian model of innovation has learning and communication as the primary goal and theoretical framing (Garmann Johnsen & Pålshaugen, 2013a, 2013b). Nevertheless, irrespective of the innovation goals, the public sector as a cooperation partner expects answers to certain questions and justifies investing time, money, and effort in research. Therefore, there was a need for specifying the expected outcome of the study. The study's quality would become salient to the public sector based on the extent to which it succeeded in responding to its expectations. Three aims were essential for the project:

1. To explore how to change the school culture through changing the school organisation's ties to the local community
2. To explore how teachers' participation in work to create change can enable the development of collective capacity for inclusion
3. To explore the potential impact of locally anchored school development on schools' capacity for change and implementation

11.1 Considering quality in the implementation process

Usually, school development processes are characterised as 'top-down' processes, where directives are initiated and implemented by the government, or as 'bottom-up' processes where initiatives arise in a specific school (Hargreaves & Ainscow, 2015; Gräsel & Parchmann, 2004). Top-down processes tend to fail (Hargreaves & Ainscow, 2015). One reason might be the gap between the government's intentions and the specific needs of each school. Thus, School-In aimed to involve the schools in the development process and ensure the teaching staff's ownership of the innovation. The university was closely connected to the participating schools. Gräsel and Parchmann (2004) would probably relate this study design to a third form of implementation – the 'symbiotic implementation' – which refers to academics and practitioners cooperating on implementing innovations.

Schools also differ in terms of their relationship to the local context, which explains the different school results to some extent (Langfeldt, 2015). Kvalsund & Hargreaves (2009) highlight the importance of considering local school development, and Dalehefte & Midtsundstad (2019) emphasise the benefits of considering the local context in professional development processes. Thus, School-In accentuated the link between the school and the local context and highlighted the school's role and responsibility in coordinating the development processes in the sense of 'leading from the middle' (Hargreaves & Ainscow, 2015), with 'professional learning communities' being central to achieving success. Success is achieved, for instance, if a programme has caused improved and sustainable cooperation structures in a school, if problems have changed for the better, if measures have caused effects, and if dissemination has taken place (Gräsel & Parchmann, 2004). School-In considered several additional aspects in order to enhance the *process quality* of the project: (1) anchoring the innovation in

the public sector; (2) establishing relevant aims and structures; (3) involving the municipal leadership; (4) practicing shared responsibility; and (5) using existing communication and collaboration structures. Quality considerations in School-In were also linked to the *product quality* of the study in the sense of (6) improved methods; and (7) didactic benefits that can be of use for other studies; and finally, (8) dissemination strategies. These aspects are highlighted in the following sections.

11.1.1 Anchoring innovation in the public sector

The public sector was involved from the very beginning, and public sector experiences formed the basis for our joint work. Even the research application for the Research Council of Norway was written together with the project coordinator (Line Håberg Løvdal), who represented the public sector. She participated in discussions concerning the goals and structures of the project to ensure focus on the knowledge needed in the five municipalities that had already cooperated in the project 'Inclusive Learning Environment' (Knutepunkt Sørlandet, 2012, 2015, 2017). Thus, in School-In, existing structures and networks were deliberately used to ensure good communication and implementation structures.

11.1.2 Establishing relevant aims and structures

Ensuring the relevance of goals and structures is one way to obtain quality in innovation projects. The public sector often reports that research efforts do not respond to the knowledge needs of municipal, regional, and state actors (Research Council of Norway, 2018–2023). To meet this critique, the Research Council establishes collaboration programmes – so-called INNOFF programmes – and provides research communities with framework conditions, stimulating cooperation with the public sector to ensure societal effects of research are enhanced (Research Council of Norway, 2018–2023). School-In focused on aims and structures considered highly important for the public sector and was funded by the Research Council of Norway (project code 260539). Knowledge on how to enable schools to expand their limits for inclusion is of high relevance for meeting society's needs.

11.1.3 Involving the municipal leadership

In School-In, a project group was established, consisting of the heads of the five municipalities and a coordinator. In Norway, municipalities are so-called 'school owners' for 1st to 10th grade with the municipal heads being responsible for school development programmes at this level. The municipal project group participated in key decisions in the project, such as formulating goals for the application and financial support, and was also present throughout the project. Each semester, the municipal heads participated in network meetings with school leaders in the participating innovation and control schools, informing themselves of project progress and experiences in 'their'

schools. They also participated in the meetings with the international reference group, which took place twice during the programme period. In this way, School-In was followed closely by the school owners, who showed genuine interest in the project activities.

11.1.4 Practicing shared responsibility

School-In is a typical example of shared responsibility between local authorities and the higher education sector. As part of the programme's 'Innovation Projects for the Public Sector', the Research Council of Norway requested one of the five participating municipalities to be the owner of the project. The head (Steinar Harbo) of the owning municipality (Vennesla municipality) convened meetings in the project group and was responsible for the economy. The head of the municipality was the administrative manager of the project, while a professor at the university (Jorunn H. Midtsundstad) was the project manager and responsible for conducting the innovation and research in mutual understanding with the project group. Close cooperation and shared responsibility between the two parties were central values in School-In.

11.1.5 Using existing communication and collaboration structures

We used existing regional network structures established by the five municipalities during their project 'Inclusive Learning Environment' (Knutepunkt Sørlandet, 2017). By doing so, there was no need to develop new pathways or define new roles in the cooperation between the school owners, Educational and Psychological Counselling Service (PPT), and the school leaders in the innovation and the control group. Thus, we avoided spending time and effort on establishing information and cooperation structures. This helped us disseminate results and experiences and provide support efficiently throughout the project.

For each municipality, a 'municipal group' was established. When one of the innovation schools participated in the project, the municipal group met to prepare the municipality for the innovation. This group met both before and after the innovation. At the first meeting, the main goal was to establish understanding and trust between the project manager (UiA) and the school's leadership. After the innovation, the project leader reported findings from the innovation, and the school's leadership reported on their experiences. The main goal of the latter meeting was to discuss the recommendations of the research teams for further work and the kind of support the school would need from the municipal leadership.

11.1.6 New and improved methods

The previous chapters present both intervention methods (chapter 5–7, Mental Mapping Response method, Dialogue Café and Reflection Cycle) and research methods (chapter 7–10, seven-step multi-method approach, focus group interviews, video re-

cordings and questionnaires), used in School-In. These methods were carefully chosen due to their characteristics and purpose in the study. A pilot study taught us how the implementation process had to be adjusted, refined, and expanded. Because of the experiences from the pilot study, we improved the questionnaires and the design of the study. We also decided to record the intervention methods for better understanding. Since reflection processes are of central importance in capacity building and learning communities, we captured these processes in the focus group interviews and during the operationalisation of the Mental Mapping Response method, Dialogue Café, and the Reflection Cycle.

The diversity of methods used for research purposes makes it possible to consider the school development from a broader, in-depth perspective. The study design allowed for quantitative, qualitative, as well as mixed-method research. The quantitative part was planned as a quasi-experimental control group design to reveal measurable effects. The qualitative data delivered additional, more concrete information. Brought together in a mixed-method design, the data sources provided a solid knowledge base.

However, the research design also has its limitations. In School-In, we aimed to obtain knowledge regarding systemic structures inside and outside schools (Fig. 2.1). However, a significant part of the data on how the school is linked to the local context and community stems from the 'inside' perspective – from teacher and student data (provided in questionnaires). This was done due to the theoretical approach of the study, with the aim of exploring how the teaching staff's expectations influenced the expectations structures and, thus, the school culture (Midtsundstad & Langfeldt, 2020). A more differentiated 'outside' view might have been achieved by asking more people or parents. However, the 'outside' perspective was considered to some degree in the local expert interview, the student perspectives (provided in interviews), and through the use of national statistics.

The research findings in School-In are also limited to the small sample size and the selection of schools. All schools in the region were encouraged to apply for participation. We chose a parallel school as a control school for each participating school, matching the innovation school according to size, location, and type. We also ensured that all schools, both innovation and control schools, had previously participated in Inclusive Learning Environment (Knutepunkt Sørlandet, 2017). As the project proceeded, we observed that some of the innovation schools were especially eager to apply, which might have caused a biased sample of schools.

The School-In study asked the teaching staff for their pre-post views in both the innovation and control schools such that we had a basis for comparison with an independent sample. In addition, we conducted the focus group discussions in the innovation schools, which provided the possibility to compare findings from the teaching staff questionnaire and focus group data for validation purposes. In the video study about mathematics instruction, we also had a pre-post comparison with the innovation schools, but no control group.

We did not consider the students' views at the end of the study, apart from at one school where we were asked to collect data from teachers and students half a year later

as a follow-up. This made this school particularly suitable for a case study (Midtsundstad, Dalehefte, Hillen, Horrigmo & Ingebrigtsvold Sæbø, 2022). In this case, we also saw how important it is to continue the school development process with the whole teaching staff even after the project has ended, because of changes in staff. Some quit while other new staff members were welcomed. In such cases, it is clearly vital that the staff develops a collective memory related to the programme knowledge so that the new members can be familiar with the methods and content of the project.

11.1.7 The didactic benefit of the study

Didactic benefits are typically observed in the sense of 'teaching effectiveness' based on students' learning outcomes (Seidel & Shavelson, 2007). In the School-In video study, we linked theory-based supportive learning conditions derived from interest theory (Prenzel, 1995) and self-determination theory (Ryan & Deci, 2017) in mathematics instruction to proximal learning outcomes, such as students' motivation and learning processes.

However, in School-In, we aimed to go one step further and gain knowledge from a systemic perspective, intervening in the school as a whole. In particular, we investigated how the teaching staff – teachers and paraprofessionals – develop and learn, understanding the teaching staff as a 'learning community'. We also developed measures and working methods for school leaders and owners to support school development processes. The operationalisation of professional development is described in several chapters of this book. This work resulted in an innovative concept for fostering learning in learning communities and organisations – *Organisational Didactics* (Midtsundstad et al., 2022). Our experiences and empirical findings in the study show that this strategy can be very helpful for professional development in organisations. So far, our research findings indicate that this concept can change reflections in teaching staff (Ingebrigtsvold Sæbø & Midtsundstad, 2021). We assume that this concept is not restricted to school development but that it can also be useful in other kinds of organisations. Hence, more research on this is needed.

11.1.8 Dissemination strategy

Dissemination happened via different channels within the project. Of course, *conference contributions* and *publications in books and journals* were a natural part of the dissemination. Publications related to the project were both international and national and aimed at different target groups, including both researchers and practitioners. Two chronicles were even published in the local newspaper to inform locals about their influence and the contextual role for school development (Hillen et al., 2017; Midtsundstad & Harbo, 2021).

A key dissemination strategy involved the *network meetings*, arranged by the project team to provide information on work and progress in the project. These meetings included representatives from each innovation and control school, the Educa-

tional and Psychological Counselling Service (PPT), and the municipal heads. These meetings provided an opportunity to show gratitude to the control schools for their participation and to allow them to receive first-hand information, since they were to carry out the project after School-In officially ended. These network meetings were arranged every semester and considered only schools that had participated in the study, to avoid influencing schools that would participate later. Thus, the number of participants in the network meetings increased each semester according to the number of schools that took part.

The research group informed the participants of the ongoing project research and the research findings in the network meetings. This was not as easy as it may sound: On the one hand, we wanted the participants to discuss our findings, to get feedback on what they experienced as valuable and useful to their everyday work in school. On the other, we were obliged to anonymise which schools were involved in the innovation. Therefore, we recommended that the meeting participants not reveal who was from a control school and who represented an innovation school. We did whatever we could to prevent others from recognising the participating schools by making it impossible to recognise where and when the presented research had been performed. Nevertheless, on occasion, the project participants were able to identify their own school from the facts presented in our texts, resulting in a need to define special rules for the participants attending the network meetings in order to ensure anonymity: (1) The researchers were not to refer to the schools when talking about the findings; (2) the researchers were to publish data in such a way that it could not be traced back to individuals; and (3) school leadership and teaching staff might recognise themselves, but the researchers were not to disclose the names of the schools. These rules were clarified and agreed upon at the beginning of each network meeting and aimed to instil trust and confidence in the research team's activities. It was of great importance for us that the participants in the schools felt they could rely on our efforts to keep our data collection anonymous and consistent with the rules of General Data Protection Regulation (GDPR) and standards of the Norwegian Centre for Research Data (NSD).

The participants also had the opportunity to exchange and discuss experiences related to the various measures and the effects of the work. They were given the 'homework' task of submitting answers and notes from their meeting to the project leader and the coordinator from the public sector. In the next network meeting, these notes were used to make the content relevant and useful for the participants. These notes were also important for planning the implementation of the innovation in the remaining municipal schools after the end of the project and were, thus, also of particular relevance for the future planning of the municipalities.

Table 11.1 gives a picture of the topics presented, discussed, and worked on in the network meetings during the project. We started with the municipal working groups only, and the number of participants increased from meeting to meeting.

Table 11.1: Network meetings, presentations, and participants

Semester	Presentations	Participants
Autumn 2017	Project presentation by the research team Research focus presented by researcher	The municipal working groups in five municipalities
Spring 2018	The project, including how expectations are influenced by how schools organise responsibility	The municipal working groups (5), the school working group in the pilot school, 2 school working groups in the innovation, and 1 control-school
Autumn 2018	Local communities and schools	The municipal working groups (5), 3 school working groups in the innovation, and 2 control schools
Spring 2019	Our working methods and the effect on reflection in the school's professional learning communities	The municipal working groups (5), 4 school working groups in the innovation, and 3 control- schools
Autumn 2019	Modelling the working methods: Dialogue Café and Reflection Cycle	The municipalities working groups (5), 5 School working groups in the innovation, and 4 control schools
Spring 2020	Modelling the Mental Mapping Response method	The municipal working groups (5), 6 school working groups in the innovation, and 5 control- schools
Autumn 2020	Local school development	The municipal working groups, 7 school working groups in the innovation, and 6 control schools

We learnt a great deal about school culture, expectation structures, and the school's link to the local context. This knowledge has resulted in *products* in the form of articles and book chapters; please see the project website for an overview: uia.no/en/school-in. We have also developed new didactics for learning in organisations (Midtsundstad et al., 2022) and established a website providing other schools with tools that can be used in school development. Thus, School-In provided new knowledge on how expectation structures constitute the foundation of school culture, how to work with expectation structures to cause change and development in a school organisation, and finally, knowledge on how school and support systems can work together on implementing innovations in school. Although School-In emphasises inclusion, ties to the local context, and participation of the teaching staff, this study also contributes general knowledge on school development processes from which other programs can profit.

As outlined above, several aspects were considered in connection with ensuring *process quality* in School-In. In School-In, we have emphasised ensuring quality at both the international and national level; the methods used in this respect are presented below.

11.2 International relevance of the project School-In

We invited international researchers to two *international reference group meetings* at the beginning of the first and second half of the project. The purpose of these meetings

was to ensure the quality and relevance of our research at the global and national level. The international reference group consisted of representatives from international and national research communities and the education sector, and aimed to (1) ensure the quality, relevance, and impact of our research; (2) ensure national and international understanding of the project; (3) facilitate cooperation on developing the research design together with dissemination; (4) enable representatives from the education sector to ensure the national and practical relevance of the project; and finally (5) facilitate cooperation on developing opportunities for local and national implementation.

Our first meeting took place from 11 to 12 June 2018, at the University of Agder. The following participants attended:

Researchers: Prof. Dr. Annelies Kreis (University of Zurich, Switzerland), Prof. emer. Gjert Langfeldt (University of Agder, Norway), Prof. Dr. Aslaug Kristiansen (University of Agder, Norway), Asst. Prof. Dr. Yi-Hwa Liou (National Taipei University, Taiwan)

Participants from the school districts/municipalities: Steinar Harbo (head of the project owner, Vennesla municipality), Line Håberg Løvdal (project coordinator, Vennesla)

The School-In research group at the University of Agder: Prof. Dr. Jorunn H. Midtsundstad (School-In project leader), Assoc. Prof. Dr. Inger Marie Dalehefte (head of the Department of Education), Prof. Dr. Stefanie Hillen; Asst. Prof. Kirsten J. Horrigmo; Asst. Prof. Maria K. Myrann, Asst. Prof. Grethe Ingebrigtsvold Sæbø

To give an impression of how the sessions were prepared, we provide a list of presentations and presenters (table 11.2).

Table 11.2: International reference group I – presentations and presenters

Presentations	Presenters
Background and relevance of the project cooperation	Administrative leader of the project, Steinar Harbo, and the project coordinator, Line Håberg Løvdal
Project School-In; research focus and theory development.	Jorunn H. Midtsundstad
Similarities and differences between schools. Comparative analyses of expectations	Inger Marie Dalehefte
The interplay between School and Place	Kirsten J. Horrigmo & Jorunn H. Midtsundstad
Professional Learning Communities in four schools – How do they perceive inclusion as a balance between social and academic needs?	Grethe Ingebrigtsvold Sæbø & Jorunn H. Midtsundstad
Mental Mapping Response method	Stefanie A. Hillen
Innovation working methods – Dialogue Café and Reflection Cycle	Grethe Ingebrigtsvold Sæbø

After each presentation, there was an open discussion where the international researchers commented and gave advice for further work. At the end of the meeting, we also discussed the international relevance of the project and the aspects perceived as most interesting for international research by the group members. We also discussed opportunities for international cooperation and affiliation with other research projects with our international guests.

The response from the international research group was highly valued and gave essential input on how we should develop our research further as well as how to establish an international network. For instance, one crucial suggestion from this first meeting was to involve the municipal heads as school owners in the next meeting of the international reference group. They also suggested discussing research findings in two groups; the international researchers in one and the school owners in another. The purpose was to reveal different perspectives. As a consequence, we organised the next international group meeting as recommended by the group.

Our second meeting took place from 4 to 5 November 2019, at the University of Agder. The following participants attended the second meeting:

Researchers: Prof. Dr. Annelies Kreis (University of Zurich, Switzerland), Prof. emer. Gjert Langfeldt (University of Agder, Norway), Prof. Dr. Aslaug Kristiansen (University of Agder, Norway), Prof. Dr. Stefan T. Hopmann (University of Vienna, Austria), Prof. Dr. Barbara Drechsel (University of Bamberg, Germany), Prof. Dr. Elisabet Öhrn (University of Gothenburg, Sweden), assoc. Prof. Dr. Marina Pinskaya (Head of Research Group, Effective Schools) & Ph.D. cand. Aleksandra Mikhaylova (National Research University, Higher School of Economics, Moskow, Russia), Dr. cand. Livia A. L. Rößler (University of Innsbruck, Austria); Prof. Dr. Unn Doris K. Bæck (University of Tromsø, Norway)

Participants from the school districts/municipalities: Steinar Harbo (head of the project owner, Vennesla municipality), Jon Wergeland (Søgne municipality), Kristin Eide Robstad (Songdalen/Kristiansand municipalities), Bente Voreland (Iveland municipality), Eivind Eikeland (Kristiansand municipality)

The School-In research group at the University of Agder: Prof. Dr. Jorunn H. Midtsundstad (School-In Project leader), Assoc. Prof. Dr. Inger Marie Dalehefte (Head of Department of Education); Prof. Dr. Stefanie Hillen; Asst. Prof. Kirsten J. Horrigmo; Asst. Prof. Grethe Ingebrigtsvold Sæbø

An overview of the presentations and the presenters is listed in table 11.3.

Table 11.3: International reference group II – presentations, and presenters

Presentation	Presenters
Background and relevance of the project cooperation. Research focus and theory development.	Jorunn H. Midtsundstad, project leader
The interplay between school and place – possibilities and hindrances for school's inclusion	Kirsten J. Horrigmo & Jorunn H. Midtsundstad
Professional Learning Communities in four schools – How do their reflections develop during innovation?	Grethe Ingebrigtsvold Sæbø & Jorunn H. Midtsundstad
Describing and explaining the effects and non-effects of the innovation in School-In	Inger Marie Dalehefte & Stefanie Hillen

After each presentation, the groups (divided into groups of researchers and school owners) discussed the content, and with notes on large sheets, presented their replies and questions so that the presenters could respond. At the end of the meeting, we held a Dialogue Café where the participants discussed our research. The questions discussed were: (1) From your point of view, what in our study would you consider worth further exploring? (2) What do you perceive as the study's impact? (3) In what way is the project relevant from a national and/or international perspective? We were allowed to record the discussions, which made it possible for us to listen to the ideas and feedback afterwards.

The members of the international reference group provided the research team with various ideas and feedback. For instance, they encouraged us to publish experiences and findings from School-In together with practitioners and school owners in order to highlight the special ties and strong sense of ownership within the project, which they found to be quite exceptional. They also helped to ensure the relevance of the project by presenting arguments such as, 'All schools are located in places with existing expectations; therefore, it [the project] is of universal relevance' or 'You seem to have a new understanding of parents' role in the school – to engage them in what the school wants to accomplish through activities'. We were advised to consider who we wanted to influence with what results, seeing that the project directly affected different school system actors. They even provided advice concerning research methods and suggested writing a book with 'stories of change', where each school is presented. Another suggestion was to consider establishing a new school theory that was anchored locally and based on views of expectations. Furthermore, they asked us to be explicit in what we discovered about inclusion and how theory could be developed in this area. Their questions and ideas showed us what they found relevant from an international point of view. Hence, the contributions of the international researchers and the municipal school owners were of great importance to us.

The members of the reference group also had a positive experience of the meetings. They appreciated the organised group discussions and the possibility to discuss the presentations before responding, feeling that this approach safeguarded the process of the task at hand – to ensure and provide feedback on the quality and relevance of

the project. The participants also emphasised the opportunity to discuss together with the municipal heads from the public sector. They were impressed that the different roles in the project were able to collaborate so closely and actively participate in the discussions with their perspectives and views. It became clear how solidly the project was anchored in the municipality. They described this as an outstanding experience they would like to bring back to the research communities in their own countries.

After the international reference group meeting, the project group members met to evaluate experiences from the reference group meeting. The project group members reported positive experiences as well, expressing that their participation had been important in supplementing and clarifying different issues in the group discussions. They reported a perceived emergence of two worlds of research and practice. The discussions gave them a foundation and new perspectives for local work and, as the group members put it, 'confirmed that we are on the right track'. Furthermore, it was expressed that the international reference group had been an eyeopener for understanding contextual issues of education and how Norwegian school culture differs from the school culture in other countries. This led to discussions on whether and how research from other countries should be implemented in the Norwegian school system.

Overall, the School-In team concluded that the participation of international and national researchers and the project group of municipal heads was vital for bringing in diverse perspectives on the presentations and identifying any necessary corrections. The output from these two meetings where participants with different perspectives and contexts came together was an important secondary effect of the project School-In.

11.3 National relevance of the project School-In

From a national perspective, the innovation contributed to new, improved forms of organisation and management by answering how local expectations shape school cultures and what measures are needed to achieve change. The innovation was theoretically based and empirically tested for inclusion and for developing new theories on school development (Midtsundstad, 2010; Midtsundstad & Langfeldt, 2020; Dalehefte & Midtsundstad, 2022; Ingebrigtvold Sæbø & Midtsundstad, 2022; Horrigmo & Midtsundstad, 2020; Hillen, 2020). The aim of the innovation was to increase the joint competence and professional development of teaching staff in the sense of 'learning communities'. Other groups of communities in the education sector can also benefit from the School-In experiences, such as kindergartens in the surrounding environment of the schools.

According to the project findings, established expectation structures linked to a school can sustain the development of collective responsibility for an inclusive learning environment in the school's context. Such collective responsibility, combined with the involvement of, for instance, the Educational and Psychological Counselling Service (PPT), may help prevent a growing diagnostic tendency and avoid fragmentation of the student and classroom community.

School-In profited from other international research, for instance, the IPN Video Study (Seidel, Prenzel, & Kobarg, 2005), the school development programme SINUS for Primary School (Fischer, Kobarg, Dalehefte, & Trepke, 2013), and the programme Learning Regions (Langfeldt, 2015). However, School-In also presented new innovative methods for challenging and motivating teachers to work towards change, such as the 'democratic method' or the MMR method (chapter 4), as well as new combinations of existing working strategies, like the combination of the Dialogue Café (chapter 5) and the Reflection Cycle (chapter 6). Altogether these methods fostered a collective, reflective process towards a common understanding and collective responsibility in the schools.

Through our cooperation with the municipalities and with schools, we sought to enhance school quality via network meetings and an international reference group. By focusing on the importance of expectation structures, School-In provided the education sector with new knowledge concerning how to improve the aptitude of schools for change and development. This knowledge is now offered on a website and available for use by teachers, paraprofessionals, head teachers, and others (uia.no/en/school-in).

Knowledge and methods developed in School-In are transferable to different kinds of schools and can strengthen existing strategies for enhanced quality. Based on the mapping of certain school characteristics, school owners and leaders can improve their competence in choosing measures and working methods that can be effective for tailored school development. School-In created opportunities and measures that allow teaching staff to work in a more efficient, less resource-demanding manner. Staff members also gained new, relevant competence based on findings from their schools and local communities, enabling them to select measures more accurately.

School-In has also found access to pre-service teachers. Knowledge and methods from the project have been introduced to students in teacher education courses at the University of Agder. In this way, students who work in schools during their practice periods or after finishing their studies are already familiar with the School-In working methods and knowledge, and with how working together in 'learning communities' can be fostered.

11.4 Conclusion and summary

The general perspectives on quality presented in this chapter show how research design, working methods, and dissemination strategies have provided new knowledge to the research community and the public sector. We have reported on 'hard facts' from our data collection in articles and book chapters, where quality is guaranteed through review. However, we argue that quality can also become salient by highlighting the extensive and conscientious work carried out in relation to research instruments, working methods, synergies, and implementation processes, which we have done in this book.

The cooperation between the university and the public sector was very fruitful, and we have learnt a great deal. Above all, we have contributed to new knowledge

together. We would like to thank the reference groups, all municipal heads, schools, head teachers, teachers, paraprofessionals, and students who shared their opinions and thoughts with us. This project would not have been possible without these participants and their willingness to share. Thank you!

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