'Roll-out neoliberalism' through one-to-one laptop investments in Swedish schools

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Abstract. This paper calls for the need to better understand how the marketization of public sector in Sweden has changed the way policies are produced and translated in to action. Its aim is to contribute to and enable a debate about consequences of privatisation. It does so taking IT-education policy as a case and takes a point of departure in the most recent efforts made by government and educational leaders to push ICT into educational settings, in the so called one-to-one laptop initiatives. The aim of the paper is to discuss how the use of a methodological design that is a synergistic research design between social network analysis and ethnography, called network ethnography can be used to investigate how educational policy is being 'done' in new digital locations which involve new forms of social structuring that emphasize flows and mobility of people, capital and ideas.

Keywords. Network ethnography, educational policy, marketization of public sector, one-to-one laptop, ICT, Educational technology

1. Introduction

Based on meta-analyses of research on restructuring in relation to education and health professions in Europe, we have previously highlighted the presence of common cycles of public to private transformation in production relations in these professions and their institutions (Beach 2010; Player-Koro 2012b). State involvement was described an important intermediary in these processes, by which relationships that were formerly largely untainted by commerce have successively become relationships involving the creation of profit (Beach 2010). The possibility of profit is now a clear and much debated characteristic of the Swedish educational system. These changes were made possible through new policies that opened up for market reforms of public sector in line with the neo-liberal philosophy of restructuring that have taken place in all Western societies.

This paper has analysed recent IT-education policy and municipal investments in one computer to every student and teacher in school as a case for a deeper investigation about the mechanisms behind and effects of the past two decades of the influx of varying forms of marketization and the development of profit interests and possibilities in the Swedish public sector in general, and in public education in particular.

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2. Aims and focus

This paper calls for the need to better understand how the marketization of public sector in Sweden has changed the way policies are produced and translated in to action. Its aim is to contribute to and enable a debate about consequences of privatisation. It does so taking IT-education policy as a case and takes a point of departure in the most recent efforts made by government and educational leaders to push ICT into educational settings, in the so called one-to-one laptop initiatives. These are global as well as national initiatives. They are designed to provide every teacher and student in school with a laptop computer and to expand the digital infrastructure of the schools.

One-to-one laptop initiatives could be defined, as part of the current phase of 'roll-out' neoliberalism as examples of emerging global policy networks. They represent a type of private sector involvement consisting of business, social enterprise and philanthropy that offers solutions to the current 'problems' of state education (Ball, 2012). However, the networks also provide new voices within national policy talk and are therefore also important in producing legitimate knowledge about education and the educational system inside nation-states, including defining what educational problems exist and how to best deal with them.

The aim of the paper is to discuss how ethnographic methods can be used to investigate how educational policy is being 'done' in new digital locations which involve new forms of social structuring that emphasize flows and mobility of people, capital and ideas (Ball 2012; Howard, 2002). The approach can be compared with Gallagher and Freeman's (2011) approach to digital or Internet ethnography described in the journal *Ethnography and Education*. In their work they used software such as *Adobe Connect*, *Survey Monkey*, a project *Wiki* and a blog, to establish virtual communication across research sites (Gallagher and Freeman, 2011). Our research is less linguistically complex and technologically elaborate. We mainly make use of surfing and searching functions on the Internet to find and produce data. These procedures will be described in more detail in the next section.

3. Methods

The methodological design that has been used for this research is a synergistic research design between *social network analysis* as briefly introduced above and *ethnography,* called *network ethnography,* developed by Howard (Howard 2002). The argument for the development of network ethnography was, according to Howard, that there was a need for new methodological innovations in order to keep pace with today's social dynamics through digital channels (Howard 2002). This methodological approach has also been used in research by Ball (Ball 2012) to track and map global policy networks through the Internet.

Social network analysis is in this approach used to justify and select a case or a field for the production of research. The field however is not a physical location; instead it is structure of social relationships mediated by different forms of Internet channels such as web-pages, videos, PowerPoint's, blogs, tweets (a tweet is a post or status update on the microblogging service Twitter), Facebook pages and published interviews etc. that operate as intermediaries between people and organisations (Ball 2012; Howard 2002). They create different opportunities in today's social media landscape for people to interact, share ideas, collaborate and form partnerships. Our

aim has been to become involved in and explore processes involving these forms of networking and this forms the basis for our data production.

In some senses some might claim that our research is outside of ethnography as it doesn't meet people in face-to-face actual social interactions and that we therefore know very little, if anything at all, about our human subjects. However, as Gallagher and Freeman (Freeman 2011) describe, we see our work as innovatively ethnographic. We see things as Hammersley (Hammersley 2006) does. We recognise that although there are limits to internet data from a traditional ethnographic point of view, concerning for instance who the writers of online contributions are and what their purposes and circumstances are, it can be argued that online interaction operates in an orderly fashion and participants display enough through their contributions for an ethnographer who is studying online practices to produce sufficient data and insight for making an ethnographic account.

Ethnographic methods are used to explore and observe everyday interactions; to capture community symbols, keywords and try to understand the culture that emerges from the daily interactions between actors and organisations. An important part in this is also to see how different actors and organisations are positioning themselves and thereby gain influence and power (Howard 2002). This is exactly what we are doing and, in addition, by inhabiting and using the same media and tools as the actors in question uses themselves.

The data production for this paper has been done through Internet searches around organisations and associations in Sweden that have the promotion of the use of digital technologies in schools and education as their main goal. The connections to edu-business, in this case most often to Apple, appears constantly. The connections between organisations and private companies takes place through those actors involved in the organization and who in some cases also appeared to be the owners of businesses that sell goods and services to the education sector.

The material captured through the search around organizations and associations was collected mainly through links or texts in each organization or association's website. The identified websites also contained, amongst other things, information about key persons in the organisation. Key-persons could thereafter be followed through websites but there was also possible to trace, follow and even interact with these people through different social media applications (such as Facebook, blogs and tweets) in which they create, share, and exchange information and ideas.

4. Results

The one-to-one laptop initiatives that have begun to comprise a major municipal investment in schools in Sweden are processes whereby all pupils and teachers are equipped with a laptop and where school It-infrastructure is being expanded. More than 220 of Sweden's 290 municipalities currently have an investment of this type based on figures from a website set up by the organisation *the Association for Computers in Education* (see heading 'Policy network in Sweden)[32].

The argument for the investments is that this will support academic learning and is an example of the latest substantial efforts made in Sweden as well as in many other countries to push ICT into educational settings (Cuban 2001). It has had the effect that

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[32] http://www2.diu.se/framlar/egen-dator/

the market turnover of student computers in Sweden has raised dramatically. The market for student computers in Sweden turns around a billion dollars per year and when it is fully developed the market sale for Swedish school computers are expected to be around two billion dollar per year [33].

There is thus no doubt that the sale of IT equipment to school is, and has for a long time been big business. The promise to retrofitting the purpose and practice of education through the use of digital technology has from the earliest initiatives that appeared in the mid 1990s mainly been sponsored from the IT industry. Microsoft initiated this with their Microsoft Anytime, Anywhere Learning program[34]. In recent years Apple Computer Inc. has become more dominant as an actor in this area (Penuel 2006; Selwyn, Gorard and Williams, 2001) (see also figure 1).

These forms of initiatives are however not only a technological investment and development, they also constitute an arena for new forms of governance that are enacted through a mix of partnerships across sectorial and organizational boundaries (Ball 2012). These networks between actors spread a message or discourse about educational goals and problems and, more importantly, they also offer a solution to these problems that could be viewed more or less as a belief system. This is done by reference to research often dedicated to few key persons that in many cases has clear links to the IT industry.

4.1. Network connections for money and ideas

The search process took its point of departure from the first one-to-one project that was initiated in a Swedish municipally. This project emanated from the headmaster of one of the local schools, who together with the Chief Development Officer for the School Board, had heard about an initiative in the state of Maine in the United States. This led to some politicians, civil servants, teachers and school leaders going on a field trip to Maine, which had the consequence that the municipality decided to invest in a similar project (Tallvid and Hallerström, 2009). The link to Maine was easy to find and through this also threads to relationships between one-to-one initiatives and different actors also involved in edu-business would then also be identified. Figure 1, maps an example of these linkages.

Figure 1 aims to indicate some of the threads and relations on a global level between Sweden and the State of Maine project, USA. This figure can be used to illustrate a network for the dissemination of both ideas and money. As the figure shows, the concept of 1:1 laptop computing in its current form has its origin in Maine where the governor Angus King (figure 1), in the year of 2000 proposed that a 70 million dollar surplus in the state budget should be used to on the one hand provide all 7th and 8th grade student and their teachers with laptop computers and on the other to create a wireless internet infrastructure in all of Maine's middle schools. Angus King had been inspired by a conversation with Seymour Papert. Seymour Papert, considered by many as a leader in the educational technology community, not least through the publication *Mindstorms* in 1980 (Papert, 1993), where he wrote about the connection between technologies and development of higher order thinking skills and practices. Papert has however been working closely with Apple since the 60s. In 1967 he launched his

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[33] http://sverigesradio.se/sida/artikel.aspx?programid=125&artikel=5398572
[34] http://www.microsoft.com/en-us/news/features/2000/sept00/09-11aal.aspx

LOGO programming language, which was later, incorporated into Apple's operating system (Figure 1).
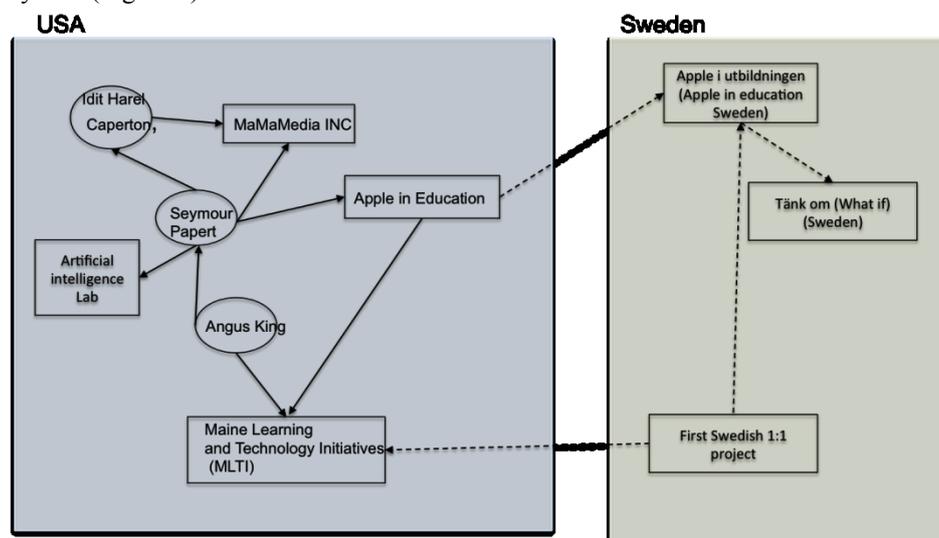

Figure 1. Network relations on a global level

Seymour Papert's publication of *Mindstorm* can also be seen as the origin for the discourse that since then has been used by leaders in the educational technology community as the main argumentation for implementing digital technologies in education. This discourse describes a scenario where the uses of educational technologies are considered contributing to higher order thinking skills and practices through student centred authentic (often some kind of problem-based, innovative or creative) learning. This way of learning are described as dramatically inevitable change educational practice (Harris 2005). Moreover, this kind of technology integration is also considered as the only way to successfully integrate educational technology in education (Nivala 2009; Player-Koro 2012a).

Player-Koro (2012 a, b) has defined this kind of discourse as a 'general ICT impact' discourse that tells a story about present society, digital technology and what could and should be happening with teachers, students and schools, if the technology is correctly used in educational setting. This discourse has also for decades been underpinning studies in the research field of ICT in education. However, on the other hand, it has been very difficult to find actual evidence in research that confirms that digital educational technology has enhanced educational standards in the way predicted in the 'general ICT impact' discourse (Cuban 2001; Player-Koro 2012b; Selwyn and Oliver, 2011). The most remarkable thing in this is that very few researchers contradict the core beliefs and values about educational technologies. Instead, they often come to the conclusion that the school does not live up to expectations because teachers lack sufficient interest and/or skills (Cuban 2001; Gouseti 2010; Player-Koro 2012b).

Several researchers have argued that the ideas in the 'general ICT impact' discourse originated from marketing strategies (Harris 2005; Nivala 2009; Robertson 2003), which even the present network analysis may be a support for. The Apple Corporation has always been a significant force and an active part in both the concept of 1:1 laptop computing as in other investments in educational technology (one example is the project Apple Classroom of tomorrow (ACOT) (Sandholtz, Ringstaff

and Dwyer, 1997). A brief overview of the interlinked network between the Maine Learning Initiative (MLTI) and Apple is illustrated in figure 1. Idit Harel Caperton was Papert's PhD student. Together with him and MIT she developed a constructionist-inspired educational model called "Instructional Software Design Paradigm Learning." She also founded Mama Media Incorporated [35]. This service conveys media to adolescents and their parents. The link to Sweden is established through Apple.

4.2. Policy network in Sweden

As the search continued with the focus on Swedish one-to-one laptop computing it became increasingly clear that an important node for information flow (policy flow) and policy relations was significantly comprised by two national exhibitions and conferences. One of these is *the future of learning* (Framtidens lärande) arranged by *the Association for Computers in Education* (Föreningen Datorn i utbildningen (DIU)). On their website you can read the following text: 'Association DIU has since the mid-1980s worked to build long term networks and exchange experiences and knowledge about ICT and learning in the Swedish Comprehensive School. Since 2004, the association has developed into a major national player. It organizes various activities and builds networks between schools, communities, organizations, government agencies and scientists to create 'a school with modern forms of work that develop skills in tune with the times' (http://www.diu.se/diu.asp?val=fdiu).
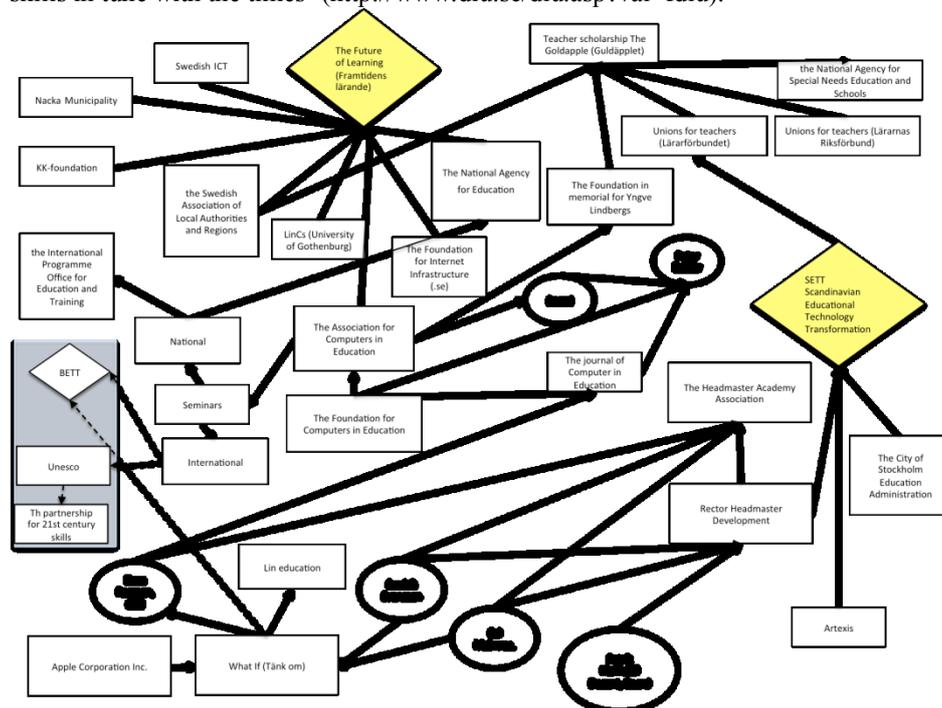

Figure 2. Networks relation on a national (Swedish) level

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[35] http://www.mamamedia.com/

The other event is *SETT* (Scandinavian Educational Technology Transformation)[36]. This event is, according to the *SETT* website, Scandinavia's largest exhibition and conference within innovative and modern learning. It focuses on 'inspiring the school's professional employees to increase their curiosity, and to gain more knowledge regarding how the modern learning can be developed in schools toward higher achievement' (http://www.settdagarna.se/en). Figure 2 maps some threads and relationships between actors and organisations that have been traced through research in connection to *SETT* and *The future of learning*.

Figure 2 gives an indication of the complex, interlinked networks and relations concerning whom the ideas and products linked to one-to-one laptop initiatives are promoted and disseminated by. More partners and organisations that are involved in these events are listed on their websites[37][38]. We must add, however, that in the framework of the present paper it is only possible to provide a snapshot over the multifaceted relationships that occur and give a few examples of how these relations work.

The main similarity between the two Swedish exhibitions and conferences (*SETT* and *The future of learning*) that also constitutes a common denominator between them is a common discourse about a shared problem and a shared problem solving process which offers opportunities to participate in education governance. This is according to Ball (2012) a typical constitution of policy networks and figure 2 illustrates the multifaceted forms of relationships between government (The National Agency for Education (Skolverket)), business, philanthropy (in the form of various foundations), municipal departments, and global organisations such as for example UNESCO (Ball 2012).

The future of learning is run by an association (called *the Association for Computers in Education*) with a management board composed mostly of people working in local government and academia, but also a private IT consultant is member of the board. The association is financed from the Foundation *Computers in Education* that is a non-profit, independent foundation, which operates in collaboration with the Association for Computers in Education (figure 2). The Association for Computers in Education presents itself as described above as having at their main goal 'to work to build long term network and exchange experiences and knowledge about ICT and learning in Swedish youth school' (www.diu.se). In other words it could be said that their mission is the dissemination of ideas about learning with educational technology.

The main medium for the dissemination of ideas is *the journal of Computers in Education*. A key person for this association is Peter Becker. He is the editor of the journal, president of the Association and coordinator of the Conference of the Future Learning. In this network Becker has a role as a thinker and a policy entrepreneur. He directs, serves, writes editorials in the journal, and speaks at a variety of events. He also has a variety of relationships with governments, teachers' unions and international connections.

SETT on the other hand has been organized two times 2012, and 2013. SETT has a clearer commercial connection and is organized by Artexis and the Headmaster

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[36] http://www.settdagarna.se/en
[37] List of companies and organizations involved in the Conference The future of learning in 2013 http://www2.diu.se/framlar/utstallare/
[38] List of companies and organizations involved in the Conference SETT in 2013 http://www.settdagarna.se/Medverkande-foretag

Academy Development Inc. (Rektorskademin utveckling (RAU))[39] in collaboration with the City of Stockholm Education Administration and one of the main Teacher Unions. The Headmaster Academy is a company that sells ideas for improving education. On there website you could read that: 'An important area for us at Headmaster Academy Development Inc. is starting up new ideas, thoughts and activities. In short, we like ground-breaking new projects'[40].

The difference between SETT and *The future of learning* is that *The future of learning* has a long history of trying to actively influence the education system through decision-makers in local and central government agencies. Although there are commercial actors involved, they have a more modest role. *SETT* on the other hand has a clearer commercial connection. It is driven by clear commercial interests, that also conduct a competitive activity against *The future of learning*.

SETT has grown rapidly and there is evidence that they will outmanoeuvre *The future of learning* not the least by having a significantly lower participation fees. The consequence of this is amongst other things that keypersons related to SETT that could be defined as 'policy entrepreneurs' have clear economic interests and that they are very active in influencing both municipal and state decision makers. Some of the keypersons involved emerge in the text below.

The Headmaster Academy Development Inc. is a corporation owned by Fredrik Svensson and Caj Malmros who also founded the *Headmaster Academy Association* and the company *What If* (Tänk om), which is an association of educational consultants for school that describes itself as the leading educational consultant for 1:1 in Sweden and that was formerly a part of the *Apple*[41]. However, *Apple* and *What if* are still strongly connected. Apple computers are often sold as a concept to the schools along with training conducted by *What If*. The premise is that for any computer that a municipality/school buys you also get a "voucher" for 400 SEK, which can be used for training at *What If*.

Moreover, *What If* (Tänk om) consultants are people who are employed to work on school issues at different levels of the municipality (teachers, IT coordinators, principals for example)[42]. At the same time they are also working extra for the company *What If*. In other words, the municipal employees working as education consultants for the company are sitting on two seats. They have one foot in *What if*, whose business is directly related to how many computers Apple manages to sell the Swedish schools, and have at the same time the opportunity to influence, through their work in the municipality, the purchase of educational technology and services to the municipality where they are employed. CEO for *What If* is Hans Renman who has been on the board for *the Headmaster Academy* for many years.

5. Concluding discussion

This paper takes its point of departure from the transformation of public sector during at least the past two decades. It takes one-to-one laptop initiatives as a case for exploring and discussing how the public to private transformation in public education

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[39] http://rautveckling.se/
[40] http://rautveckling.se/
[41] http://www.tankom.nu
[42] http://www.tankom.nu/medarbetare/

works through global network connections involving diverse participants with a variety of interests (Ball 2012; Beach 2010).

Network ethnography was used as a methodological framework for the research. Social network analysis was used to select the field of analysis, which in this case ended up in the selection of two Swedish exhibitions and conferences: specifically the *SETT* and *The future of learning* networks respectively. Some threads and relationships that work through these conferences were taken up and analysed in greater detail than others. The picture that emerged during the analysis was that these IT-education policy networks have been strongly connected with the private market of educational technology for decades. However, it was possible to trace a transformation from more indirect involvement from the private sector, through the conference *The future of learning,* to a more direct involvement, through the *SETT* conference. A small number of key persons that own companies and have clear links to the IT industry organize the SETT conference.

Moreover, there are many implications for the educational system that could be brought forward and discussed on the basis from the research findings discussed in this paper. One of them is how the parallel introduction of new agents in the official re-contextualising field and the weakening of role of the State bureaucracy and professions in the educational re-contextualising field affect the 'Official knowledge' that is to be distributed in educational institutions which we will do in a further study (Bernstein, 2000). The new partnerships that are formed with their common base in educational technology use a specific rhetoric or discourse ('the general ICT impact' discourse') to call for the need for schools to buy computers and technology in order to solve educational problems and enhancing education. This is clearly an economically based discourse that operates in private economic interests primarily, and that takes pedagogical discourses hostage in the process of the valorisation of first ideas and then profit. There is also a clear inter-discursivity at play through the similar rhetoric both in the 'general ICT impact' discourse and the neoliberal rhetoric regarding the problems and possibilities of education, where education is considered important on the one hand but on the other is blamed for being unable to live up to these expectations (Player-Koro, 2012b). More computers in schools are in this case the solution to this problem.

Another question that could be posed according to this analysis is what happens with democracy when 'statework' is outsourced? Or as Bernstein may put it; what consequences will ensue for our society if all agents of symbolic control operate from the private sector?

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