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TRUST AND CONTROL IN IMPLEMENTING CHANGES: A STUDY OF HOW PRINCIPALS HANDLE CHANGES IN TIME ALLOCATED FOR MATH IN PRIMARY SCHOOLS

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Abstract

Depending on the national context, school principals are more or less used to continuous development. Impetus for development can come from different areas, such as professional organizations or research studies, and different levels, such as national or local initiatives. In Sweden, several initiatives for teaching development have been initiated since 2010 due to low scores on mathematics tests (PISA and TIMMS) and based on research. Therefore, an increase in teaching hours for mathematics in compulsory schools was implemented in 2012 at the national level. The aim of this study is to present and discuss how principals have coped with this change. As the change mostly concerned grades 1–3 (primary school pupils aged 7–9), principals responsible for this level were asked to complete an e-mail questionnaire and interviewed. The findings show that the principals prioritized organizational changes. Revisions had to be made to all schedules for teachers and pupils as well as some of those for recreational instructors and even school buses. The principals also promoted continuing education in mathematics for teachers. All of the changes were accepted by principals, staff, and parents. In contrast, few pedagogical issues were otherwise brought up and the follow-up to the change was not systematic. The different levels in the steering chain show that all levels believed that the next level down, or the level above, should carry out their duty concerning organization. On the other hand, the entire national initiative for time allocation and continuing education can be perceived as showing distrust in how the local level and professionals have handled the development of teaching math.

Keywords

educational change, principals, trust, organization

Introduction

Depending on the context, principals are more or less used to continuous development. Impetus for development can come from different areas, such as professional organizations or research studies, and different levels, such as national or local initiatives. Since 2010, several initiatives for teaching development have been initiated in Sweden, such as the new Education Act and new curricula for nursery, elementary, secondary, and upper secondary schools. Particular emphasis is placed on increasing quality in mathematics teaching.

During the spring of 2014, the National Agency for Education in Sweden announced that students' knowledge at age 15 was continuing to decrease in mathematics, reading comprehension, and science. It was also clear that the results had decreased from 2009 to 2012. For the first time, Swedish students had results below the OECD average in all three areas (Skolverket, 2014).

Reports of a similar kind have been presented for a number of years in Sweden. Therefore, it was no surprise that in 2013 the government proposed that the curriculum for mathematics should be changed and some additional hours should be added to the number of hours in compulsory schools (Regeringen, 2012a, 2012b; Skolverket, 2013). The proposal was preceded by research studies in which it was suggested that such additional hours should be allocated to primary school, for ages 7–10, i.e. grades 1–3. Such a change in the schedule, an organizational issue, was one suggestion for increasing learning results in school. Another suggestion was that the quality of teaching had to increase, a pedagogical issue, and an important success factor was the school leader's role as pedagogic leader (Regeringen, 2012a, 2012b; Skolverket, 2013).

Based on the fact that principals are always on the front line when changes and expectations of higher quality are discussed, this study will contribute a description and critical discussion of how principals responded to the change in teaching hours. How did the principals carry out this change and how did they perceive it? To get a deeper understanding, the results are also discussed from the perspective of whether the change and its implementation can be a question of trust and control. First, a brief description of issues related to the change is presented.

Previous studies have shown that change is almost imperative and that within the education system it is school administrators who play the leading role (Uline, 2001). This leading role creates a situation where the principals are accountable for the change. Even though a change might be perceived as positive, there can be passive or articulated resistance (ibid.). Mandated changes in particular may be perceived in a negative way by staff and may have little positive effect on learning situations (Clement, 2014). However,

perceptions also depend on how the school leader is able to involve staff by discussing how the policy relates to the local school as well as support staff in taking charge of the change (Clement, 2014). During a change process, principals might also perceive that their possibilities for supporting change have decreased as their status in the hierarchy has been reduced (cf. a case from Australia), particularly if the change is part of an unpopular political decision. Stakeholders are also more eager to have a voice and, no less so, to complain. An increase in comparisons among countries and demand for competitiveness has led to a need for principals to have increased political knowledge and understanding (Starr, 2011). In addition, differences could arise in whether the school leader works in a public or private school. In instances of differences between public and private schools concerning decision-making, the principal and staff need to negotiate to a higher degree about changes. The principal's authority might decrease and there is a need for skills to understand what Clarke calls "a micro-political organization" (Clarke, 2000). Lastly, Holmes, Clement, and Albright (2013) included in their summary of themes for effective leadership practices concerning educational change a theme covering "development of relational trust with staff."

Context

National context

Since the autumn of 2013, teaching hours in mathematics have been increased in compulsory schools in Sweden. The decision was preceded by mapping and research to get basic data for how best to use the additional time (Skolverket, 2012). Since 2010, several initiatives for development of teaching have been implemented in Sweden.

The previous 900 hours of teaching have been increased by 120 hours to 1,020. As a consequence, total teaching time in compulsory schools has increased from 6,665 hours to 6,785 hours (Regeringen, 2012a, 2012b; Skolverket, 2013). The change concerns pupils who started grade 1 in or after the autumn of 2013. There are transitional rules for other pupils (SFS, 2010b). The National Agency for Education was assigned to support the implementation among organizers of grades 1–9 (Regeringen, 2012a, 2012b; Skolverket, 2012, 2013). The National Agency for Education emphasized that the change is based on research (Skolverket, 2013).

There are proposals on the national level regarding how the teaching time should be divided, but it is the K–12 organizer (whether a municipality or private organizer) that makes the final decision. A suggestion from the National Agency for Education was that teaching hours in grades 1–3 should increase by 1 hour per week (Skolverket, 2013). The agency stressed that it

is the organizer's responsibility to ensure the intention of the law is being followed. Both principals and the organizer have to monitor how the teaching hours are distributed following the increase. Later in the process, the organizer must ensure that the changes are followed and simply evaluate the results of the change (Skolverket, 2013).

When the National Agency for Education emphasized that such follow-up measures are the organizer's responsibility, it was giving a reminder of the reform from 1991 when organizing preschool, compulsory school, and upper secondary education ceased to be a national issue: organization and employment of staff was transferred to public or private organizers (SOU, 2015). At the same time, the agency can remind principals that they must follow the national Education Act and national curricula for different school forms. There is a dual governance system which principals have to manage.

Local context

In the municipality where the study was undertaken, there are 25 public schools for preschool through grade 9 as well as 5 private organizers. About 10,000 pupils attend compulsory schools.

The Activity Plan 2013 (Eskilstuna kommun, 2012, p. 7) for the selected municipality formulated key indicators concerning mathematics: "The proportion of pupils who reach the goals for the national test in grade 3 and for grades in grade 6" (several pupils should reach the goals – author's note). A one-year commitment for compulsory schools (p. 8) is stated as: "After spring 2014, all pupils should be able to read, write, and count by the end of grade 1."

As a part of this work regarding teaching quality, the municipality promotes the idea that teachers of mathematics should participate in continuing education organized by the National Agency for Education starting in 2013, the so-called Math Initiative.

Data collection

The data used herein were part of an earlier study of this change (Niklasson, 2014). As that data collection did not focus on trust as a phenomenon but rather on the change, the present study explores the potential of using different varieties of trust as a way to understand the change. A consequence of using an exploratory approach is that instead of presenting conclusions concerning trust, the findings create suggestions for further research (Babbie, 2007; Rosengren, 1975; Stebbins, 2001).

The present study began by examining national and local steering documents, as the study aims to contribute to understanding how principals

are responding to the change. Principals responsible for grades 1–3 in the municipality in question were chosen to be included in the data collection. The study was limited to public schools. At the time of the study, 22 schools offered education for grades 1–3 and these schools were led by 19 principals, as three were the principals of two schools. Following standard ethics guidelines, all 19 principals were informed in a cover letter enclosed with the first questionnaire of the reason for the study, that participation was voluntary, and that individual answers would not be presented in the findings (Vetenskapsrådet, 2011).

Principals were first sent an e-mail questionnaire with factual questions (which some of them answered). Others were asked about these facts during interviews. Results from the factual questions showed that among the principals 14 were women and 5 were men. A few had recently been appointed as principals. The others had between 3 and 21 years of experience, but some of these were new to their current schools. One group of schools was located in the countryside, one in the suburbs, and one in a central city area. One group of schools was built in 1800, one in 1948, the majority in the 1960s, one in 1985, and one in 1998. The schools educated 170–670 pupils at each school, including 85–225 in grades 1–3. There were 4–40 teachers in grades 1–3 in the schools. Among these, 3–14 taught math, while in three schools a few teachers did not have math in their teacher exam profile.

After the e-mail questionnaire, all 19 principals were interviewed on site. The inspiration for the questions came from theories of change and compromise, including the reasons for the change and resistance, as well as from theories of leadership (Burke, 2011; Kotter, 1996; Patton, 2008). All interviews were recorded and transcribed verbatim. The study results have been presented to the principals orally during a seminar as well as in a descriptive report (Niklasson, 2014).

The findings section includes an initial presentation of answers during the interviews using themes. To get a deeper understanding of the findings, a theory of trust was used as an analytic tool.

Trust

As soon as several persons are engaged in social interaction, it is likely that the agents (individuals or organizations) require some trust in one another. There is a long tradition of research concerning trust, such as that by Luhmann (2005 [1968]), who argued that trust is fundamental for human beings. Trust and distrust do not have to be perceived as contrasting, where trust is always positive and distrust negative. In some situations, distrust is a rational choice. This author also drew a line between trust in individuals

and trust in systems. Personal trust is necessary and basic, but there is also a need for trust in systems (for example, that a payment system is functioning). The discussion by Giddens (1999 [1991]) of changes in society included trust as one of the main concepts. Trust is based in everyday decisions and a general approach, but a decision can also be made upon reflection to distrust individuals or systems.

The concept of trust has continued to be critically discussed by researchers, including Li (2008). Li composed typologies using contrasting concepts. He discussed components in trust and trust as a process and argued that even though trust is dependent on cultural context, globalization can cause gradual integration across cultures. The main aim of his study was to discuss how different approaches to trust (Western and Eastern perspectives) can be integrated. The following presentation of trust is an interpretation of some basic ideas from Li and does not aim to provide a full description.

A discussion of trust is a discussion of a relationship between individuals or organizations. There is someone that trusts and someone that is trusted, a trustor and a trustee. The trustor is trustful and the trustee is trustworthy. Trust can be *trust-as-attitude*, a general state of mind and a perception that the trustor should be trustful and that the trustee is trustworthy. Trust-as-attitude is often collective and includes certainty and control. Trust-as-attitude can be perceived as a reactive approach. Trust can also be *trust-as-choice*, which is a proactive approach and includes a trust-building process. Trust-as-choice is often dyadic. Trust-as-choice is a driver behind building trust and the leader's role. Trust can also be perceived as personalized or depersonalized as well as informal or formal. As an example, Li argued that in Eastern culture trust is personalized and informal including affection and that there are relational links which are built in, thus representing trust-as-choice. In Western culture, trust is depersonalized and formal, a cognitive perspective built on routine and rules, thus representing trust-as-attitude. Li's suggestion is that depersonalized, formal trust is generally weaker than personalized, informal trust which is built on strong ties over time. Depersonalized trust can also be defined as general and public confidence, in contrast to private trust which is personalized. Even though Li's discussion used distinct approaches, he also emphasized that the differentiation formed the basis for analysis and both approaches occur in both the East and West. Combinations other than those in the two approaches described are also possible. Trust-as-choice can, for example, also be depersonalized, not only personalized.

Irrespective of the combinations and typologies Li created, the leader's role is central. Leadership is important in trust-building in organizational settings. Leaders have to consider dispositional bases, relational bases, and institutional bases, possibly ending up in integrative bases. Dispositional bases

for trust can be faith-based, character-based, or ability-based and to some degree depersonalized. In contrast, relational bases can be based on rational moral or affective good will and personalized to a degree. Dispositional bases are to a greater extent combined with control, such as rules, norms, and roles, while relational bases are combined with commitment. Li argued that all bases could be integrated into a strong informal base with commitment.

Li contended that trust and control can both be in conflict and complement one another. If trust and control are not perceived as simple and fixed, the concepts could instead have multiple aspects and represent stages in a process. Just as trust has different aspects, control also has different aspects, such as informal and formal control. Both of these aspects can be used as governance modes and at different times during processes, with formal control being used when alliances are formed and informal control when alliances should be implemented.

In summary, Li delineated different aspects of trust, mainly organizational trust. He claimed that trust can be passed from individuals to organizations, but change can also be passed from depersonalized sources to personalized sources. When trust is built, leadership facilitates the trust-building.

National initiatives for changes in the education system are carried out depending on how the national education system is structured. In Sweden, principals have a dual assignment as an employee in the (municipal or private) organization offering education and as having responsibility to the state, given that there is a national curriculum and the school leader has autonomy regarding several issues at the local school. Therefore, any national initiative is both a directive directly to the school leader and a directive to the organizer of the education, which in turn gives directives to the school leader. The principals have a dual obligation when it comes to change. In the Swedish system, trust and control can occur at several levels in the educational steering chain.

Findings

The findings from the interviews are presented in themes, mainly in accordance with the questions asked.

At the national level, information about the change came from the National Agency for Education and their website and newsletter. At the local level, information came from the local administration for education as well as school leader meetings in the municipality. Some principals also knew that something would happen. There was actually only one reason for the change, from the principals' point of view. It was the low test scores in international comparisons, such as the Programme for International Student Assessment

(PISA) from the OECD and the Trends in International Mathematics and Science Study (TIMMS) organized by the International Association for the Evaluation of Educational Achievement. There were also national tests showing that Swedish students were not meeting learning goals in math.

There was no directive on the national level regarding how to distribute the extra time, but there was a recommendation. In the present case, local politicians decided that all extra hours in mathematics should be distributed in grades 1–3. As a result of this decision, the principals in each region in the municipality discussed and tried to create similar schedules for pupils (and teachers) regarding the hours in mathematics. There were documents stating that the change could be flexible for pupils and did not have to start immediately, but none of the principals had paid attention to or read this.

The vision that the principals could create similar schedules while adding one extra hour could not be implemented, for such reasons as some schools being in rural areas and others in the city. There were also such factors as school buses as well as recreational activities to consider. The school day became longer for most, but some pupils did not notice because they already had a long day, because they spent time at recreational centers, but those who did not spend their time in this way noticed the change. Some principals used recreational time hours for math and others used the hours for student electives (when they can select different subjects) for math. Some rural schools had to change the school bus timetable. Teachers in Sweden have a combination of teaching hours and administrative hours. In this case, teachers did not gain additional working hours, but they now teach more often and have fewer administrative hours. In a few schools, changes were implemented concerning who is teaching; some teachers were given additional math hours and others fewer.

The increased amount of lessons in mathematics was supposed to lead to not only organizational changes, but also pedagogical changes. Few principals noticed any change in groupings of pupils; they remained about the same size as is usual for big or small groups. No extra funding was used to buy new books or other materials, but several schools nevertheless changed their instructional materials. The additional materials were mostly enough. Principals and teachers look at the national test (grade 3) to see if there is a certain area which needs to be addressed (the National Agency for Education mentions geometry and algebra). Mostly, the principals hoped that teachers focus on these areas and do not expand to other areas. Very few schools had subject leaders in math, but most have introduced senior teachers responsible for school development. Although there was extra funding for implementation, most principals did not mention this.

The change was supposed to be followed up at the local level. Even though there were examination and evaluation days at the end of the spring semester, few principals had followed up on or evaluated the change in hours taught. Instead, several thought that evaluation of mathematics teaching was integrated into the overall evaluation.

The reaction among teachers was positive, but they had worried about working extra hours. As soon as they realized that this would not be the case, they were only positive. No resistance to the change arose. Parents were also positive. None of the principals mentioned noticing any reaction from pupils.

In general, the principals had the impression that the implementation of the change in the time spent teaching has functioned very well (organizationally). It should be noted that this initiative is not the only initiative related to math; the National Agency for Education is also offering the Math Initiative for teachers (and some meetings for principals). This offering is carried out by different universities. Most principals think and talk about the change in the amount of teaching time in conjunction with the Math Initiative. Those principals who had not yet engaged staff in the Math Initiative (in autumn 2013 and spring 2014) regarded the change in hours taught as mostly an organizational issue. They were waiting for continuing education and professional development for it to become a pedagogical issue. Those principals who had engaged in continuing education, the Math Initiative, were more inclined to perceive the change in taught hours as both an organizational and pedagogical issue.

What would have happened with the pedagogical implications if the Math Initiative had not been offered? Some principals said that there would have been "*some development*," while others said "*not much*" or "*the same as usual*." There were also comments that, hopefully, principals would have taken their own initiative and responsibility and not waited for external initiatives. It is also necessary to emphasize that the results differed among schools. Some schools already had very high goal attainment levels, including in mathematics.

On the other hand, principals also commented that teachers had already changed their ways of teaching, such as changing instructional materials, increasing dialogue in the classroom, and increasing their recognition of the need to follow up with the goals for the subject. Implementation of the new Education Act 2010 SFS (2010:800a; 2010:800b) and the new national curriculum for compulsory schools 2011 (SKOLFS, 2010:37) has already prompted intense pedagogical discussions. Time allocation may be an organizational question for principals, but according to the principals it is always a pedagogical question for teachers.

Discussion

In response to national directives to principals, changes in the time allocated for teaching mathematics for grades 1–3 were carried out, with an addition of one hour per week. The reasons for the change, that Swedish students were not performing well enough on tests and in international comparisons, seemed to be good enough for the principals as well as for staff and parents. It was possible for the principals to implement the change with very little resistance, and so the reorganization has functioned well. The change gave the principals the chance to either emphasize organization or step forward as a pedagogical leader. According to the answers given by the principals, they acted as managers or organizers and few pedagogical issues were raised. Instead, they mentioned that the pedagogical change should be carried out by other actors and support, such as the newly appointed senior teachers (a kind of distributed pedagogical leadership) and primarily the national competence initiative. They trusted that the Math Initiative would increase teachers' knowledge about teaching math and in this way support student learning.

How could this change be perceived from a perspective of trust and control (Li, 2008)? From a national level perspective, the organizers of compulsory schools, the principals, and the teachers cannot be trusted. The results from international tests have shown that these actors are not trustworthy, in terms of it being necessary for student results to reach a certain level in comparison with other countries. Politicians, the national Department of Education, and the National Agency for Education have shown a lack of general trust-as-attitude. There is a need for control. But a closer look at the steering chain shows that the actors at the national level have trust in certain levels of the education system.

The change can be formulated as a logical plan from the National Agency for Education: a change in teaching time and the national Math Initiative will change teaching and learning. As a consequence, learning goals will be achieved (at least to a greater extent). The organizers of compulsory education do not dispute this and pass on these directives to the principals to reorganize and to the teachers to develop. This shows that the organizers have trust-as-attitude. The principals reorganize and hope that the teachers will change their teaching and that the results will be better. Parents and pupils also show trust-as-attitude.

The initial interpretation is that from a national standpoint the staff at the end of the steering chain, the teachers, cannot be trusted. The results are not as expected. A second interpretation is that from a national standpoint the organizers of compulsory school cannot take care of development and the double steering (national and local steering not complementing one

another) does not support development. In contrast, a third interpretation is that organizers of compulsory schools and principals trust teachers. The different levels in the steering chain show that all of the levels trust that the next level down, or the level above, should carry out their duty concerning organization. On the other hand, the entire national initiative for time allocation and continuing education shows that there was distrust in how the local level and professionals have handled the development of teaching math. There is no simple way to describe trust and control in the steering chain. The findings imply trust and distrust (control) at the same time.

An additional interpretation, based on Starr (2011) and Clarke (2000), is that educational changes are complicated and part of a political agenda, one which the principals and teachers have to be aware of. Distrust from the national level towards local organizers' potential to lead development issues can also be perceived as a way of positioning the state, the national level, towards the local level. It should be kept in mind that there is a debate in Sweden about whether the employment of teachers and the organization of compulsory education should be reassigned to the national level, as had been the case prior to 1991. Argument for such a change could include the lack of development at the local level and overly large differences in learning situations due to the variety of resources among municipalities and private organizers.

In December 2016, a new PISA report came from the OECD. The results have been summarized by the National Agency for Education (Skolverket, 2016b). The results from the PISA 2013 (from a test carried out in 2012), in which Swedish students had poor results, can now be compared with the test from 2015. The more recent test shows that students from Sweden in grade 9 had results around the OECD average in such areas as mathematics. This result should be supplemented by a recent TIMMS report, summarized by the National Agency for Education (Skolverket, 2016a), which also showed some improvement in results from grade 4 and grade 8 in mathematics.

The results are in a positive direction, but they are far from placing Swedish students and teachers among the top results. From a national perspective, the results can be perceived as a result of both trust (leaving organization to principals and pedagogical issues to teachers) and control (school leaders must organize the hours allocated to mathematics) including continuing education in math for teachers (control of pedagogical issues). From the local and staff perspectives, the control (additional hours and continuing education) might be perceived as support. Additional studies are needed to understand how the actors in the steering chain perceive trust and control and its consequences for, in the end, student learning and results on international and other tests.

Limitations

As stated in the presentation of the data collection, the study took an exploratory approach.

It is a case study limited by both country and the choice of principals in public schools in one municipality. It was also limited in time, as implementation of the change in the time allocated for mathematics was completed shortly before the study was carried out. The effect of the change is hard to measure or gauge opinion about. Even though limited, the first impression is that the organizational demands concerning the change have been taken care of. The findings suggest that trust is perceived on different levels, but so is distrust. No definitive conclusions can be drawn, instead additional research is required to delve deeper into perceptions of trust among principals concerning staff and the local and national levels concerning the change. As this exploratory study is based on qualitative data analysis, the next step should involve a quantitative approach. By using a questionnaire encompassing questions about both trust and change, it would be possible to further develop our understanding of trust, control, and change.

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