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Assessment Results for Transforming Practice: School Leaders' Role

Marit Aas and Christian Brandmo, University of Oslo, Norway

Authors' address:

Marit Aas, Associate Professor, Department of Teacher Education and School Research, University of Oslo, Norway

Address: Postboks 1099, Blindern, 0317 Oslo

Tlf.: + 41126728,

E-mail: marit.aas@ils.uio.no

Christian Brandmo, Associate Professor, Department of Teacher Education and School Research, University of Oslo, Norway,

Address: Postboks 1099, Blindern, 0317 Oslo

Tlf.: +47 22855243

E-mail: christian.brandmo@ils.uio.no

Assessment Results for Transforming Practice: School Leaders' Role**Abstract**

Over the last decade, many countries have implemented assessment systems meant to be tools for school improvement. This article examines how school leaders in Norway respond to the expectations of national authorities regarding use of assessment results to transform practice. The research draws on data from a survey study investigating how school principals use national tests, results from student exams and the Pupil Survey to improve learning in school. We suggest that the framework of “expansive learning” represents a novel perspective designed to change approaches by focusing on how change processes in schools need to acknowledge critical investigations and tensions. The findings show that while school leaders initiate discussions of the assessment results, many of these discussions do not lead to new practices in the classroom, mainly because the school leaders perceive teacher resistance. This study contributes to the research field by acknowledging the challenge of using assessment to improve practice within the school.

Key words: Change; School Leadership; Assessment; Transforming Practice

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Introduction

Educational development has been a continuing issue in policy, practice and research for more than 50 years, internationally as well as in a Nordic context. After decades of large-scale projects geared toward educational change all over the world, many of the reforms simply have not delivered the expected results (Hopkins, Stringfield, Harris, Stoll, & Mackay, 2014). One possible reason for this failure is that too many approaches to change have focused on top-down, linear interventions without building adequate support within the schools (Hargreaves & Fullan, 2012; A. Harris & Jones, 2013). Another approach to change is to transform organisations. Numerous studies express how changes are dependent on the context and the culture of the school (Fullan, 2011; Sarason, 1996) and demonstrate that while interventions can be transferred, contexts cannot be copied (Alma Harris, 2011).

At the same time, there is currently a strong belief in accountability as a policy of action closely allied to the notion of New Public Management (NPM) and the ongoing modernisation of the public sector. This includes emphasising school leadership for quality improvement in schools (Hargreaves & Fink, 2006; Leithwood, Harris, & Hopkins, 2008), with special attention on standardised testing and instructional leadership to improve student outcomes (Day et al., 2009; Hallinger & Heck, 2010; Robinson, Lloyd, & Rowe, 2008). From a critical perspective, the focus on student outcomes, which is promoted in NPM, leads to re-modelling and regulation of teacher identity, thereby leading the learning in schools (Hall, Gunter, & Bragg, 2013).

Policymakers expect one assessment system to provide indicators of the performance of the education system; hold schools and educators accountable for their performance; certify students' performance as they move from grade to grade; motivate students to perform better and teachers to change their instructional content and strategies; and aid in instructional

decisions about individual students (Nichols & Berliner, 2007). Assessment experts, however, question whether a single test, regardless of its format, can address these multiple needs (Goertz & Duffy, 2003). In addition, a common concern about the effect of such testing practices is that they reshape classroom teaching in maladaptive ways. However, such claims do not consider the evidence of deeper classroom structures in a historical context (Cuban, 2007). The Organisation for Economic Co-operation and Development (OECD) has been highly influential in discourses about how to raise standards and quality in schools, focusing on school leadership as a major element in the quality improvement of schools (Elstad & Sivesind, 2010; McGaw, 2008). The report *Improving School Leadership* places attention on transforming the education systems in accordance with NPM philosophy (Pont, Nusche, & Moorman, 2008). Decentralisation, school autonomy and outcome-based assessment are emphasised as important improvement strategies (May, Huff, & Goldring, 2012). The rationale is that autonomy and accountability allow schools to respond better to future needs (Hopmann, 2008). From a critical point of view, such a policy can be characterised as being ‘governed by numbers’ (Ozga & Grek, 2008). According to Ball (2015), numbers are powerful because they define our worth, measures and effectiveness and define what we are. One study of how national-examination data is used as a technology of governance indicates that the power of numbers both relies on and promotes both soft and hard regimes of regulation and that this, in turn, can affect the distribution of power between and among those who govern and those who are governed (Piattoeva, 2015).

Research indicates that principals play critical roles in influencing how assessment results are used in schools (Mandinach & Honey, 2008; Shen et al., 2010; Young, 2006). However, principals typically spend a small amount of their time in classrooms (Horng, Klasik, & Loeb, 2009). A study of the relation between the use of test results and US students’ academic performance reveals a positive relationship between holding schools accountable

and student achievement but does not directly answer the question of why (Li, Fortner, & Lei, 2014). Empirical studies conducted within the field of school leadership and change largely approach leadership as owned by a single person, such as a principal, who is engaged in distributed practice (Fullan, 2007; Hallinger & Heck, 2010; Leithwood, Mascal, & Strauss, 2009; Spillane, Halverson, & Diamond, 2004). This raises tensions for those appointed to the principal role, where good practice is extolled in terms of command, control and accountability as well as with creating commitment and providing opportunities and responsibility as the leader of teaching and learning (Stoll & Louis, 2007). Inspired by the framework of expansive learning (Engeström, 2001), the current study aims to explain how this pressure is evident within professional practice and how principals respond to the governing signals regarding assessment and learning. Given the aim of the present study and the discussion above, we set out to address the following research question: *How do Norwegian school leaders respond to the national authorities' expectations of using assessment tools for transforming practice?*

First, we briefly describe the Norwegian context; next, we address theoretical and empirical aspects of assessment, leadership and change. Further, we present the methodology of the study, followed by the results. Finally, we discuss the findings and implications of the study.

The Norwegian context

The context of the current study is Norway, where principals are increasingly facing external expectations of improved efficiency, better test scores and higher standards (Elstad, Turmo, & Guttersrud, 2011; Mausethagen & Granlund, 2012; Møller, 2012). What makes this study interesting is that accountability policies in Norway can be described as softer than in countries with more aggressive, 'neoliberal' policies, including the United States and Great Britain (Mausethagen, 2013). With a comprehensive model of 'a school for all' as a guiding

principle, Norway downplays market mechanisms and sees student learning outcomes as a way to promote quality and equality rather than transparency and efficiency (Aasen, Telhaug, & Mediås, 2006; Moos, 2009; Møller, 2009).

A national quality assessment system was launched in 2004 by the Norwegian authorities, emphasising increased access to and use of data to improve education quality and outcomes (Elstad et al., 2011; Skedsmo, 2011). This assessment system, which is publicly available on the web site “Skoleporten,” includes national testing of Grades 5, 8 and 9 and is described as holding both formative and summative aspects. Yet, this two-fold purpose is debated, and the system has been criticised for emphasising the summative aspect more than the formative (Allerup, Kovac, Kvåle, Langfeldt, & Skov, 2009). In addition to the national tests, the national assessment system includes results from student exams as well as the Pupil Survey, which investigates the students’ learning conditions and learning environments. Because results of these different tools are made public and are used in conversations between school owners (the counties or municipalities) and the principals, they can be characterised as accountability tools (Møller, 2012).

The authorities assume that the results of national tests can be used as a basis for cooperation and discussions with teaching staff as well as part of the background when schools develop plans and strategies for future education and development (Møller & Skedsmo, 2013). In order to support national policies (e.g. using assessment results for quality improvement), the Norwegian Minister of Education and Research launched a national principal training programme in 2009 for newly appointed principals to improve their qualifications as leaders (Christiansen & Tronsmo, 2013; Hybertsen et al., 2014). One of the indicators of programme success promoted in the programme is that school principals are supposed to be accountable for students’ achievements through standardised testing, which is part of the national system of quality development. On the other hand, school principals are

supposed to get commitments from the teachers working within the organisation, leaning on the democratic and collaborative approach of Norwegian schools (Møller, 2009; Skedsmo, 2011). These contradictory expectations might be challenging, especially for newly appointed principals, who are in a process of constructing their own leadership identities and developing their leadership practices (Aas & Vavik, 2015).

To our knowledge, no studies have directly investigated the relation between assessment and leadership in Norwegian schools; however, there are studies that have enlightened aspects of facilitating teachers' learning and reshaping of the organisation. For instance, Hernes and Irgens (2012) and Roald (2012) found that leadership, as a bottom-up and collaborative strategy, is crucial to providing and promoting organisational learning. Other studies have shown that development in leaders' and teachers' beliefs and competences is most salient when it occurs within a structured and disciplined process within the school (Aas, 2011b; Helstad & Møller, 2013; Jensen, 2014). From a more historical perspective, a study of Norwegian national policy documents over prior decades revealed that school leader roles and practice development have shifted from an individual perspective (drawing on a transformational/instructional perspective) towards a collaborative and team-oriented or distributed leadership perspective (Abrahamsen & Aas, 2015). Altogether, the studies imply that one should pay careful attention to the interplay between leaders and teachers when one wants to transform assessment results to new practices in the classroom.

Theory of change

According to Gunter, Rayner, Butt, Fielding, Lance, and Thomas (2007), change can be understood and analysed along two dimensions. The first dimension captures linearity versus complexity, meaning whether one considers change as something that happens as part of a plan initiated and controlled by an established power structure or as a more complex negotiating process that occurs between the people within a culture and power structure. The

second dimension concerns the relation between process and outcome. Given the assumption of linearity, change is deliberated from a simplified and systemic perspective, is rational and should lead to visible results. Given the assumption of complexity, change is considered to be a negotiation between people representing diverse interests, and the outcome may contain evaluations that challenge the existing culture and power system.

Following Gunter et al.'s (2007) model of change, the National Quality Assessment System (Ministry, 2008) may be characterised as a linear change approach. This assumes that activity is rational and outcomes can be determined by controlling human participation during change interventions, and that delivered change is evident through informed assessments (e.g. test results) and planning. At the same time, it can be seen that the authorities emphasise the collaborative relation between principals and teachers (Ministry, 2011) and are thus aware of the latter aspect of change: the complexity that plays out in mediating change and working for change.

In order to understand what happens when schools respond to the national-level change interventions, we build on Engeström's (2001) ideal-typical process model of organisational innovative learning to explore the micropolitics in the school.

Expansive learning to understand change

Inspired by Cultural Historical Activity Theory (CHAT), the concepts of contradictions and expansive learning (Engeström, 2001) might provide crucial aspects for understanding what is taking place in collective activities such as school development projects. Contradictions are historically accumulated structural tensions within and between activity systems (Engeström, 2001); they serve as both driving forces and obstacles in the learning process (Foot, 2001; Roth & Lee, 2006). The concept of expansive learning, formulated by Engeström (1987), views learning as collective processes focusing on communities of learners. Learning is not depicted as a one-way movement from incompetence to competence; rather, it

relies on its own metaphor—expansion (Engeström & Sannino, 2010). Expansion means that learners acquire knowledge that is not yet there. In the learning process, the learners construct a new, shared object for their collective activity and try to implement it in practice. In this study, expansion refers to using the test results to improve learning. This implies a process of construction and reconstruction to the object of change (Engeström, 2007a).

[Figure 1 to be inserted about here]

Questioning is a necessary starting point in Engeström's (2001) ideal-typical sequence of actions in an expansive learning circle (Figure 1). If the questions and motivation for change are coming from the participants within the organisation, it is easier for the school principal to build commitment than if they are coming from the outside (e.g. the national authorities). Engeström (2001) argues that both historical and current empirical analyses should be conducted before a new solution is designed, for example, before new practices are framed. The next step is to analyse the new model before implementing the corresponding practice. After the implementation process, the participants must reflect on the current practice before consolidation of the new practice. New questions must be asked with regard to current methods that illustrate the constantly changing practice. The expansive learning circle illustrates that development is not a linear process but a relational and potentially contradictory journey with both expected and unexpected outcomes. One main idea of the methodology is that revealing and handling the tensions is necessary in order to achieve a more sustainable or consolidated new practice, which is a perspective that is pertinent to our investigation of how and why school principals act in relation to the national policy tools of accountability.

To understand the reason for change, studies based on cultural-historical activity often focus on individual agency or outside forces. However, Roth (2014) suggests that one should take the perspective of a society. Individuals do not develop activity-orienting objects on their

own, but as an integral part of living in the society. What is important in activity theory is that this object implies a psychological motive, which is objectified as personal interests, wishes or desires. The inner contradiction is the core concept for understanding the movement of activity (Il'enkov, 1982). This means that the category of activity is the category of change or the unit of movement (Roth, 2014). This article analyses the phases of the expansive circle by studying the contradictions (which we call tensions in this study) (Aas, 2015) within the school society. However, the school society also includes dialectical relationships to national/international society. Furthermore, the inner contradictions (tensions) of the activity contain at least two fundamental processes: the transformation of the object of change into the product of the activity (e.g. student testing) and the transition of the object of change into the process of activity (e.g. student learning) (Roth, 2014).

Method

The data used in the current study was part of a web-based survey about school leadership, which contained questions with both predefined and open response categories.

Participants

The sample consisted of 180 school leaders attending supplementary leadership training, the National School Leadership Programme (30 ECT), at the University of Oslo. Of these school leaders, 148 responded to the survey (40% women and 60% men), an overall (N) response rate of 82%. All participants were principals or assistant principals at their schools. In terms of geographic distribution, the majority of the participants (79%) were from the southeast region of Norway, which is also the largest region by population (Oslo and the six counties around Oslo). However, 14 of 19 counties were represented among the participants, from the far north to the far west of Norway. Moreover, 34% of the participants were from cities, 32% were from villages and 33% were from rural areas. Regarding school level, 51%

worked in primary schools, 25.5% worked in lower secondary schools, 13.5% worked in combined primary and lower secondary schools and 10% worked in upper secondary schools. Since one criterion for admittance to the programme was less than two years of experience as a school leader, all participants were in an early phase of their leadership careers.

Measures

The questions used in the study were developed according to the theories of assessment and change, especially those capturing the processes inside the school, for example, organisational learning (Leithwood & Sun, 2012), professional learning communities (Stoll & Louis, 2007), instructional leadership (Robinson, Lloyd, & Rowe, 2008; J. P. Spillane, 2013) and expansive learning (Engeström, 2001). Moreover, the questions were particularly related to three of the testing tools in the national quality system: 1) the national test of reading (both Norwegian and English) and mathematical calculation (grades 5, 8 and 9); 2) results from exams in lower and upper secondary education (grades 10, 11, 12, 13); and 3) the national Student Survey (focus on student learning environment—grades 7, 10, 11). For each assessment tool, the following questions were administered: 1) *Who initiated the work to ensure that the results were used for improving practice?*; 2) *How did the results (of the tool) affect the schools' improvement work?*; 3) *What actions were taken by the school leadership team the last time the school received the results of the "tool"?* (national tests, results of exams and student survey, respectively); and 4) *Why did you act like you did?* The first two questions had five to seven predefined categories and the respondents were asked to choose the alternative closest to the practice in their school. The last two questions asked for open responses (free text). In addition, the student survey had a free text field connected to predefine response-category "others." As not all the included tools are administrated in all school levels, the questions related to national tests were relevant for primary and lower secondary school leaders only (n = 75 of 114, response rate 66%). The exam results were

relevant to upper and lower secondary school leaders only (n = 58 of 58, response rate 100%). The student survey was relevant for all the participating school leaders (n = 148 of 148, response rate 100%). More specifically, we wanted to investigate how school leaders initiated and organized the work with the assessment results from three different sources/tools. Our main focus was to investigate leadership interventions in the initiating phase and implementing phase in order to examine the role of the school leaders in the process of working with the assessment results.

Analysis

For the questions with predefined categories, analyses of frequencies were conducted (presented as percentage distribution; see graphs below). The open questions were subject to qualitative analysis. Using the software Hyper RESEARCH, the analyses was divided into three levels: descriptive, thematic and analytical (Richards, 2014). The descriptive level refers to the leaders' descriptions of their actions related according to the assessment results, while the thematic level is attached to make themes of the information in the material. The third level incorporates the analytical work, drawing on analytical concepts from the framework of expansive learning. Even though the analytical process can be understood as a sequential process, it also involved working iterative, shifting back and forth in the work of making sense of a combination of data-driven and concept-driven coding. The data driven coding started with 20 codes that captured different leadership action taken by the school leaders after receiving the results of the different assessment tool. Next, these codes were sorted in following four codes: Presenting the results, discussing the results, reflecting of the results and implementing new practice. In order to make the research process transparent for satisfying reliability criteria (Silverman, 2006), an overview of analytical codes and numbers of comments is shown in table 1. The comments reflects examples of actions taken, for

example: “I informed the teachers about the results of the national test in reading” or “We discussed the results in the staff meeting”.

[Insert table 1 about here]

Directing the attentions to transparency and uniqueness of the study is of interest for the purpose of providing qualitative knowledge more than assuring that the same results can be found in multiple studies. This also means that the present research does not provide generability (Denzin & Lincoln, 2003; Matthews & Ross, 2010).

Results

In this section, firstly we present the results related to work with national tests, followed by the results related to student exams and the results related to the Pupil Survey. For each subsection, we present results of both quantitative and qualitative analyses. The results based on the qualitative analyses are illustrated with excerpts. Finally, we present three main categories of tensions that revealed from the data: resistance from teachers, use of time and leadership challenges.

National testing in reading, English and mathematics (Grades 5, 8 and 9)

[Insert Figures 2 and 3 about here]

The results show that principals took the initiative to work with the results of the national tests in reading in most cases (80%, see Figure 2). In some cases (9%), the work was delegated to teachers. With regard to how results of the national tests affected the schools' improvement work, the majority of the respondents (61%) reported that the results of the national tests were discussed on several occasions, both in staff meetings and in groups (Figure 3). The second most frequent response category (16%) indicated that the results had rarely affected the schools' teaching practices, and approximately the same amount of principals (12%) reported that the results had caused changes in the schools' teaching practices. When the respondents were asked to describe how they actually responded when

they received the results of the national tests, it became obvious that initiating discussions meant different things to different individuals. The most frequent answer was: “The results were first presented in a staff meeting. Next, the teacher teams were asked to analyse and suggest changes in the practice” (Principal Ole). Those who were satisfied with the results reported that they had a positive attitude when they informed the parents, their superintendent, politicians or the media about the results: “We are really satisfied with the results, so we celebrated and informed the parents, the school board and the superintendent” (Principal Anne).

Those who were disappointed with the results were more reluctant to explain and defend them: “It is important to analyse the results inside the school before the results are announced in the newspaper” (Principal John). Bad results were often explained away with excuses about variations between student groups or a lack of inclusion of all students in the testing process, particularly those with learning difficulties: “This year’s results were not so good for our school. We are very loyal to the intentions that (almost) everyone shall be included in the testing. This is not fair for small schools and small classes” (Principal Peter).

Taken together, the results indicated that the principals initiated work based on the results in most cases; however, only a few of the leaders reported that this process had changed the teachers’ classroom practices in regard to new teaching methods, routines or structures.

Results of student exams in lower and upper secondary schools (Grades 10, 11, 12 and 13)

[Insert figures 4 and 5 about here]

With regard to follow-up work related to the results of the student exams in upper secondary schools, the principals took the initiative in most cases (81%, see Figure 4). In a few cases (14%), the responsibility for such initiative and work was delegated to the assistant

principals or other leaders. With regard to how the results of the exams affected the schools' improvement work, the majority of the respondents (56%) reported that the results of the national tests were discussed in staff meetings and in groups (Figure 5). Typically, the principals informed the staff of the results, comparing them to the national and regional results: "We always go through the results, making analysis by comparing with the results from last year and with the national result, then we inform parents and the school owner" (Principal Eva). Further, the principal asked the teacher teams to provide a more detailed analysis and work out new activities to improve the results. Some principals seemed to have a clear instructional attitude: "I have given instructions to the teacher teams to follow-up with further efforts to get better learning outcomes of the results" (Principal Edward). Other principals expressed a more smooth governance strategy, listening and participating in discussions with the teachers: "The teachers look at how they can make improvements. If they are not satisfied for example with the reading results, they start reading courses and working with class leadership. I leave these professional decisions to the teachers" (Principal Mary).

Several of the respondents reported that they worked very hard to interpret the results. Through analysis, they attempted to find possible reasons for any negative results, which led to the implementation of new structures in the school organisation and in the classrooms: "We have looked at the results for each student and asked ourselves what we can do to help each student to perform better next time. To ensure that all teachers do these analyses, we have made some new routines" (Principal Tim). However, despite the many stories of systematically working on quality development, only a small number of respondents (16%) reported that the effort caused changes in teaching, and 24% reported that this work rarely had an impact on the schools' teaching practices (Figure 5).

The National Pupil Survey (Grades 7, 10 and 11)

[Insert figures 6 and 7 about here]

The results show that vast majority (73%) of the principals took the initiative to discuss the results of the national student survey in staff meetings and in groups (Figure 6). Unlike the national tests and student exams, the results from the student survey were discussed with the students, whose input and suggestions were solicited to inform the development of new practices: “All the teachers have discussed the results with the students in their classes, and the student council has been invited to discuss what we can do make a more inclusive and social environment” (Principal Fiona).

Since the National Pupil Survey focuses on the social environment, and because this is an important issue in Norway, principals may fear too many complaints from students and parents regarding individual well-being and bullying. This may also be why many respondents reported future activities that they planned to implement, such as courses for teachers in class leadership, improving the social learning environments and introducing new learning methods that could stimulate student activity: “We have made a new vision for the school: The school should be a place for inclusive learning. Contributors in this process have been all the actors in school, including the parents. The vision has forced forward a more student-oriented teaching approach” (Principal Paul).

When the respondents were asked to describe what they actually did with the results from the student survey, they were three times more likely to list activities related to the learning environment than efforts relating to national testing and student exams. Although the respondents expressed willingness to try out new structures and activities, only a small number (15%) reported that the discussions had resulted in practical improvements in the students’ learning environments (Figure 7). However, compared to results from national testing and student exams, the respondents appeared to believe that the student survey could contribute to more changes than the other testing tools, highlighting its importance to education.

Resistance from teachers

When the respondents were asked of why they did act as they did (Q4), many mentioned “resistance from teachers” as the main obstacle in the development process. “Resistance from teachers” could be negatively interpreted in terms of regulation and relation between the principals and the teachers (Aas, 2013; Vennebo & Ottesen, 2014). However, it could also be recognised proactively as a way principals prepare change processes in schools by analysing possible tensions. In the latter case, resistance might reflect important professional knowledge imparted from teachers about how testing can be used to transform their instructional practices (Helstad & Møller, 2013).

The analysis revealed the following types of tensions: old versus new practice, increased workload, lack of time and top-down versus bottom-up strategy. The principals reported that the most common source of teachers’ resistance concerned old versus new practices, reflecting well-known experiences of “what works” in daily routines against new and less secure procedures. Those with long academic careers seemed to be the most reluctant to change:

Experienced and older teachers articulate that the efforts of changing practice are a waste of time. They have been involved in such projects several times, but they still work as they always have done. From their point of view, the old way of doing things is best way—it works. (Principal Peter)

Another reported challenge of change and new practices appeared to be that the teachers’ workload could increase for a period of time: “Some teachers seem to have a critical position. They do not want to replace their teaching methods, which they think are effective, with teaching methods that are more time consuming, at least in the transition period” (Principal Eva).

Use of time

In addition to the increased workload argument, concerns over lack of time were expressed by some of the principals: “Some teachers think we have to use time on more useful things” (Principal Tor); “The frustration comes when we use the time on projects which are not useful for my daily work in the classroom” (Principal Fiona); “The teachers really wish to improve their teaching, but shortage of time stops the development process” (Principal Anne); and “We started three years ago and we still work on the changes. Changes take a long time” (Principal John).

Leadership challenges

Another leadership challenge regarding change involves top-down-oriented and linear governing strategies: “The national level decided, and the leadership team was motivated. There was no time for an initiating phase, and maybe that is the reason why the leadership team continuously had to handle the resistance from the teachers?” (Principal Edward).

Tensions were also reflected in different views of the leadership and teacher roles, suggesting a traditional division of labour in which the principals administrate and the teachers teach: “Tensions that have occurred are grounded in the fact that some teachers want the leaders to be administrators who only support the teachers, while the leadership team and other teachers will discuss and change the teaching practices” (Principal Mary). The many examples of teacher resistance in the development processes highlight how the principals perceived interaction with the teachers as a major factor in improving teaching and learning in schools.

Discussion

Drawing on the expansive learning framework, the following themes are addressed: the critical modelling phase, tensions on personal and systemic levels and questioning the need for change.

The critical modelling phase

The fact that only a small number of school principals said that the discussions led to new teaching methods, new routines and new structures in the classroom illustrates that school improvement work is not a linear process where cause and effect lead to visible and measurable changes. The idea that test results can deliver changes in classroom practices depends on a strong commitment to controlling and delivering change (Gunter et al., 2007). The limitations of such instrumental approaches expose a need for a closer investigation of the processional features of development. The expansive framework (Engeström, 2001) offers an illustration of how a development process can stop or break down in the modelling phase through a circle of critical investigations (Figure 1), which seems to be the case in many of the schools reported in the current study. About 60% of the respondents, initiated discussions about the testing output on school or team level (see figure 3, 5, and 7), but only a few reported changes or new activities in the classrooms. The critical phase of change processes occurs when the analysis of actual practices leads to the modelling of new solutions (Figure 1). A change process may stop when it reaches the modelling phase because preparing a collective object for change is a complex procedure requiring negotiation among the participants, often leading to personal and systemic tensions (Engeström, 2007). Further, implementation of new practices requires commitment from teachers, which may be particularly important in countries with faith in democratic values (Møller & Skedsmo, 2013).

As the analysis demonstrates, the principals were aware of the teachers' critical comments. Their comments provided valuable information regarding how and why new solutions for instructional practice should or should not be implemented, framed by those who work in the classrooms every day. Conversely, teachers' critical voices may also represent obstacles in the linear change approach. When the principals used the term "resistance from teachers," it also illustrated how essential it is for principals to listen to, discuss and negotiate

with the professional teacher community (Aas, 2011; Stoll & Louis, 2007) if new practices (e.g. the modelling phase in Figure 1) are to be framed.

Tensions on personal and systemic levels

According to Engeström (2001), there is a tension inherent in the two-fold mandate of education between (1) the students' competency and value in the labour market, and (2) the students competency in becoming citizens and mastering their personal lives. The labour mandate depends on the idea that competition on an individual level will increase the national level's value in the international market, whereas the citizen's mandate depends on the idea that building social skills on the individual level will increase the possibility of creating inclusive and democratic societies.

It can be argued that the national quality assessment tests fit best with the market argument by promoting education as competition on national, local and student levels (Mausethagen, 2013). Using national tests for school development can be characterised as a top-down governing strategy adapted to the Norwegian context in support of local schools (Elstad et al., 2011), which offers guidance on how schools can work with the test results. Despite this support initiative, the transformation of practice seems to depend more on collaboration inside the school—a bottom-up strategy—underlining how mediating change places emphasis on a process of constructions, negotiation and reconstructions between the actors (Gunter et al., 2007).

In this process, tensions are revealed on an individual level (according to the teaching and leadership practice and personal values) and on systemic levels (according to the history and culture of the school and the division of labour in the organisation) (Roth & Lee, 2007). Uncovering such tensions is a necessary step leaders must take to address the micropolitics in schools and to discuss and construct new practices.

Questioning the need for change

Although some of the school principals invited politicians and parents to discuss the results, their focus was mainly on interactions with the teachers. The response from teachers typically depends on how school staff constructs their understanding of the relevant problem (Coburn, 2006). When teachers see national testing as internal work, principals have an opportunity to reshape professional discourses in order to contribute to the perceived relevance and to maintain the legitimacy of new expectations (Mausethagen, 2013). The necessity of working with the teachers corresponds with numerous studies showing that school leaders only have an indirect effect on student results (Leithwood, Louis, Anderson & Wahlstrom, 2004; Robinson et al., 2008).

Gunter et al. (2007) underscore how working for change places emphasis on systemic change by challenging the power structures that control macro policy-making (e.g. administrative decisions about the division of labour in the school). School leaders in this study (many of them in an early stage of their careers) seemed to perceive tensions more as personal relational challenges than as systemic features of change. For the principals, the teachers' voices represented an important professional response to how the national policy of assessment will affect daily practices as well as the power structures and culture within schools. As Gunter et al. (2007, p. 35) point out, "delivering preferred change through planning and evidence collection" depend on sustaining current power structures and cultures through controlling participation. Transforming practice through controlling the teachers' participation might appear simple from the national level. However, at the school level, the tensions manifest as obstacles in a way that significantly influences the leadership in schools, especially the interactions between the principals and teachers.

The methodologies of expansive learning (Engeström, 2001) and CHAT offer a framework for understanding the complexity of systemic change in which schools are viewed as activity systems (Edwards, 2008) in an education system with a long common history and a

Norwegian tradition of professional, autonomous teachers (Aas, 2011). A general criticism of the expansive learning circle is that the model is an oversimplification of reality and an abstraction of an ideal process that never happens in real life (Engeström & Sannino, 2010). Another critical argument is that the model is static. However, Roth and Lee (2007) argue that the critical investigations and the tensions that appear do not always lead the process from one phase to the next.

Transformation of the object of change

From a CHAT perspective, at least three motives are expressed during personal interest, wishes, or desires. First, the authorities' interest in better student performance is constructed within an international and national policy 'governed by numbers' (Ozga & Grek, 2008). The students' results are a tool for fulfilling expectations about what schools will accomplish. Second, the school leaders' interest is in increasing student performance. However, to respond to how they can do this, they must translate national policy into local context, meaning new teacher practices. Third, the teachers' motive is improving the students' learning, including their own teacher practice. The inner contradictions (tensions) are between the material product of activity (student performance) and the process of the activity on an ideal plane (student learning). Referring to Roth (2014), the entire transformation of the object of change consists of the stages of beginning, middle and end, which cannot be understood alone but only as parts of the whole. In other words, testing might not be what teachers think is most important in developing students' learning. From a CHAT perspective, teachers' critical voices are represented as a dialectical motive between the 'number trend' and their pedagogical daily practice. When change ideas come from the world outside the school and meet the teachers' interests, inner contradictions (e.g. policy ideas) will come between transforming the object into the product of activity, the process of activity or the ideal plane.

Limitations

The present study has several limitations that should be taken into account. First, the study is based on retrospective self-reported data, which can be biased for several reasons. The use of other more narrow data sources (e.g. observations, notes and documentations) might have yielded different results. Second, the sample of this study was limited to classes in a supplementary leadership training programme: the National School Leadership Programme at the University of Oslo. Consequently, the sample was not randomly drawn from the population of Norwegian school leaders. However, given the distribution geographically and by school levels, we maintain that the results can be considered to represent common behaviour and practice related to assessment tools in Norwegian schools. Third, some of tensions that are presented in this study may be particularly prominent among new and less experienced principals. Given the assumption that more experienced leaders may have a more developed leadership identity, are more self-confident and have earned more authority and legitimacy, they may experience less resistance and more acceptance from their teachers than less experienced leaders. Finally, the questions and response categories used in the current study may represent a limitation. Even though the questions were based on previous research as well as the researchers' own knowledge and experience, we may not necessarily cover all possible behaviour patterns. In addition, we may have lost some information on question one and two due to the respondents were forced to choose among categories that were not mutual exclusive. However, when we consider all questions and responses together, we believe we did capture the most important aspects of school practices.

Conclusion and further research

This study explains how new school principals respond to the expectations of the national authorities' of using a variety of assessment tools for transforming practice. In Norway, where the emphasis on market mechanisms is downplayed, the idea of using assessment tools for transforming practice based on a linear and instrumental change

approach does not seem to be completely successful. The main strategy of the principals seems to be initiating discussions among the teachers about the test results, and the critical part of that strategy is leading the process from discussions to an improved instructional practice. When the principals experience “resistance from teachers,” the change process often stops short in many schools. Implementing change without commitment on the part of teachers seems difficult.

This study also illustrates how the CHAT and the expansive learning model can be used as a framework for studying change in school societies. This framework highlights the importance of understanding change as a process of critically investigating new ideas and understanding mediation tools (e.g. assessment results) and their relationship to current practices. Addressing tensions that occur with transformation of an object into the ‘what’ (product of activity) and ‘how’ (process of activity) provides opportunities for leaders and teachers to discuss new alternative practices on both the personal and systemic levels. However, critical investigations and tensions require a culture of trust in and commitment to the organization and the system as a whole. We suggest that future research investigate the processes of expansive learning, including its main categories (activity, consciousness and personality), more deeply from a societal perspective.

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Table 1

Overview of analytical codes and number of comments

Assessment tools	Codes	Number of comments
The national tests (Norwegian, English, Math)	Presenting the results	35
	Discussing the results	30
	Reflecting of the results	10
	Implementing new practice	0
Results from exams (Lower and Upper Secondary education)	Presenting the results	11
	Discussing the results	13
	Reflecting of the results	5
	Implementing new practice	5
The National Student Survey	Presenting the results	27
	Discussing the results	38
	Reflecting of the results	4
	Implementing new practice	43

Figure 1. Ideal-typical model for expansive learning (Engeström, 2001, p. 152)

National Test

Figure 2. Responses to the question: Who initiated the work to ensure that the results were used for improving practice? Distribution in percentage (n = 75).

Figure 3. Responses to the question: How did the results of the national tests affect the schools' improvement work? Distribution in percentage (n = 75).

Exam Results

Figure 4. Responses to the question: Who initiated the work to ensure that the results of the exams were used for improving practice? Distribution in percentage (n = 58).

Figure 5. Responses to the question: How did the results of the exams affect the schools' improvement work? Distribution in percentage (n = 57).

Student Survey

Figure 6. Responses to the question: Who initiated the work to ensure that the results were used for improving practice? Distribution in percentage (n = 148).

Figure 7. Responses to the question: How did the results of the student survey affect the schools' improvement work? Distribution in percentage (n = 147).