ORGANIZING DIGITALIZATION IN SCHOOL: HOW A MUNICIPALITY IN SWEDEN ARRANGED FOR NEW CURRICULUM IMPLEMENTATION EMPHASIZING DIGITALIZATION

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Abstract

This study focused on how a municipality in Sweden organized for a new curriculum implementation with the focus on digitalization following the demands from politicians. A compulsory competence development course was initiated for all 40 school leaders in the municipality. The course followed the structure and form provided from the Swedish National Agency for Education. The results showed vast variation among school leaders regarding the understanding of digitalization and how they led processes in their schools. The results call for a thoughtful model of how to capture and act on these differences to secure equal quality of education in the municipality.

Introduction

In Sweden, a new curriculum has been launched that emphasizes digitalization. Digital technologies should be used in learning processes, and digital competence should be developed. The digitalization of schools in Sweden has a long history starting with computer-aided instruction in the 1950's, followed by a range of various projects and initiatives (Willermark, 2018) and now inscribed in today's curriculum. The situation in Sweden shows a scattered picture since previous studies have shown variations between the 290 municipalities. Different initiatives have been created to address this variation. For example, the organization that is in charge of the municipalities, SKL (Sveriges kommuner och landsting), has created an online tool called LIKA where schools can answer a battery of questions linked to digitalization of school. The ambition is to generate survey results that can serve as a measurement of the status of the school. The National Agency of Education has created educational material with the aim to serve schools with a competence development course to investigate the status of the school and to create pathways for development (see SNAE 2017). However, the initiative is linked to how schools act upon these initiatives and how insights and critical thoughts are triggered and handled.

Aim and Objective

This study aimed to provide insight and understanding of how a compulsory competence development course among 40 school leaders in a municipality in Sweden is arranged and supported and what patterns of similarities and differences could be traced and explained. This knowledge is important for further development of the goal of equal quality of education within the area of responsibility of the municipality.

Previous and Related Research

Previous studies claim that it is important to address issues such as culture and structure since the potential of digital technologies to become supportive for learning is closely connected to school context (Grönlund, 2014; Selwyn, 2011; Selwyn & Bulfin, 2015; Tondeur, Devos, Van Houtte, van Brakk, & Valcke, 2009). It is suggested that digital technologies can only transform learning if a school's context changes in a way that supports the transformation (Hammond, 2014; Somekh & Saunders, 2007). Supportive leadership, supportive organizational culture, and collegiality are vital foundations for the professional development of teachers' digital competence and school practice (Deaney & Hennessey, 2007; Schrum & Levin, 2016; Tearle, 2004). As well as teachers needing competence development for developing methods, supportive actions and collaborative practices for students, school leaders need competence development to support teachers in their professional development regarding digitalization of schools (Håkansson-Lindquist, 2015). Vanderlinde and van Braak (2010) emphasized the importance of school leaders to create change through the process of implementing digital technologies in schools. However, despite their key role in the process of the digitalization of schools, school leaders get little training on how to be supportive in their leadership (Kampylis & Punie, 2013).

Methodology

The study builds on a case study approach where the case is the compulsory competence development course following the structure and form provided from the Swedish National Agency for Education for all 40 school leaders in the studied municipality. The reason for using case study methodology is that the particular situation allowed for the close investigation of course activities though participant observation conducted by the author.

Closeness to the actual activities is considered strength in this study since during each session of the course; each and every school leader brought their individual experiences from their own work situation into the discussion. Additionally, closeness to the session allows also for the clarifying of questions.

The role of the researcher was also to ask questions during the sessions as a critical friend without interfering in the structure and process of the session driven by the session group leader. In order to balance the role, the researcher and the session group leader had an introductory meeting where they agreed upon when and how the researcher should and could intervene with questions or remarks.

Each session was 120 minutes. Field notes were taken during each session. Field notes were as detailed as possible in order to capture what school leaders said, how group leaders acted in the sessions to trigger discussion and how school leaders responded to the session in general.

After the sessions, all sessions' group leaders met for 30-40 minutes to have a common discussion to inform each other of what had been discussed in their

groups. Furthermore, discussions of groups similarities and differences where brought up. The researcher did also take part in these discussions as a critical friend to ask for clarifications if needed. Field notes were taken also during these meetings.

Brief talks of 10-15 minutes with responsible individuals of the initiative were also conducted after every session to get further information about the next step in the process as well as to capture individual experiences about the session day. Memory notes from these talks were inserted in the research diary afterwards since most of these brief talks were held outdoors while leaving the session site.

In order to get more insight of the ongoing developmental work, apart from the compulsory competence development course in the municipality, the researcher also attended meetings such as network meetings for preschool teachers, first teacher network meetings, an ICT pedagogical network meeting, as well as two meetings with the school developmental board.

Swedish National Agency of Education Material
The material developed by the Swedish National Agency of Education (SNAE) has the expressed ambition to provide a process support to school leaders for increased understanding of the potential of digitalization of schools (see SNAE 2017)

The material contains of six specific parts that in turn have four elements. It is suggested that participants should meet on twelve occasions and each occasion should last for 120 minutes. Between meetings, group members should be allowed for individual preparations and assignments. The recommended duration of the competence development course is 24 weeks.

The six parts are:
1. Digitalization-society and school
2. Digitalization and leadership
3. Chain of effects
4. Digitalization and teaching
5. Digital ecosystem
6. Developmental plan

Before the school leaders come to the specific part, they should have prepared their assignments given to them beforehand. These individual assignments should be discussed together with the other participants in the group they belong to. Then, a group leader should facilitate the discussion further, and later summarize lessons learned.

SNAE emphasises that, "Det är bra om grupperna är blandade så att till exempel skolledare, verksamhetschefer, kvalitetschefer och utvecklingsledare arbetar i mixade grupper. En anledning till det är att förankra arbetet i hela styrkedjan" ["It is good if the groups are mixed so that, for example, school leaders, developmental leaders and quality leaders are involved. One reason

for this is to embed the work through the chain of leadership" (translated from Swedish)].

The material from SNAE is thus highly structured regarding both content and form. It is quite time demanding, involving preferably a range of participants from different positions and responsibilities within municipalities in Sweden that intend to use the material.

Municipality Implementation of the SNAE Material
In the studied municipality, all school leaders were expected to participate. In total there were 40 school leaders involved from k-9 schools including special needs schools. The arrangement from the municipality had divided the school leaders into two major groups and then divided them further into smaller groups.

Table 1

Participating School Types and Number of Participants

School Types Number	School Leaders (1-9 grade) Students, 7-15 yrs.	Pre-school Leaders (K-0 grade) Children, 1-6 yrs.
Number of Groups	4	3
Number of Participants on Average in each Group	5	7

In order to manage the group leader function for each group, the municipality decided to use both its own competence and to hire a private company to assist. The municipality staff became group leaders for the pre-school leaders, and the private company became responsible for facilitating school leaders.

Table 2

Group Leader Organizational Residence and School Type

Group Leader Organizational Residence	School Type
Private Company	School
Municipality	Pre-School

Figure 1 is a depiction of the arrangement of the competence development initiative based on the SNAE material containing the six different parts.
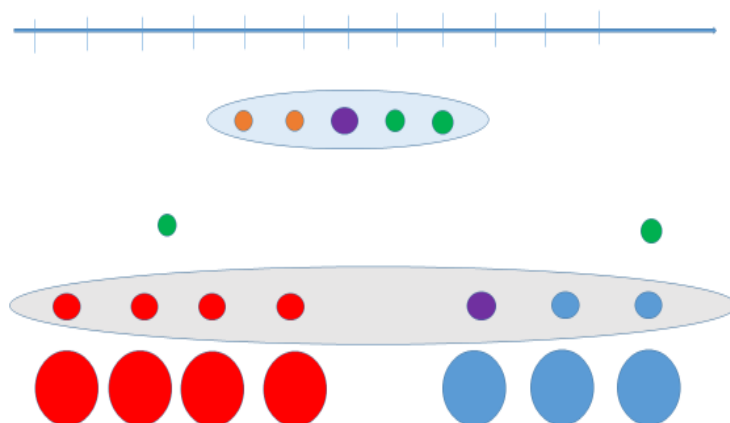
Figure 1. Model for arrangement of the initiative.

The time arrow on top symbolizes the number and patterns of distribution of the sessions, following the SNAE material. The upper circle of dots symbolizes the municipality school board members. The school board consists of the registrar, the school manager, the pre-school manager, the financial officer, the quality coordinator, and the school development manager. The two singular dots symbolize the school manager and the pre-school manager that also are members of the school board.

The small dots linked to the bigger ones symbolize the private company group leaders for school leaders (four) and municipality group leaders (three) for the pre-school leaders. The circle around the smaller dots symbolizes the group that met to discuss after each session to share their experiences and thoughts. One of these participants was also a member of the school board.

The biggest dots symbolize the group of the different school leaders and pre-school leaders that met on a regular basis. The number of participant in each group varied between three to ten people, and varied also from time to time during the course.

Results

So far, four parts out of six of the SNAE material has been accomplished. During the process, some particular observations have begun to stand out as suggested patterns in the municipality on the level of arrangements, on group level and on school types. The results are presented within three categories of specific patterns that have been interpreted as particularly pertinent in the specific case.

Observations from Four Sessions
In the first category, on the level of arrangement, some tensions surfaced. In the second, differences among school and pre-school leaders has begun to show up. And finally, differences have been seen regarding use of digital technologies and rationales for using them depending on what school type one is responsible for.

Identified tensions in the arrangements – Private company and municipality staff. The arrangement of dividing the responsibility for groups has gradually proven to be quite tricky to handle. On one hand, people were hired to be group leaders of the specific competence development initiative due to shortage of staff in the municipality, but on the other hand, the lack of previous knowledge about the school leaders has been troublesome for the hired staff.

The group leaders from the private company have naturally no prior knowledge of how individual school leaders work and function as leaders. Now they were supposed to drive group discussion where each school leader should be quite prepared and engaged. If not, the competence development initiative becomes a superficial arrangement rather than an organizational development process.

In some of the groups of school leaders, the level of ambition and preparedness was quite low. During the summarizing discussions after each session, these issues gradually surfaced. The staff from the municipality tried to help out and give advice, and the private company staff tried to both adhere to these suggestions and challenge taken for granted views from the municipality staff, using their benefit as providers of an outsider's perspective.

In spite of the openness in the after session discussions, sometimes there was a cautious approach towards how to present what had been going on in the groups. It was as if there was a wary atmosphere present. The actual cause for this is still not clear, and perhaps that will change in the upcoming sessions. It is still unclear where this will lead; however, it appears that it could have something to do with the division of the residential organization for the group leaders which needs further investigating. For now, it is a hypothetical suggestion.

Identified differences among school and preschool leaders. The groups were pre-defined by the responsible staff for the arrangement of the initiative. School leaders worked in groups with little previous connections whereas pre-school leaders had worked in groups in previous initiatives in the municipality regarding collegial collaboration and learning. Because pre-school leaders had participated in different groups, these previous collaborative practices seemed to have influenced the ongoing process in a positive way during the competence development initiative and the work with the SNAE material. Pre-school leaders were more often prepared than school leaders. To date, pre-school leaders have engaged more actively in the process than school leaders, specifically in preparedness and engagement linked to the actual content of the session. One possible explanation for this is that pre-school teachers do not need to create a sense of belonging to the group whereas school leaders do. They can use previous group processes and pre-established trust, important for group growth, to move further in their collegial learning during the sessions (Vrieling, van den Beemt & de Laat, 2016).

Yet another observed difference was that the responsible pre-school leaders followed only one of the groups whereas the school leader was required to move between groups during sessions. These practices have different strengths and weaknesses. To follow one group only has the strengths of covering the dynamic developmental process that occurs in that particular group. However, at the same time, that approach misses the diverse group dynamics that can be captured by moving between groups.

Differences regarding use of digital technologies and rationales from using them. The third category focused on school leaders' tendencies to talk about the municipality leadership and digital systems compared to pre-school and special needs school leaders' tendencies to talk about the children and what tools they need in order to learn and grow. In this regard, another observed difference was that school leaders had a tendency to talk about problems with specific systems and the lack of support from the municipality. Pre-school and special needs school leaders had a tendency to talk about how to learn when being a novice and suggested methods and approaches involving the children for developing exploratory spirit among the staff.

Observations from the Group Leader Sessions
During the four summarizing discussions, a comment made in the various groups each time concerned insufficient information flow between school leaders and the school board. They described that insufficient information flow as a gap. However, the group leaders that meet and summarize the sessions have not really found the best way to present the information gathered during the sessions to the municipality school board. The gap then persists and ways for overcoming this gap are still under discussion.

Analysis and Discussion

The municipality driven initiative to have all school leaders taking part in the SNAE developed competence development course is half way completed. During the process, differences and tensions have surfaced. The suggested arrangement from the SNAE in relation to the mix of participant has been modified due to the priorities of the municipality. However, there has been an expressed concern that all the various participants are not fully engaged in the process. For equality purposes, the identified differences and tensions create further questions regarding reasons for variation as well as the need for variation.

In spite of this ambitious approach to provide support to school and pre-school leaders to develop leadership linked to digitalization that seldom happens according to the literature (Kampylis & Punie, 2013), it is clear that it is a hard task to achieve. Even in a municipality that has taken previous research into consideration when focusing on school and pre-school leaders, proven so important for school development (Håkansson-Lindquist, 2015), issues still remain.

In this municipality, previous competence development activities and how they were arranged, seems to have influenced actual engagement in this

particular process. For example, it seemed like pre-school teachers had the advantage of having worked in groups before, compared to school leaders. The kind of students one was responsible for, pre-school children, children with special needs or school children, influenced how they addressed and talked about digital systems and tools for learning. Furthermore, the notion of management, control and support have permeated the discussions among school leaders. Perhaps it is linked to how they need to report activities in a range of systems for measurement reasons compared to pre-school leaders who have fewer systems to report on; also it may be linked to school leaders having previously gotten access to technologies for other reasons than curriculum driven demands. One of the process leaders from the municipality suggested these as a possible explanation, and they are well worth investigating further. These suggestions also make the link to contextual factors adding yet another example about the role of structure and culture in the situation and the importance for such an understanding of how change can occur (Selwyn, 2011; Selwyn & Bulfin, 2015; Tondeur et al., 2009) and thus may explain the differences surfacing in the sessions.

However, this study has only been able to detect variations and suggest some patterns that have emerged during the competence development course. Variations have been shown. Challenges remain. One needs to ask what types of variations are acceptable and even welcome, and what types of variations need to be addressed and taken care of? What contextual awareness and understanding exist in the municipality and how will that awareness influence further steps in the process? The next step in the study will address these issues to support further development for equal quality of education focusing on digitalization within the area of responsibility of the municipality.

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