

Researching adequate digital competence for school leaders from a perspective of pedagogy

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Abstract

The paper is begun with an outlining of two pedagogical principles that carry specific weight into research aimed at understanding digital competence in schools in general. Networked learning is exemplified in terms of connecting teachers and learners through remote teaching in rural municipalities. The specific research focus of the PhD project is on the knowing that individuals in schools need to facilitate digitalization. After the pedagogical principles are described, their weight is then considered in regard to research on digital competence and school leadership. A particularly complex issue discussed in the paper is that digital competence is in substantial ways a politically driven concept, rather than primarily pedagogical. A reconceptualization of digital competence for school leaders is suggested for pedagogical research: focus on knowing when it happens on pedagogical terms, rather than on knowing about implementation in schools. Remote teaching in rural municipalities is argued to carry pedagogical objects of specific relevance for pedagogical research, where the focus need not be on implementing, or effects of implementation. Rather, the knowing that is argued to be required to make remote teaching happen in rural municipalities may have pedagogical knowing of digitalization in schools as a foundation.

The paper is concluded, firstly, with a section reflecting on what the pedagogical objects suggests for research design. Secondly, with what the pedagogical principles suggests for methods and methodology, specifically regarding politically charged concepts such as digital competence. To the former, a case study research design is suggested to find difference and variance in the knowing of making remote teaching happen. To the latter, reflection about the process of bringing theory and frameworks into practice (methodology) is suggested as one key in relation to the principles. Another key point of reflection is on the assumptions that specific methods, theories and frameworks themselves carry.

The relevance of the pedagogical principles in relation to networked learning, and research focusing on digitalization in schools in general, is primarily as a reflective communicative tool. By bringing to the front basic values on which knowledge ought to be built on, in a research discipline such as pedagogy, other values are made invalid. One effect implied through present paper is that, In a PhD research project such as the one presented, research discipline disciplines. Both concerning research subject, as well as bringing assumptions into practice in research design and methodology.

Keywords

Pedagogy, digital competence, school leadership, research design, methodology

Starting with pedagogy

A perspective of pedagogy has some pre-existing approaches to research. First, in terms of power, steering, governing, and other interrelated (democratic) concepts, pedagogy is on the side of the individual with little power rather than the individual with much power; on the side of the individual rather than on the side of the system. Research aiming to understand democratic concepts, however, needs to focus on both, because to change relationships between individual and system, or powerful and powerless, happens from both ends. Second, and interconnected, is that, ultimately, pedagogy is about understanding things so that bad things can be changed for the better, whether in schools, families, professions, and so on. These two points are inherently normative, principal, historical, traditional, and not subject to revision or change. If research claims a perspective of pedagogy but does not do this, it is the research that is revised or changed, not pedagogy. We can call this approach the first pedagogical principle, and it is a democratic principle.

The – here argued to be – second pedagogical principle concerns on what ground change itself should be built on. A perspective of pedagogy, being unavoidably normative, assumes that the ground of any change is an understanding of the first principle. Pedagogy, however, being carried out by different systems of individuals – groups of researchers – has different theoretical tools associated with them that are anchored in the history and culture of the particular system. As long as these tools are based on the first principle, everyone should get along. This is not the case, of course, since there are other things than principles involved with human living in general, and work relationships, perhaps, in particular (e.g. prestige). This complexity aside, when those of pedagogical perspective argue for a specific change, they have to argue for the change based on some specific theoretical understanding that substantially coheres with some pre-existing system (cf. coherence justification in Lammenranta, 2004). For example, Peirce, James, and Dewey can be seen as representing a pragmatic system (cf. Barrow, 2010) that those of pragmatic pedagogic persuasion may want to refer (cohere) to (with) when arguing about teaching and learning based on experience, or why their particular pragmatic persuasion is a development to the system.

There is much left unsaid about pedagogy as a research discipline (not to mention democracy) but these two principles alone carry very specific implications in research design and methods. The first principle implies a critical approach to democratic values when conducting empirical research, the second implies that concepts that are shared by many, such as digital competence, should, really, be understood from a perspective of pedagogy when in practice. I have introduced these principles here to explain the normative base that feeds into my decisions concerning why some research design and methodological considerations are taken rather than others; why some things cannot be considered valid from a perspective of pedagogy.

Research project description

The collaborative research project wherein I am a PhD student has a frame. The project is called *Adequate digital competence for school leaders*, and what I am supposed to research, or in the end have something knowledgeable to communicate about, is just that. In terms of collaboration, one party is a university, one a private company. In terms of research design and methods, this carries no specific weight. In terms of direction of my research, however, it carries much weight. A general assumption about adequate digital competence for school leaders that influences collaboration within the project is that a) digital competence is something that can be implemented on school leaders and their organizations, and b) the school leader role entails the strategic leadership of school organizations by use of digitalization.

On the one hand, however fuzzy the concepts of digitalization and digital competence may be, and the instrumentality of approach to school leaders is in such assumptions, they reflect very well many contemporary thoughts about digital competence and school leaders (The Swedish Ministry of Education, 2017). As a frame for a research project in pedagogy such assumptions holds many potential pitfalls. However, since this is a *collaborative* research project, both parties should end up somewhat satisfied in the end, since they have equal stakes in the project. This is not an easy balance to maintain. On the other hand, given that such assumptions do exist in policy, practice and research, the need for research with a perspective of pedagogy is all the more important.

Researching adequate digital competence for school leaders

The concept of digital competence is today in many ways not understood from a perspective of pedagogy. One way is that digital competence is itself in substantial ways a politically driven concept (cf. Søyby, 2012; From, 2017), which of course collides with the first and second pedagogical principle if not scrutinized. For example,

one important actor that influences Swedish school politics is the European Commission, that has its own framework for digital competence in education (<https://ec.europa.eu/jrc/en/digcompedu>). Seen this way, digital competence can be a policy tool that steers individuals in schools, clearly against the first principle if not critically reflected. Another way to see such a framework is in terms of implementation of digital technologies in educational organizations, and what skills and knowledge educators are said to need to do this. Here, what is important is that the technologies ‘permeate’ classrooms and school organizations on the whole, argued in terms of the pressing need for them to reflect a ‘digital age’ and not lag behind. In such cases, implementation is more important than whether digital technologies can support pedagogical perspectives on teaching and learning, clearly against the second principle.

When it comes to school leadership, there is a wealth of educational research (cf. Day & Leithwood, 2007; Moos, Nihlfors & Paulsen, 2016) and pedagogical perspectives (cf. Törnsén & Årlestig, 2014; Svedberg, 2019). Here, the complexities regarding the second principle are in effect, and a careful navigation is important. However, in order to not break the first principle, careful attention is needed regarding what is assumed in leadership research and how it is used when researching the actions of individuals. For example, one framework for understanding school leadership could be prescriptive – in terms of what individual school leaders ought to do – and as such the framework itself, used unreflectively, could break the first principle. Another framework – like in the case of digital competence – could be first and foremost political assumptions of what school leaders ought to be doing, breaking both principles if used unreflectively.

So, where do the pedagogical principles lead methodology and research design in terms of adequate digital competence for school leaders? One consideration, so far, is that:

- Since the concept of digital competence in schools in particular carries assumptions about implementing digital technologies for the sake of digitalization/the digital age/future economic-competitive skills of people in schools in general - which breaks the second principle - a focus on what people actually do when they digitalize schools, seen from a perspective of pedagogy, seems fruitful.

In the coming section, the point above is considered in relation how to – from a perspective of pedagogy – argue for adequate digital competence for school leaders as pedagogical objects of knowledge, as well as how to empirically approach said objects in research design and methods.

The pedagogical objects

In some rural schools in Sweden, digitalization – understood as social interaction between individuals by use of digital technologies – is an essential social mechanism¹: as remote teaching². This can be viewed as a clear case of networked learning (Hodgson, de Laat, McConnell & Ryberg, 2014). In these schools, remote teaching has the possibility to bridge the challenge of long distances through connecting teacher and learner wherever they spatially may be. This challenge involves rural municipalities having long travel distances, and small populations and number of pupils. Not digitalizing teaching and learning in such cases means that teachers and learners in some subjects spend time traveling instead of teaching and learning. Moreover, for school leaders, such challenges make even more difficult recruitment of qualified personnel.

The aim of my research is to explain a type of knowing in contexts where digitalization is an essential social mechanism. In contemporary research (cf. Pettersson, 2018), policy (cf. The Swedish Ministry of Education, 2017), and practice (cf. Eriksson & Rännar, 2020) this type of knowing is called digital competence. Continuing, the aim of my research is to contribute to a more qualified understanding of this knowing for school leadership. In the case of school leader digital competence, more research is needed (cf. The Swedish Ministry of Education, 2017; Pettersson, 2018), not least with the perspective of the school leader as a facilitator of networked learning in schools.

Bringing the concept of knowing to the front, rather than that of digital competence, is one way to maintain the pedagogical principles. The assumption here being that such a knowing exists to a large extent independent of frameworks that focuses on implementation and different implementable levels of competence in individuals. In fact, the knowing of individuals may hold both pedagogical principles prior to implementing digital technologies

¹ Collections of social processes that explain a substantial part of the activities in social systems, such as teaching and learning and leadership in schools.

² Digitalized teaching where teachers and pupils are separated in space but not time.

in schools, as well as qualitatively distinguishable properties in what can be framed as digital competence for school leaders (if one wishes) that are not now assumed in contemporary frameworks of digital competence. This is a serious argument for adequate digital competence for school leaders in coherence with the pedagogical principles: some knowing of individuals is independent of steering, and this knowing is pedagogical. This knowing, moreover, exists in practice. As researchers interested in digital competence, and critical to the steering aspects of implementation, we ought to research the knowing where it happens as openly as we can.

Methods and research design

The preceding considerations of pedagogical principles led to a formulation of pedagogical objects when researching adequate digital competence for school leaders. As previously mentioned, such considerations steer methods and research design.

Hence, actions taken, and beliefs about them, that make remote teaching happen in rural municipalities is of particular interest to research in relation to school leaders' digital competence. For example, individuals that are taking actions to initiate, maintain and evaluate remote teaching in rural municipalities can be assumed to have knowing specific to digitalization as an essential social mechanism in schools, and thus digital competence. Depending on which stage of initiation, maintenance or evaluation, it is reasonable to expect the knowing to vary. Also, individuals that make remote teaching happen are taking action so that activities change intentionally, rather than unintentionally, and can thus also be assumed to have knowing of organizing relevant for school leadership. As such, making remote teaching happen is a pedagogical case of digital competence for school leaders. A case study approach to research design is therefore my primary consideration at this stage. In my study, the research problem is digital competence for school leaders where making remote teaching happen in rural municipalities is one case of the problem.

Creswell (2013) approaches case studies as a methodology with a definition of

Case study research is a qualitative approach in which the investigator explores a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information (e.g., observations, interviews, audiovisual material, and documents and reports), and reports a case description and case themes. The unit of analysis in the case study might be multiple cases (a multisite study) or a single case (a within-site study) (p. 97).

My approach is that making remote teaching happen in rural municipalities carries several qualitative cases in the form of different schools. Depending on the unique context of individual schools, there may be variances important to include and/or be responsive to. For example, there may be different motives why remote teaching is needed, which feeds into the way remote teaching is initiated, maintained and evaluated, which in turn could entail qualitative differences in the knowing needed to make it happen. Moreover, it is reasonable to assume that what is needed to know when initiating remote teaching is different from what is needed when evaluating. Also, that this knowing develops over time depending on how long a school has made remote teaching happen. As such, a variety of cases where the variety is different stages of making remote teaching happen seems reasonable.

Participant selection following the multiple case reasoning entails finding individuals that are at different stages of making remote teaching happen. It entails, moreover, some difficulties regarding the depth of the cases. Should as many individuals as possible in a particular school be interviewed and observed? The depth of the case would increase, but the necessary variety might be missed. Should as many different cases as possible be strived for? The depth of the case descriptions may then suffer. My plan is to start with a few principals (the formal school leader role) that are in different stages in terms of how long (in time) their school has made remote teaching happen, and develop the sampling in response to the data collected. If they are doing the same thing, more cases may be needed. If they are doing widely different things, a few cases may say much. Moreover, teachers are likely to do much to make remote teaching happen. This may be more so in small municipalities where much responsibility – not just in regard to the teaching practice – of making this form of teaching happen falls on the teacher. Hence, teachers as well as principals in rural municipalities are expected to have a knowing that can be translated into adequate digital competence for school leaders, in the case(s) of remote teaching in rural municipalities. So much for research design.

In terms of methods, I concluded the previous section with suggesting that researching 'knowing where it happens' ought to be researched 'as openly as we can'. This is a consideration necessary in terms of what theories,

frameworks – and more generally, assumptions – are *brought* into practice (methodology). Such things causes effects in terms of influence, which is problematic in relation to the two principles, and in terms of getting answers that are reliable. On a general level, this cannot be avoided at all, perhaps. If we consider the questionnaire, as in an interview guide for example, as a learning device (cf. Peterson, 2013), influence is a rule rather than an exception. As researchers, we aim to ask questions whereby we learn something qualitative from our participants. These questions, however, also effect learning the other way around. Participants learn something from the questions researchers ask, both in terms of answers somehow expected, as well as how to behave (ibid., p. 8-9). Hence, building a questionnaire upon certain assumptions will bring those assumptions into practice. A questionnaire that is based on assumptions of implementation, for example, will at best not be understood in pedagogical practice, at worst influence practice in ways that are not pedagogically principled. There are no easy solutions to this. Reflecting through the process as well as on assumptions is a method for not being accused of naiveté, at least.

In conclusion, bringing the first pedagogical principle into considerations regarding methods and methodology means that theories and frameworks in practice ought to focus both individual and system, be critical to powerful and sensitive to powerless. Bringing the second pedagogical principle into such considerations means that the theories and frameworks accord with history and culture that is pedagogical. Again, as long as the second principle builds on the first, all is well in theory.

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