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'It's a jigsaw puzzle and a challenge': critical perspectives on the enactment of an RCT on small-group tuition in mathematics in Norwegian lower-elementary schools

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ABSTRACT

Today's schools are faced with increasingly complex demands of juggling their core educational tasks alongside multi-dimensional policy bids for reform, development and change. In this paper, we conceptualize our own RCT research on small-group tuition in mathematics in Norwegian lower elementary schools as a policy-relevant measure and part of a broader trend of evidence-based practice (EBP). Taking six of the participating schools as our empirical vantage point, we critically examine how they experience the project enactment against the broader canvas of their everyday, situated realities. Interviews with teachers and school principals show that while there is a near-unanimous agreement about the pedagogical merits of small-group tuition, enacting the RCT in practice creates multiple challenges, problems and tensions that the schools deal with in their unique ways. We argue that safeguarding local flexibility, autonomy and freedom in the face of imposed rigidity, multiple policy demands and changing circumstances are key issues to consider in planning, designing and committing to interventional research in educational policy settings.

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Introduction

In recent years, national governments in different parts of the world have set forth with ambitious policy goals to raise educational standards and ensure that future generations of children are well equipped to face their dynamic, uncertain, fast-changing, digital futures (Ministry of Education and Research 2006, 2016; OECD 2015). Underscoring schools' urgent educational and social responsibility, this has unleashed a host of parallel ongoing policy processes at different scales, from transnational and national to regional, municipal and local. Schools are thus faced with increasingly complex demands of juggling their core educational tasks and commitments alongside mounting, multi-dimensional policy bids for reform, development and change.

Empirical educational research is often set within these complex landscapes and places additional demands on schools in terms of school leaders', teachers' or students' time and attention, such as when researchers collect survey data, conduct interviews or observe

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educational practice. We assume these demands become all the more tangible when schools commit to participating in longitudinal research projects that may, in addition to multiple data collections, require material, pedagogical or other adjustments in their current instructional practices. This is necessarily the case with much interventional research, particularly with a randomized controlled trial (RCT) design where procedural fidelity is a top priority.

Time- and resource-intensive, RCT research can itself be seen as a core component of a broader trend of evidence-based practice (EBP) where rigorous empirical evidence of ‘what works’ is meant to ‘build confidence in educational research’ and lay the foundation for future policy steps, initiatives and reforms (Slavin 2002, 15). Rather than just one of many methods of scientific inquiry that answer different types of research questions and thus contribute to our understanding of the complex nature of human learning, it has entered the realm of educational policy and legislation as the ‘gold standard’ (Biesta 2007, 2010).

This very study is part of an overarching large-scale RCT project in Norwegian lower-elementary schools that investigates the effects of small-group tuition on student outcomes. By its nature, it is highly structured and time-limited, yet also deeply implicated in the broader landscape of the schools’ ongoing policy processes: not only does it have potentially far-reaching consequences for their daily running of activities, it may have spillover effects far beyond their individual borders and the time span it is allocated, particularly if it provides empirical evidence that may legitimize its potential scaling-up by the authorities.

As the RCT is not completed yet, we do not report on its effects in this paper. In fact, it is beside our point here. Nor are we interested in unpacking the RCT methodology *per se* or the fidelity with which the participating schools have *implemented* the project. Our main concern, broadly speaking, is to critically examine how this very RCT as a concrete empirical specimen of the ‘gold standard’ in EBP is experienced, talked about and felt on the ground. More specifically, based on narratives of experience, constructed in research interviews with key policy agents at each school, teachers and principals, we ask how the project fits into their broader policy efforts and busy daily schedules as well as how they deal with challenges they may potentially encounter along the enactment way. As such, it aims to propel to visibility voices that are central, yet often missing in the broader debate surrounding EBP.

Theoretical grounding

There is a widespread scholastic agreement that putting any policy measure, reform or program into action is both highly complex and dynamic and the results often far from those envisioned at its formation stage (Ball, Maguire, and Braun 2012; Durlak and Dupre 2008; Ogden and Fixsen 2014; Røvik 2007). Attempts at conceptualizing and theorizing this complexity have led to the development of numerous frameworks and models. They differ across a number of key dimensions, not least the extent to which they foreground the agentic, relational, contextual and discursive aspects of policy and how exactly this is done. They also bear witness to substantial terminological differences which we see as subtle discursive cues of where each approach places its emphasis.

In much policy research, policy work is simply equated to *implementation work* (Ball, Maguire, and Braun 2012). Positioning themselves in the realm of implementation science, Ogden and Fixsen (2014, 4), for example, conceptualize this work in terms of three key questions: 1) the *what*, where effective evidence-based programs are singled out as particularly desirable policy goals, 2) the *how*, where the emphasis is on devising frameworks that list both facilitators and obstacles to implementing such programs and 3) the *who* of implementation, underscoring the role of skilled change agents – ‘purveyors and implementation teams’ – who ideally pull the entire process effectively through. While these questions provide potentially useful pointers, implementation work is here constructed as the black box between science and service, ready to get systematically, skillfully and efficiently unpacked in a fine balancing act between top-town leadership and bottom-up practice.

An approach to studying education policy, that goes beyond the instrumental logic outlined above, is grounded in scholarship within Scandinavian organizational institutionalism. Policy implementation is here conceptualized as a process of translating policy ideas into practice in their contextual, relational as well as discursive aspects (Czarniawska and Sevón 1996; Røvik 2007; Sahlin and Wedlin 2008). While these models differ in their degree of emphasis on these points and their terminological choices, they are united in propelling human agency to a central force in carrying policy translation processes through. Frequently drawn on in school policy and evaluation research in, for example, Norwegian settings (Lødding et al. 2018; Røvik, Eilertsen, and Furu 2014), we nonetheless see these models as falling short of conceptualizing the grassroots level of policy in sufficient detail. For example, in Røvik’s (2007) policy translation model, good translators are to possess a set of virtues that aid in navigating the complex implementation terrain, such as knowledge, courage and patience. However, while many agents may potentially become translators, the model does not problematize power differentials that may exist between translators in any given role and context.

An alternative framework that also explicitly draws on the idea of policy as translation, yet adds layers of analytical nuance is offered by Ball, Maguire, and Braun (2012). Importantly, they discard the term implementation altogether and instead suggest to refer to policy work as *enactment*, with both the prefix (*en*) and the root morpheme (*act*) signaling a discursive emphasis on the performative nature of policy as action or activity. They underscore that policy enactment entails several interweaving facets: the material, the interpretative and the discursive (2012, 15). In their various shapes and forms, they all figure in an elaborate model that visualizes the complexity of policy enactment in schools (see 2012, 144). The vantage point is the school itself, conceptualized as a dynamic, heteroglossic, discursive and material organism, with its own history and set of values. The agency of those inhabiting this organism is seen as key in the enactment process.

Unlike in other policy-as-translation models, Ball and colleagues provide a nuanced differentiation of agentic roles and responsibilities that are not discreet but potentially overlapping, whereby different agents may inhabit several positions simultaneously. Crucially, the model is grounded in critical perspectives on policy (e.g. Taylor 1997). As such, power in its various configurations is placed at the core of policy work. Therefore, not only do the various policy agents enter into multiple meaning-making processes, they also enter into complex relations and interactions that are steeped in power asymmetries and status differentials that impact the enactment process. For

example, one and the same policy agent may act as the so-called *translator*, producing policy texts, and the *narrator*, interpreting and endowing that same policy text with meaning. However, *narrators*, may also be in a position to leave more visible footprints of their policy work than others, such as school junior staff labelled *receivers*. It also suggests that schools may entail discursive, embodied or purely symbolic pockets of resistance to policy, a position reserved in the model to the so-called *critics*.

In addition to the multitude of agents, schools are in the model constructed as also having a material reality, that is likely to influence enactment as either facilitating or constraining mechanisms, such as staffing, available facilities or budgetary conditions. All this constitutes a complex school universe with local narratives of policy enactment that may align with or resist wider policy and master narratives in the broad societal context.

While the scope of our data does not provide sufficient empirical ground to capture and explore the host of policy nuances suggested in Ball and colleagues' model, the dynamic way of conceptualizing policy work resonates with the way we see policy as *being done* in real-life school contexts. It will, therefore, form the main lens on our dataset. Given that our study is based on oral accounts of experience, constructed in research interviews by two key policy agents at each school, teachers and school principals, our main emphasis will be on the discursive aspect of the model.

Contextualizing the study

Master narratives on education in Norway – brief outline

The Norwegian educational system has undergone several large-scale reforms in the last two decades that have a direct bearing on today's pedagogical, material as well as discursive realities of schools. It is particularly two events that have been pivotal in ushering in a new school policy era at the turn of the millennium. Firstly, the publication of the 2001 PISA results for Norway which were lower than expected and entered the media and political discourse on Norwegian education as the 'PISA shock' (Sivesind and Elstad 2010). The second momentous event was the 2001 electoral victory of the right-wing coalition. Legitimated by the PISA shock, the new government spearheaded a major educational reform activity with the aim of improving educational quality. These efforts resulted in the 2006 *Knowledge Promotion Reform (KPR06)*. The major tenet of the reform was the introduction of the basic skills logic, with learning outcomes outlined for each subject area as well as guidelines for their assessment. As noted by many (Elstad 2009; Sjøberg 2014; Author/s 1), the reform can be seen as part of a trans-national embrace of the 'neo-liberal imaginary' in education with governing by numbers (Ball 2012) and the discourse of 'learnification' (Biesta 2008) as some of its hallmarks.

Following KPR06, Norwegian education authorities have launched a series of policy initiatives, frequently formulated in the form of national strategies aiming, among other things, at strengthening different basic skills, such as literacy or numeracy. These include the *Natural Science Strategy* and *Language Trails – National Strategy for Language, Reading and Writing*. Likewise, the already formally terminated policy *Evaluation for Learning* represents an important long-term policy effort, aimed at developing schools' evaluation practices.

What these various large-scale policies have in common is a way of approaching teacher professional learning and development work at schools that places emphasis on several, if not always all, of the following elements: 1) competence enhancement through concerted teacher effort and team-building, 2) appointment of expert teacher/s, or in Ball, Maguire, and Braun (2012) terminology ‘narrators’ and ‘enthusiasts’ of policy, dedicated to a particular thematic area and entrusted with the role of key policy change agents at their schools, 3) networking activities beyond individual school borders and 4) reaching out to schools through active partnerships with experts from the research and university sector (Dahl and Engvik 2017).

The most recent large-scale policy initiative is the 2020 revision of the national school curriculum – the so-called *Subject Renewal*. It centers on fostering deep learning, reflection and critical thinking across all subjects as well as on strengthening three interdisciplinary, overarching themes – 1) democracy and citizenship, 2) sustainable development and 3) citizen health and life skills. The parallel, ongoing reform activity continues to be high. While it is beyond the scope of this paper to provide a comprehensive outline, there is one measure with direct thematic relevance for our project that deserves a special note, namely the new teacher density norm. Enforced as of the school year 2018–2019, the norm introduced an upper limit on teacher-student ratios, currently set at 15 students per teacher in grades 1 to 4 and 20 students per teacher in grades 5 to 10 (Directorate of Education and Training 2019). The new regulation is accompanied by funding earmarked for employing additional teachers and, as such, it has direct consequences not only for schools’ material realities but also, crucially, educational ones.

Narratives on teacher density: the 1 + 1 RCT¹

In designing the RCT, we have drawn on previous research on pupil-teacher ratio, teacher density and class size, as well as recent developments in schools’ use of teacher resources, classroom organisation and classroom practices. Much of this research has focused on studying the effects of a reduced class size on students’ learning outcomes (Blatchford, Bassett, and Brown 2011; Hattie 2005).

We note, however, that the class size literature is somewhat out of step with current trends in the staffing of classrooms. In many countries, Norway included, the use of additional teachers, teacher assistants and special needs education teachers is becoming more common (Bonesrønning, Iversen, and Pettersen 2011). Thus, teacher resources allocated to a class may vary during the day from one teacher servicing the entire class to a combination of ordinary teachers, special needs teachers and assistants sharing the teaching load. Also, instead of being organised in stable classes, led by one teacher, primary schools are often organised more dynamically. Class organisation of students may vary throughout one day, from whole classes to small groups. As a result, neither class size, teacher density or pupil-teacher ratio are stable figures in a typical contemporary primary school (Author/s 2).

The literature on teacher density or pupil-teacher ratio has only to a limited extent included studies on alternative methods for reducing the pupil-teacher ratio and the success factors connected to finding positive effects of increasing teacher resources and reducing the pupil-teacher ratio. Notable exceptions are studies by Dobbie and Fryer (2013) and Fryer (2014) on successful charter schools. Firstly, they find that successful

charter schools are characterized by using ‘high-dosage’ tutoring. Secondly, in a field experiment of high-dosage tutoring in mathematics, they find positive effects for low-performing public schools. High-dosage tutoring occurs when small groups of students (less than six) are taken out of their ordinary classroom and meet at least four times per week (Bonesrønning et al. 2018). Moreover, in the Fryer-studies, high-dosage tutoring is one of several elements in a bundle of school practices that are implemented simultaneously. In addition to high-dosage tutoring *per se*, there is also a growing scientific evidence that small-group tuition enables teachers to adopt dialogic forms of teaching that allow for frequent teacher feedback and fostering students’ critical thinking and argumentation skills (e.g. Bakker, Smit, and Wegerif 2015; Murphy et al. 2016).

Our RCT aims at generating knowledge on the effect of high-dosage tutoring and a more flexible use of additional teacher resources. It takes place in 160 schools in ten large municipalities in Norway, as measured by population size. The participating schools are randomly assigned to two equally large groups (treatment and control) where the treatment group (80 schools) gets allocated resources equivalent to one teacher man-year for a total of four school years (2016–2020). The control group carries on without additional resources. The intervention schools are free to decide whether to hire one full-time teacher or whether to divide the resources between two teachers, each with a part-time load. Throughout the four years, the intervention targets students in grades 2 to 4² for either one, two or three years. Students across the ability spectrum participate. However, the additional teacher resources are only sufficient to cater for a certain number of students. Therefore, in schools with more than 48 students at relevant grade levels, only some classes participate in the project, while others are left out.

In line with the available research evidence cited above, the project also provides instruction on how to organise the small groups. The maximum number of students is set at 6 students per group, and each group is instructed to receive tuition for a period of four weeks at least twice a year. The instructional content and pedagogical approach are entirely up to the teachers in the small and standard-size³ groups. However, they are encouraged to cooperate closely. In order to measure the students’ level and progress in mathematics, all participating (treatment and control) schools conduct a short annual electronic test with the students.

Method

Data collection

Our dataset was collected at six different schools participating in the 1 + 1 project. We followed a purposeful sampling strategy (Creswell 2013) based on the following four selection criteria: 1) scores on previous national tests in mathematics, scores on tests conducted as part of the 1 + 1 project and the level of test score development, which all aided in identifying schools where students seemed to have a generally good progression in mathematics; 2) school size diversity in terms of student mass and number of staff; 3) diversity in local decisions on extra resource allocation (i.e. one or two small-group teachers – see Table 1 for details); 4) for practical reasons, accessibility, whereby the schools were not demographically spread across the entire cohort but shared geographical proximity.

Table 1. An overview of the participating schools.

	School 1 (S1)	School 2 (S2)	School 3 (S3)	School 4 (S4)	School 5 (S5)	School 6 (S6)
Student mass (rounded)	400	500	380	550	280	300
Staff (rounded)	50	70	60	70	55	35
Number of small-group teachers at each school	2	2	1	2	1	1
Number of students in visited standard-size classroom (intervals)	18–19	20–21	26–27	25–26	18–20	17–18
Number of interviewed teachers	2	3	2	3	4	2
Number of interviewed principals/head teachers	1	2	1	1	1	1

Each school was contacted in the Spring semester of the 2018–2019 school year and they all expressed an interest in participation. Respecting the schools' manifold daily commitments, we scheduled our visits flexibly across April and May of 2019. Each visit lasted one school day and entailed two main activities on our part: 1) observing instructional practice in both the standard-size classrooms from which the small groups were drawn and the small group tuition classes and 2) in-depth individual or focus group interviews with school principals and/or head teachers as well as focus group interviews with small-group and large-group teachers.

The classroom observations were all conducted prior to the interviews and recorded in an observational guide, tailored specifically for the purposes of our study. Our aim was mainly to tap briefly into teachers' instructional practices and as such have a mediational springboard to reflection in the interviews. Having spent a day at each school, we also shadowed the teachers around, in most cases participating in lunch discussions in teacher common rooms, in physical student transfers from one classroom to the next and in observing activities at the school ground at breaks, conducting in some cases informal discussions with teachers on duty. Limited in time and scope, our classroom and other observations provided only additional contextualization cues to each school.

The interviews were all semi-structured, loosely following an interview guide constructed around two thematic axes: 1) the wider school policy context, covering the interviewees' perspectives on and experiences with different policy initiatives and 2) their experience of enacting 1 + 1, including teacher recruitment, teacher cooperation and reflections on the project merits and challenges. Each interview lasted about an hour. They were all audio-recorded and, subsequently, transcribed verbatim. The first author collected all data alone, except for at one of the schools (S5⁴) where data collection was conducted jointly with the second author. Table 1 provides a summarizing overview of the participating schools, their brief demographic profiles and basic background information on all our interviews.

Data analysis

All data was first thematically coded in NVivo. This process entailed multiple readings and re-readings of each set of transcribed interviews and led to the creation of a preliminary coding scheme. While sufficient to get a sense of the dataset, we found it

wanting in terms of capturing its more dynamic aspects, such as collegiate relations or chronology of events, particularly as we had two complementary sources of information about each school – interviews with the school leadership and the teaching staff. Therefore, our next analytical step was inspired by Hopwood’s synoptic unit analysis (Hopwood 2018), an analytical approach that allows for tracing key features in data that are *a-priori* dispersed yet deeply relational across time and space. Using our overarching NVivo themes as a vantage point, we thus constructed synopses or ‘extractive summaries’ (ibid, 2018, p.2) of how different segments of our data from each school related to these themes. Recording our synoptic units in several Excel sheets, each devoted to one central coding theme and with relevant examples from data, this process led to both an identification and visualization of the enactment dynamics in their discursive detail that we report on in the rest of the paper.

Findings

The big picture: insights into the schools’ policy enactment universe

An analysis of the participating schools’ wider policy context shows that, generally, the policy enactment activity level was high across all six schools. Each school was at the time of the interview involved in numerous projects, initiated either by national, municipal or local authorities. As expected, of national projects, the current ongoing national curriculum reform, *The Subject Renewal*, formed a common point of reference in the way local and municipal policy efforts were framed. This transpired both when the participants were prompted directly to lay out the schools’ ongoing policy efforts but also more tacitly in the way instructional practice and approaches were discursively constructed. Concepts such as *deep learning*, central in *The Subject Renewal*, were commonly drawn on across the data:

I feel that in my small group I can engage the students in deep learning.⁵ (Teacher – S2)

And yeah, we have worked with deep learning for a while now in a project with external experts. That was exciting! (Teacher – S1)

Other frequently mentioned examples of national-scale policy initiatives were the *Natural Science Strategy*, *Language Trails* as well as *Evaluation for Learning*. In addition, a host of specific municipally or locally initiated policy efforts were listed at each school as significant elements in their policy enactment universe. These were frequently focused on themes connected to broader educational policy aims, such as digitalization, life skills, literacy or classroom management.

Some of the distinguishing structural features of the national reform efforts, as laid out in our contextualization sub-section, were clearly present in the participants’ narratives. For example, at all six schools, both teachers and principals reported on a generally positive collegiate climate of cooperation, with much formal and informal knowledge and experience sharing. The *responsible and active teacher* was a description of the general teacher profile offered by the principal at S3:

“They are very active and they also take responsibility when it comes to deciding on how to plan for the content of development work across different subject areas”. (Principal – S3)

At S2, both the principal and one of the head teachers talked of *all teachers as math teachers*, a slogan that, according to both informants, received a unified teacher backing after a team-building trip overseas. The school principal at S2 drew on the metaphor of *a teacher with a big heart* to underscore that genuine engagement and professional dedication were qualities sought after in the school recruitment processes. In most cases, the teachers' sense of inclusion in a climate of inter-collegiate support and cooperation was marked also in more tacit ways, such as in the informants' use of personal pronouns: 'We have a unified strategy of how we work at our school' (Teacher – S1). Likewise, the principals and head teachers constructed themselves as active school team players, engaged and involved, yet keen to safeguard teacher sovereignty, agency and voice in the diverse processes of policy reform and change at their schools:

It is an Alfa and Omega of our success that I show that I too think that it is important and that I get involved in new things too. (Principal – S3)

I keep a little bit to the margins because I really trust them [the expert teachers]. (Principal – S5)

What this suggests is that the participants communally portrayed their immediate institutional context as at least in some measure in structural and discursive alignment with broader reforms and master narratives on education, particularly in their discursive emphasis on project and policy work as a communal enterprise where the democratic ideal of listening to all voices in an inclusive school team is central. However, at this broad level, this may also be seen as potentially obfuscating the formal power asymmetry between the teachers and principals that necessarily exists there (Ball, Maguire, and Braun 2012). Given the strict demands placed on participation in our RCT, the way it was received, perceived and how it fitted into this broader policy context is the subject of the next section.

Ways of seeing and doing small groups: advantages and merits

Taking an aerial perspective on the interviewees' reflections on small-group tuition as a pedagogical concept, the data shows a fairly unanimous agreement across the board around its numerous merits. On a broad level, aspects covered by the participants included both the concept itself but also the idea of running a project where small-group tuition was in focus and where its affordances could be enjoyed on a long-term basis. To qualify their views, the participants frequently drew on linguistic quantifiers, universal indefinite pronouns as well as adjectival or adverbial intensifiers:

A lot of the things that go on in the classroom are much easier in the small group. And it's much easier to work with concrete objects or be physically active. Everything is much easier. (Teacher – S4)

Among the most commonly listed affordances was the opportunity to provide more individually tailored tuition to children in both small and large groups. Several of the teachers commented specifically on the impact this had on them as professionals, such as an enhanced sense of teaching joy in servicing fewer pupils, better classroom management and a greater overall professional satisfaction. Some drew also on relational benefits

vis-à-vis the children in their groups and on a collegiate level in terms of sharing experiences around instructional practice in a more systematic and regular manner:

It means so much for them [the students] to be seen extra much! (Teacher – S6)

I think it's very exciting both to be a part of the project and to work with so few pupils. (Teacher – S5)

Another common theme was the positive didactic impact of the approach, such as greater instructional variability but also the very nature of the tuition one could provide. For the teachers in schools 2, 3 and 6 this was operationalized as a chance to integrate dialogue as both a pedagogical virtue and an instructional approach in their classes. For the small-group teacher at S3, this entailed an active use of the mathematical language, group-based task solutions as well as practically oriented tasks with the use of concrete tools on which tuition could be modelled:

Obviously, the mathematical conversation where I take part ... because clearly, if I can ask open questions all the time it helps them advance in their mathematical understanding! (Teacher - S3)

The participants further nuanced their reflections by relating the merits of small-group tuition to several specific conceptual areas where they argued its impact was clearly discernible. First of all, there was a near-unanimous agreement that children in both small and large groups were direct beneficiaries of the schools' involvement in the project, expressed mostly in specifically cognitive terms, such as their *motivation* for engaging in math, their *self-confidence* in working with and solving mathematical problems and, relatedly, their *perceptions* of and *attitudes* towards math as a school subject. The following short narrative offered by a small-group teacher at S4 illustrates the construction of students' *attitudinal and emotional change* over time that echoes throughout the dataset:

I have one student in the group that will be done [with small-group tuition] now on Friday. In the course of our first class he came to me and said: "I hate math!" "Oh, do you?" So we had a conversation about that ... I said "let's wait and see what you think in a few weeks!" He doesn't hate math anymore! (Teacher - S4)

The second aspect which the teachers commented on across the board was the positive impact of the approach on peer relations and general classroom climate. This transpired on the emotional, interactional and organizational levels as, for example, students' well-being across the ability scale, with empathy and positive role modelling as related spin-offs, new friendships, better cooperation among different groups of students, more interactions across genders as well as fewer classroom management issues in general. Several participants related this also to potentially enhanced learning benefits for more children, summarized succinctly in the following sentiment with an emphasis on the causal link between the material circumstances of teaching and learning: 'Better conditions for the teachers, better learning for the children' (Teacher – S2).

Thus, the data suggests that the practitioners' narratives on their pedagogical and professional ethos were well aligned with the core idea of the RCT to commit to carving out a space for small-group tuition in an already heavy load of ongoing reform activity.

Yet, these narratives related specifically to small groups as a general pedagogical idea or an instructional approach. As the next section will make clear, despite these various merits, the dataset also clearly suggests a discursive murmuring of discontent when the specificities of the project enactment were questioned, providing a vantage point for extending the critique to other ongoing reform processes.

Small-group tuition as practice: enactment challenges

Both the principals and the participating teachers encountered various challenges in their 1 + 1 project enactment efforts. Once again, while some were offered upon direct questioning, others came as unprompted or implicit remarks, such as when the teachers engaged in discussing aspects of the intervention in detail and their reflections differed. While necessarily deeply intertwined, the challenges can be conceptualized in terms of an overarching five-pronged taxonomy as: 1) emotional and relational, 2) material, 3) organizational, 4) professional and 5) overarching contextual challenges. While the first three themes feature at all six schools and thus form the backbone of the taxonomy, the remaining two are mentioned more sporadically and, therefore, represent mostly supporting, school-specific evidence.

Firstly, in terms of the emotional and relational challenges, the participants discussed issues that concerned directly their students' well-being and, relatedly, parental satisfaction, but also issues that were of an inter-collegiate character. In terms of the former, a concern that echoes throughout the dataset, particularly in the teachers' reflections, revolves around the very nature of interventional studies with an RCT design. While it was accepted as a participation premise in the project, several teachers discussed how having both intervention and control classes at one school could potentially represent a source of frustration for the teachers, the children and their parents. These experiences were often situationally constructed as temporary through a host of discursive means, such as switches between past and present tense as well as adverbials marking the passage of time or duration. Also, dramatizing the process of attitudinal change through direct and indirect voicing or drawing on definite and indefinite quantifiers was frequent, as exemplified in the following extract from S4 where one of the interviewees constructs children's and parents' reaction to the randomization principle as follows:

And then it created a kind of envy, like “you are so lucky!”. But this passed quickly and they understand the point in a way. But that it is something that everyone would like to be a part of ... ((laugh)) (Teacher – S4)

On the relational and inter-collegiate level, the participants voiced concerns relating to cooperation difficulties that may arise in the local planning of policy reforms as well as the enactment work itself. Particularly at two schools, S3 and S5, this was discussed at length by both teachers and principals. The common denominator was how to deal with a lack of interest and potential resistance to the various policy initiatives, including the 1 + 1 project, by individual teachers. The principal at S5 drew on contrasting comparisons and metaphoric discourse that underscored the process as hard work in which she took on the role of a tactical and skilled leader with a clear strategy and vision:

We are a very colorful assembly! And some are stuck in the old ways, and that's the best thing – the old ways! They do not want development and they do not want to collaborate with others. But we also have those who are at the other end of the spectrum who say “yes, let's roll up our sleeves”. And there are more and more of those. In fact, I have a clear expectation of that – that we are in development and that we look forward! . . . I mean we can work with those who show resistance. Because then you work in the margins and go a bit like . . . you have to be quite tactical! (Principal - S5)

Seen through a teachers' perspective, the power dynamics in situations of controversy and disagreement were even more prominent. Through her pronominal choices, self-interruptions, self-corrections and lexical repetitions, the small-group teacher at S3, for example, made it clear that not only was it difficult to take up the issue in the context of the interview but, more importantly, that the staff was deeply divided along at least two axes: conceptual, where innovation and progress stood against tradition and stagnation and, by extension, relational, where *us and them* represented two separate camps, clearly steeped in questions of collective power and individual agency:

But what I would like to do . . . [is] that . . . that one could discuss these things more and that one could talk about these things more. Couldn't the other teachers also do it the way I do sometimes? . . . I feel a little bit that one . . . that the teachers have hectic days and they just want to follow the book. But I don't! (Teacher - S3)

Secondly, a major source of frustration in enacting the project was for many of a material nature (Ball, Maguire, and Braun 2012, 144), operationalized as issues concerning staffing, school facilities and budgetary demands. For example, at several schools, temporary and permanent career changes, such as parental and other leave, or teacher absence due to unforeseen circumstances such as short- or long-term sickness created staffing problems that potentially threatened project continuity. A spill-over effect arising due to teacher absence or leave was ensuring the same level of instructional expertise and thus optimal learning opportunities for all children in the long run. As such, balancing the school's needs for resource allocation with the project needs for teacher competence, commitment and continuity was for some a task of considerable difficulty. Additionally, retaining competent teachers with an expertise in a specific subject area, such as mathematics, represented a common staffing strain:

Actually, it was the two most competent teachers who had the [small-group teacher] job the first year. And then they left. (Deputy Principal – S2)

A third closely connected category entails a host of organizational issues that may have variably complicated the schools' enactment efforts. Broadly speaking, they were either related to practical matters in scheduling classes in an optimal way or to insufficient time as a very real, omnipresent and persistent problem affecting many layers of the participants' professional practice. Both were in fact also predicated and intimately linked to the structural features of the research design as such as well as specific demands of the intervention and its very content. For example, ensuring a smooth running of classes with participation of all children in the intervention groups twice each academic year was discussed at length both by the teachers and the principals. As only one element in the broader policy landscape of each school, steeped in their own histories, traditions and cultures of instruction and learning (Ball, Maguire, and Braun 2012), it was across the board experienced as a rigid organizational requirement with little room for local

negotiation and adjustment. Rather than formulated as explicit complaints, these sentiments were often expressed metaphorically. The image of the RCT as a lock was pervasive but also other metaphors were drawn on, such as when teachers at S4 constructed the RCT as a pivotal jigsaw puzzle piece around which the remaining instructional scheduling revolved:

Yes, it does lock the timetable a great deal! (Principal – S3)

It's very locked ... (Teacher A – S4) ... It's a jigsaw puzzle when you have a go at it! (Teacher B – S4) ... It's a jigsaw puzzle and a challenge! (Teacher A – S4)

Additionally, at S2 and S3, organizing the delivery of the intervention collided with other, already running projects with a fairly demanding and rigid organizational frames. In both cases, the participants provided detailed accounts of how striking a good balance between projects while ensuring staff backing was a longitudinal struggle that, as noted above in relation to S3, put the school's spirit of collegiate collaboration at test. In terms of ensuring delivery of small-group instruction for all children, the teachers listed small ordinary class sizes in general as well as stability in student numbers as pivotal: 'When it's more than 24 students, than it's one too many!' (Teacher – S3).

Fourthly, the project rigidity materialized as a potential hindrance in allocating resources in harmony with the schools' local needs and, therefore, touched upon the professional and pedagogical ethos of some of our interviewees or their colleagues. At S2, this was presented as a communication issue that required sustained management effort:

It has to do with the fact that we also have reinforced learning [another project] ... so it created a little twist in the teams ... so I had to participate more in the initial phase and explain again and again at our team meetings why it had to be like that and ... why this one teacher had to take out his group at all costs! (Deputy Principal – S2)

Lastly, overarching contextual yet school-specific demands such as school demographics and student profiles composition featured as a consideration at S2 and S5 only. Both schools served students from economically disadvantaged or ethnically and linguistically diverse homes with very specific learning needs and considerations. These placed additional demands on the long-term running of the intervention, such as resource allocation, and added to the challenges in balancing the manifold, often conflicting needs and realities at these schools.

Enactment challenges: enduring barriers or passing problems?

On an aerial view, the analysis revealed that, despite many similarities, the school narratives nonetheless depart from each other in ways enactment challenges, difficulties and problems were constructed as either more or less sticky and enduring or as potentially malleable and largely passing phenomena. We have identified three specific areas that were discursively foregrounded as contributing to what we see as the schools' resilience towards challenge.

Firstly, an important ingredient in dealing with the specific requirements of the intervention that were set on project participation and, as related above, led to enactment difficulties, such as delivering small-group tuition twice to each student during one school year, was safeguarding as much local flexibility in the schools' enactment efforts

as possible. In the participants' narratives, flexibility and freedom were specifically causally linked to teachers' relational well-being or the schools' success in engaging in and juggling various reform activities. In the following example, the principal at S4 constructed this discursively in the irrealis mood, thereby framing the schools' opposite arrangement as a commendable choice:

There could have been a further challenge if one only had opted for one full-time 1+1 position rather than two because this would have robbed the school of freedom even more!
(Principal - S4)

In contrast, S3 was involved in a parallel project that *a priori* constrained the school's flexible arrangement of classes. The schools' choice of employing only one small-group teacher rather than two seemed to impinge further on local freedom to act and respond well to other arising needs. Responding to a question on the nature of collaboration between the small-group teacher and the rest of the staff, the principal offered the following comment:

I have not experienced resistance but I have experienced, particularly when they are supposed to organize themselves, that it isn't very ... that some people are not flexible and that for [the small-group teacher's name] it's a bit heavy to collaborate with the other teachers. (Principal - S3)

Secondly, both individual and collegiate embrace of policy change seemed to function as an additional buffer against potential murmuring and discontent. This could take different shapes and forms, such as the staff's approach to instructional innovation and change, including the intervention itself, the way teachers opted to employ their instructional creativity and freedom across the board, but also attitudes to reform activity in general, constructed either as an opportunity or as a burden imposed top-down and interfering with an already heavy work load. Indeed, the participants at all schools but S3 displayed not only an ownership of the very idea of the intervention, they also provided a strong collective discursive backing to sharing and enacting other related pedagogical ideas in both formal and informal manner. For example, the staff at S4 commented specifically on creating a shared digital document for recording ideas from the intervention as well as other ongoing projects that they drew on and experimented with in their teaching practice. Again, through pronominal choices and universals, they constructed themselves as co-responsible for their class instruction:

We have this shared document that everyone can see and write in. So if one has some good ideas, one can write them down, like "in that class I did this and that" ... (Teacher A - S4) ... so a lot of the things we do are quite similar! (Teacher B - S4)

Lastly, the data shows that serendipity also plays a role in how the participating schools were able to juggle the constraints of the RCT with their other commitments, including their core educational tasks of teaching as well as responding to the numerous multi-leveled bids for reform. As discussed above, unforeseeable staffing issues such as sickness, parental leave or recruitment and staff stability were all deeply intertwined with the schools' changeable capacities to enact policy initiatives and respond well and timely to their variable demands. The principal at S5, for example, drew on metaphoric language

and the unrealistic mood to underscore the good fortune the school has had in having experienced only minimal project understaffing:

Yes, I can really count on one hand when she [the small-group teacher] had to be taken out [to step in elsewhere]. That would have been a crisis! (Principal - S5)

Also, material circumstances, such as the schools' choices of material arrangements as well as seizing opportunities that may have suddenly arisen, seemed to have contributed to the success of their reform efforts. S4, for example, capitalized on sudden opportunities for school expansion prior to the 1 + 1 intervention and, as such, could provide for guarded tuition space upon the start of the project. Similarly, at S5, seeing an unused library space as an opportunity for having all 1 + 1 classes in the same location proved fortuitous for both children's and teachers' satisfaction. Creating and capitalizing on synergy effects between past, ongoing and future school policy and other projects while seeing them as a complex yet deeply intertwined whole rather than discreet steps were thus all constructed as significant in the schools' continuous efforts to offset the challenges the RCT may have represented.

Summarizing discussion

The everyday, situated realities of schools, including those participating in our study, are complex and the processes of translating the manifold, parallel, competing or even conflicting webs of different policies into practice often far from clear-cut or straightforward (Ball, Maguire, and Braun 2012, 149). Zooming in on our own RCT on small-group tuition, as a policy-relevant measure, through the lens of Ball and colleagues' enactment model, we nonetheless see some commonalities as well as patterns of difference in how two selected, key policy agents at each school, teachers and school principals, experience its enactment on the ground.

On an overarching level, we observe a tacit distinction: when discussing the general policy context or when reflecting on pedagogical ideas and ideals, the participants' narratives seem fairly attuned. Indeed, the data revealed much affinity across the schools. The participants portrayed their ongoing policy activity level not only as high but also as a communal enterprise that received much unified staff backing. This was further endorsed in the way small-group tuition was collectively embraced and constructed as a particularly beneficial pedagogical concept with multiple educational gains. Children's peer relations or their motivation to engage in mathematics, as well as the practitioners' enhanced relational, emotional, instructional and professional experiences all transpired as discursively relevant. We see this particular finding in itself as neither unexpected nor surprising. Rather, it aligns with, but also adds to, the growing scientific evidence that small group tuition across subjects is a recommended pedagogical approach that may afford multiple organizational, teaching and learning opportunities (Bakker, Smit, and Wegerif 2015; Dobbie and Fryer 2013; Fryer 2014; Murphy et al. 2016).

However, when encouraged to dive into the specifics and particulars of enacting this very RCT, the seemingly concerted chorus became more cacophonous. Our analysis revealed a collective sense of discontent with a number of interrelated aspects embedded in enacting the RCT in practice. These materialized as multiple emotional, relational, organizational and material challenges. Both overt and covert ambivalence to the reform

enactment load among the staff can be singled out as one specific example. Another was the randomization principle, experienced as a strain that took time to accept by the teachers, students and parents alike. The material contexts of policy, specific to each school, such as staffing and budgetary constraints, as yet another. In line with Ball, Maguire, and Braun (2012) framework, these multiple challenges and tensions were shown to operate at different scales as either local and mostly passing or as more deeply entrenched and lasting concerns, triggering or accentuating inter-collegiate tensions, resistance to reform efforts or a more general climate of communal discontent.

We also show that the way each school handled the challenges differed across several dimensions. A prominent one was the way each school succeeded in constructing a narrative on a discursive cohesion in their professional community, composed of dedicated, responsible and active teachers, and operationalized as, for example, a concerted embrace of change, a collegiate sense of shared values or a harmonious team working towards a common goal. As core elements in the current master narratives on teacher development and school reform work in Norway (Jensvoll and Lekang 2018), they also bear witness to a discursive alignment with the broader policy work, amplified further by numerous explicit references to key large-scale reforms sprinkled across the data. As Ball and colleagues' framework also underscores, such micro-macrolinks propel to visibility the discursive complexity of school policy work. Yet, constructing a coherent narrative of school-based policy agents as pulling in one direction is, in our view, a double-edged sword. Firstly, while it may communicate a sense of collegiate unity, it may also gloss over power asymmetries that necessarily exist at schools (Ball, Maguire, and Braun 2012). Indeed, a deeper dive into individual narratives obviates how individual voices going against the communal current may be tacitly sanctioned or even discursively ostracized, as the brief voicing of frustration by the small-group teacher at S3 insinuates. Secondly, we note that not all teachers, nor other employees in the school and other sectors, necessarily embrace change readily. Factors such as work stress may have a negative impact on employees' attitudes to change (Vakola and Nikolaou 2005), not least in a school setting where teachers are under considerable pressure to perform their instructional duties amidst parallel administrative, policy and other commitments.

Another key buffer in offsetting potential problems and challenges, identified in our data, was local flexibility in the schools' project enactment efforts. Indeed, schools that succeeded in opening up and capitalizing on windows of opportunity the *a priori* fairly rigid design of the RCT may have offered, such as sharing the allocated resources between at least two teachers, portrayed the problems encountered along the enactment way as less sticky and as surmountable with time and effort. Schools that did not secure this leeway seemed more vulnerable to local policy resistance. Along with the discursive cohesion among staff, we see this as closely connected with the schools' enactment serendipity or, in other words, an element of luck in material arrangements and unforeseeable staffing issues such as sickness, parental leave, recruitment problems and staff stability. Yet, we nonetheless see the question of safeguarding local flexibility, autonomy and freedom in the face of imposed rigidity, multiple policy demands and changing circumstances as core to consider in planning and committing to interventional research. This is because it relates directly to the RCT design *per se* while the other elements are

more generic and can, therefore, be seen as important additional supporting mechanisms.

That these issues transpire clearly when the general becomes more concrete parallels, in some ways, the broader EBP debate itself. While RCTs in education have their staunch advocates and, in equal measure, adamant critics, it is important to bear in mind that things on the ground are never either black or white (Kvernbekk 2016). As Kvernbekk cautions, while RCTs as the gold standard in EBP may yield internally valid results, their enactment in practice is a different matter. Ultimately, it is the closely contextual that determines to what extent a specific policy measure may translate to a practical success.

Conclusions

School interventional research never happens in a vacuum. Rather, it is part of a complex policy universe that may include other projects, policy measures and reform work. In addition to studying the outcomes of RCTs, studying the related processes of their enactment may offer key insights about their value and feasibility at the practice level. As this study and other studies (e.g. Ball, Maguire, and Braun 2012; Biesta 2010, 2007) argue, everyday school realities necessarily represent an incessant tug of war between different grassroots needs and commitments, potentially multiple top-down directives or even mandatory prerequisites for research project participation. In their attempts at responding to the various competing policy and practice calls, practitioners may find themselves constantly weighing multiple considerations, such as their professional ethics, practical and organizational arrangements, collegiate relations as well as relations to their students and their homes. While we show patterns of discursive similarity and difference in these efforts, we see the different elements as contextually conditioned and their particular discursive configurations as locally specific. In so doing, Ball and colleagues' framework, with its emphasis on contextual complexity and contingency, was particularly instructive. It enabled us to pursue an in-depth, yet also comprehensive analysis and aided to obviate the deeply dynamic and relational nature of school policy enactment. As Ball and colleagues argue 'while there are policy imperatives, there will always be some alternative spaces for thinking differently' (2012, 150). Nonetheless, we also acknowledge that in order to understand the intricacies of policy translation on both micro and macro levels, it is important to interrogate and further refine both this and other viable frameworks that theorize how policy is *being done and experienced* in different organizational contexts and at different times (e.g. Røvik 2007).

Given the messy complexity of schools but also the limitations of our data, our findings are necessarily tentative. Among other things, the very fact that we approached schools included in the intervention group and thus receiving additional resources to run the project may have predisposed our participants, particularly the school principals, to constructing the schools' experiences of the trial in a more favorable light than their counterparts in the control group would have. Bearing in mind that they too committed to participating in a four-year testing battery while receiving no additional resources, we can only assume that some of the particular strains and challenges identified in this study may be even more acutely felt at the control schools.

Despite these shortcomings and in view of the frequency with which schools nowadays commit to opening their doors to researchers pursuing interventional research, we believe our study propels to visibility a set of key issues that have a significant transferability value, yet far too often remain glossed over or relegated to empirical shadows. We also believe that it adds nuance to some core issues in the broader debate surrounding EBP through voices that are central, yet often missing in these debates, namely those of school practitioners themselves.

Notes

1. For brevity, we will refer to the RCT as either '1 + 1 project' or '1 + 1'.
2. In Norway, this corresponds to ages 7 to 10.
3. We will refer to these as either 'standard-size' or 'large' groups/classrooms throughout this paper.
4. An abbreviation SN will be used to denote each school N (e.g. S1 for school 1 etc.).
5. We follow simplified transcription conventions, including abbreviated grammatical forms (e.g. 'don't' rather than 'do not'), hesitations and pauses (i.e. ' ... ') and transcriber comments (i.e. [xx]). Discursively significant details are underlined in each citation.

Data availability statement

In accordance with the ethical guidelines and regulations of the Norwegian Center for Research Data, the data on which we draw in this paper are not publicly available.

Disclosure statement

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References

- Author/s 1. n.d.
- Author/s 2. n.d.
- Bakker, A., J. Smit, and R. Wegerif. 2015. "Scaffolding and Dialogic Teaching in Mathematics Education: Introduction and Review." *ZDM* 47 (7): 1047–1065. doi:10.1007/s11858-015-0738-8.
- Ball, S. J. 2012. *Global Education Inc.: New Policy Networks and the Neo-Liberal Imaginary*. London: Routledge.
- Ball, S. J., M. Maguire, and A. Braun. 2012. *How Schools Do Policy: Policy Enactments in Secondary Schools*. London: Routledge.
- Biesta, G. 2007. "Why 'What Works' Won't Work: Evidence-Based Practice and the Democratic Deficit in Educational Research." *Educational Theory* 57 (1): 1–22. doi:10.1111/j.1741-5446.2006.00241.x.
- Biesta, G. 2008. "Good Education in an Age of Measurement: On the Need to Reconnect with the Question of Purpose in Education." *Educational Assessment, Evaluation and Accountability (Formerly: Journal of Personnel Evaluation in Education)* 21 (1): 33–46. doi:10.1007/s11092-008-9064-9.
- Biesta, G. 2010. "Why 'What Works' Still Won't Work: From Evidence-Based Education to Value-Based Education." *Studies in Philosophy and Education* 29 (5): 491–503. doi:10.1007/s11217-010-9191-x.
- Blatchford, P., P. Bassett, and P. Brown. 2011. "Examining the Effect of Class Size on Classroom Engagement and Teacher–Pupil Interaction: Differences in Relation to Pupil Prior Attainment and Primary Vs. Secondary Schools." *Learning and Instruction* 21 (6): 715–730. doi:10.1016/j.learninstruc.2011.04.001.
- Bonesrønning, H., H. Finseraas, I. Hardoy, J. M. Vaag Iversen, O. H. Nyhus, V. Opheim, K. V. Salvanes, A. M. J. Sandsør, and P. Schøne. 2018. "Pre-Analysis Plan. The Effects of Small Group Instruction in Mathematics for Pupils in Lower Elementary School." *EGAP*. <http://egap.org/registration/4417>
- Bonesrønning, H., J. M. V. Iversen, and I. Pettersen. 2011. "Kommunale Skoleeiere: Nye Styringsystemer Og Endringer I Ressursbruk. [New Steering Systems and Changes in Resource Use]." In *SØF-Report 05/11*. Trondheim: SØF.
- Czarniawska, B., and G. Sevón. 1996. "Translating Organizational Change." In *De Gruyter Studies in Organization*. Berlin: Walter de Gruyter.
- Dahl, T., and G. Engvik. 2017. "Universitets- Og Høgskolemiljøenes Involvement I Satsingen - Læring I UH-Sektoren Og I Skolene? [Involvement of Universities and University Colleges in the Measure - Learning in the Sector and Schools?]." In *Ungdomstrinn I Utvikling. En Mulighetenes Gavepakke Til Skole- Og Utdanningssektoren*. [Lower Secondary Schools in Development. A Gift Package of Possibilities for Schools and the Education Sector], edited by M. B. Postholm, A. Normann, T. Dahl, E. Dehlin, G. Engvik, and E. J. Irgens, 217–240. Trondheim: NTNU.
- Directorate of Education and Training. 2019. "The Norwegian Education Mirror, 2019." <https://www.udir.no/in-english/education-mirror-2019/compulsory-education-facts-and-learning-outcomes/#>
- Dobbie, W., and R. G. Fryer Jr. 2013. "Getting beneath the Veil of Effective Schools: Evidence from New York City." *American Economic Journal: Applied Economics* 5 (4): 28–60. doi:10.1257/app.5.4.28.
- Durlak, J. A., and E. P. Dupre. 2008. "Implementation Matters: A Review of Research on the Influence of Implementation on Program Outcomes and the Factors Affecting Implementation." *American Journal of Community Psychology* 41 (3–4): 327–350. doi:10.1007/s10464-008-9165-0.

- Elstad, E. 2009. "Schools Which are Named, Shamed and Blamed by the Media: School Accountability in Norway." *Educational Assessment, Evaluation and Accountability* 21 (2): 173–189. doi:10.1007/s11092-009-9076-0.
- Fryer, R. G. 2014. "Injecting Charter School Best Practices into Traditional Public Schools: Evidence from Field Experiments." *The Quarterly Journal of Economics* 129 (3): 1355–1407. doi:10.1093/qje/qju011.
- Hattie, J. 2005. "The Paradox of Reducing Class Size and Improving Learning Outcomes." *International Journal of Educational Research* 43 (6): 387–425. doi:10.1016/j.ijer.2006.07.002.
- Hopwood, N. 2018. "When Coding Doesn't Work or Doesn't Make Sense: Synoptic Units in Qualitative Data Analysis." <https://nickhop.wordpress.com/2018/11/23/when-coding-doesnt-work-or-doesnt-make-sense-synoptic-units-in-qualitative-data-analysis>
- Jensvoll, M. H., and T. Lekang. 2018. "Strengthening Professionalism through Cooperative Learning." *Professional Development in Education* 44 (4): 466–475. doi:10.1080/19415257.2017.1376223.
- Kvernbekk, T. 2016. *Evidence-Based Practice in Education: Functions of Evidence and Causal Presuppositions*. Routledge Research in Education. Vol. 147 vols. London: Routledge.
- Lødding, B., C. Gjerustad, E. Rønsen, J. Bubikova-Moan, V. Jarness, and T. Røsdal. 2018. "Sluttrapport Fra Evalueringen Av Virkemidlene I Satsingen Ungdomstrinn I Utvikling [Final Report from the Evaluation of Lower Secondary Schools in Development].":32. Oslo: NIFU. <https://www.nifu.no/publications/1676734/>
- Ministry of Education and Research. 2006. "Kunnskapsløftet. Læreplan for Grunnskolen Og Videregående Opplæring [Knowledge Promotion. Curriculum for Primary and Secondary School]." <http://www.norway.gr/pagefiles/372262/kunnskapsloftet.pdf>
- Ministry of Education and Research. 2016. "Meld. St. 28 (2015–2016) Fag - Fordypning - Forståelse - En Fornyelse Av Kunnskapsløftet [Subject - Deep Learning - Understanding - Renewal of Knowledge Promotion]." <https://www.regjeringen.no/no/dokumenter/meld.-st.-28-20152016/id2483955/>
- Murphy, P. K., C. M. Firetto, L. Wei, M. Li, and R. M. V. Croninger. 2016. "What REALLY Works: Optimizing Classroom Discussions to Promote Comprehension and Critical-Analytic Thinking." *Policy Insights from the Behavioral and Brain Sciences* 3 (1): 27–35. doi:10.1177/2372732215624215.
- OECD. 2015. "Teaching, Assessing and Learning Creative and Critical Thinking Skills in Education." OECD. <http://www.oecd.org/edu/ceeri/assessingprogressionincreativeandcriticalthinkingskillsineducation.htm>
- Ogden, T., and D. L. Fixsen. 2014. "Implementation Science: A Brief Overview and A Look Ahead." *Zeitschrift Für Psychologie* 222: 4–11. January. doi:10.1027/2151-2604/a000160.
- Røvik, K. A. 2007. *Trender Og Translasjoner: Ideer Som Former Det 21. Århundrets Organisasjon* [Trends and Translations: Ideas that Form Organisations in the 21st Century]. Oslo: Universitetsforlaget.
- Røvik, K. A., T. V. Eilertsen, and E. M. Furu, eds. 2014. *Reformideer I Norsk Skole: Spredning, Oversettelse Og Implementering* [Reform Ideas in Norwegian Schools: Dissemination, Translation and Implementation]. Oslo: Cappelen Damm akademisk.
- Sahlin, K., and L. Wedlin. 2008. "Circulating Ideas: Imitation, Translation and Editing." In *The SAGE Handbook of Organizational Institutionalism*, edited by R. Greenwood, C. Oliver, R. Suddaby, and K. Sahlin-Andersson, 220–242. London: SAGE Publications.
- Sivesind, K., and E. Elstad, eds. 2010. *PISA: Sannheten Om Skolen? [PISA: The Truth about School]*. Oslo: Universitetsforlaget.
- Sjøberg, S. 2014. "PISA-Syndromet. Hvordan Norsk Skolepolitikk Blir Styrt Av OECD [The PISA-Syndrom. How Norwegian Educational Policy Is Managed by OECD]." *Nytt Norsk Tidsskrift, Nytt* 31 (1): 30–43.
- Slavin, R. E. 2002. "Evidence-Based Educational Policies: Transforming Educational Practice and Research." *Educational Researcher* 31 (7): 15–21. doi:10.3102/0013189X031007015.

- Taylor, S. 1997. "Critical Policy Analysis: Exploring Contexts, Texts and Consequences." *Discourse: Studies in the Cultural Politics of Education* 18 (1): 23–35. doi:[10.1080/0159630970180102](https://doi.org/10.1080/0159630970180102).
- Vakola, M., and I. Nikolaou. 2005. "Attitudes Towards Organizational Change: What Is the Role of Employees' Stress and Commitment?" *Employee Relations* 27 (2): 160–174. doi:[10.1108/01425450510572685](https://doi.org/10.1108/01425450510572685).