

Teachers' and Students' Perspectives on Qualities of the Connected Classroom

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The broader aim of the Connected Classroom Nordic-project (CCN) is to explore what constitutes quality in teaching in relation to digitalization of education, through bringing together researchers, teachers and students in collaborative video based, longitudinal investigations of contemporary teaching in digitally rich classrooms in all Nordic countries. Previous research shows that there are several challenges when digital initiatives are to be translated into new teaching practices in the classroom, concerning changed communication patterns, classroom walls being "dissolved" via a constant connection to the internet and not least increasing pressures against individualization that might come in conflict with values about equity in education. In this symposium the focus is on the teachers' and students' perspective, and the knowledge they contribute with in cooperation with researchers. From this perspective, all participants are seen as equal partners who meet in the analysis of empirical data although from different epistemic positions. The aim of this symposium is to share some insights from this work, through a discussion based on four different substudies from Denmark, Finland, Iceland and Sweden.

The design of the CCN project consisted of two strands of interest, video recordings of classrooms with multiple cameras over three years in combination with regular meetings with participating teachers and students. Hence, one strand of the CCN-project has been to facilitate dialogues between researchers and teachers, as well as between researchers and students, for collaborative investigations of video recordings in order to enhance understandings of qualities in the connected classrooms. Based on thematic analyses of the video material, the researchers selected sequences that actualized such new conditions in teaching that, based on our previous research results, have been shown to pose challenges in teaching (e.g. individualisation, connected communication and the conditioning effects of software). The conversations followed a cyclical model that was repeated during the three academic years following a class, which means that for a relatively long time we have continuous contact with teachers and students (see figure 1). The reflective conversations about the selected video-clips were audio-recorded, and further analyzed.

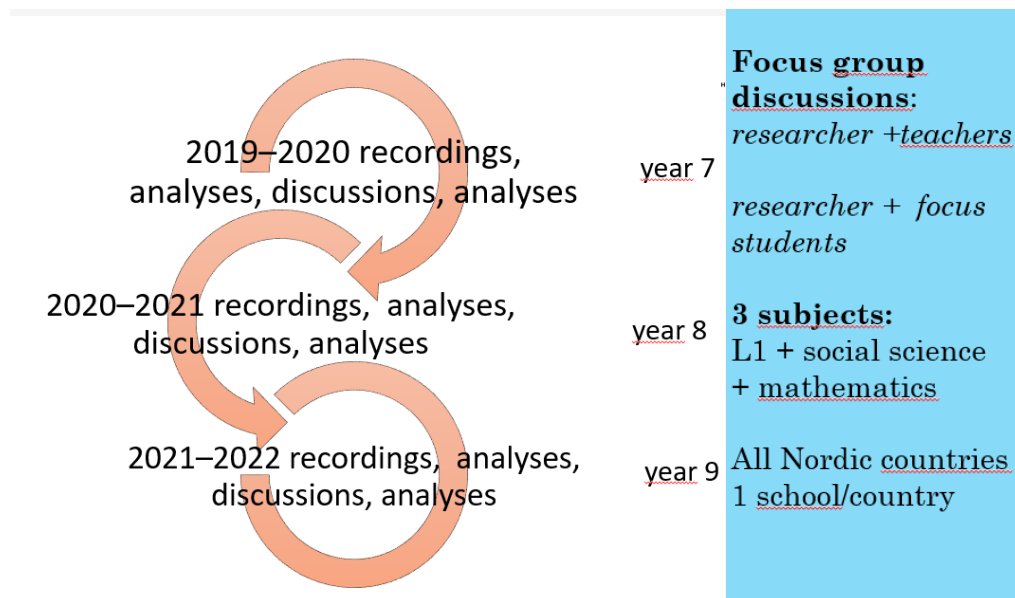


Figure 1. The design cycle of Connected Classroom Nordic

However, the Covid-19 pandemic caused challenges in carrying out the planned design, which made the research process take slightly different routes at the different research sites. Based on these varying experiences, the four papers in this symposium discuss different insights from the teacher-researcher conversations at four Nordic lower secondary schools. Taken together, the different contributions shed light on challenges and constraints in research collaborations that we think is important to further discuss and learn from in order to develop research methodologies where different perspectives can meet and deepen the understanding of enacted teaching qualities from within the classroom.

Paper 1:

Facilitating communicative spaces for learning. Exploratory conversations between teachers and researchers about a connected teaching practice.

Marie Nilsberth and Eva Tarander, Karlstad University

This paper focuses on a model for collaboration between teachers and a research group, focusing on joint learning about teaching qualities connected to the digitalisation of teaching at a Swedish lower secondary school. The purpose of the conversations was to shed light on transformation processes in various school subjects in a so-called 1:1 school, part of the CCN -project, where teachers were encouraged to use digital resources in their teaching. Eight focus-group discussions

between researchers and teachers were conducted over four school years. As a point of departure for the discussions, the researchers had selected examples from video recordings from the participants' different classrooms in order to stimulate analytic discussions around different key aspects of teaching.

Theoretically, the arrangement was designed in relation to ideas about creating communicative spaces for learning (Kemmis et al.; Rönnerman et al., 2015) focused on possibilities and challenges in using digital technology in teaching. From this perspective, researchers and teachers were seen as equal participants although from different epistemic positions. The focus-group discussions were audio-recorded and transcribed, and analyzed with the qualitative analytic software NVIVO to discern physical, semantic and social dimensions (Kemmis *ibid.*) of the discussions. As a next step, we used conversation analysis (Sidnell & Stivers, 2013) in order to make visible epistemic aspects of the social interaction between the researchers, the teachers and a so-called middle leader that had a double role as both a leading teacher at the school and as a project assistant in the research group.

The analysis sheds light on possibilities and constraints that this model for teacher-researcher collaboration contains. The long-term design over four years, including home-schooling during Covid-19, meant that the discussions reflected extensive changes in use of digital technologies during the period. Through our analysis we find that the conversation arrangements supported learning processes both during and between the occasions that the group met. Hence, they had a potential to bridge disruptions in continuity related to different organizational changes at the school. Another important finding concerns the central role of the middle leader, who thanks to belonging to both the teacher colleague and the research group bridge different social positions in the group. As for knowledge about digitalisation from different subject perspectives, the analysis shows that the group composition with teachers from different subjects did not favor the deepening of subject didactic aspects of the digitalisation of teaching. Instead more general and common pedagogical aspects became developed.

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Rönnerman, K., Edwards-Groves, C. & Grootenboer, P. (2015). Opening up communicative spaces for discussion 'quality practices' in early childhood education through middle leadership. *Nordic Journal of Studies in Educational Policy: Educational Leadership in Transition*, 3. doi:10.3402/nstep.v1.30098

Sidnell, J. & Stivers, T. (2013). *The handbook of conversation analysis*. Chichester: Wiley Blackwell.

Paper 2:

When it is real. Qualities in digitalized teaching according to teachers and students during a three year long classroom study

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In this paper focus group interviews with teachers and students in the Finnish Connected Classroom Nordic-project (CCN) school are analyzed. The interviews were done before, during and after the remote teaching periods in a lower-secondary school (from May 2020 to May 2022). According to the design in the CCN project, the interviews were related to the video recordings that prior had been accomplished in the classrooms, and they were structured around themes related to digitalization that we, the researchers, had identified as interesting and possibly challenging. Short video clips – the same sequences selected for the students and the teachers, with some exceptions – were shown to the focus groups, whereafter a discussion was opened. The video clips functioned as triggers; the discussions, especially the student discussions, tended to continue over many other topics related to digitalized teaching. The transcribed interviews were analyzed with the use of content analyses in the software program NVivo.

The theory used is based on the conception of new ethos stuff (NES) by Knobel and Lankshear (2011). According to them, the “the new” in New literacies involves both new technical stuff (NTS), related to the new affordances that the digital code in itself provides, and new ethos stuff (NES), which relates to new means for participation in literacies that are more participatory, collaborative, and distributed in nature than conventional literacies and aspects as participation, distribution and recycling are emphasized.

The aim of this paper is to discuss aspects in digitalized teaching that emerge as positive according to teachers and students, and further, to discuss the possible relation between these aspects and the concept of “new ethos stuff,” in order to thereby attempt a discussion about qualities in digitalized teaching. The analyses are carried out with the support of the questions: What types of situations related to the digitalized teaching get positive comments by the teachers, respectively the students? How are these situations related to aspects as participatory, collaborative, and distributed? What kind of possible differences or similarities are there between the teachers’ and students’ way of discussing these topics? And finally, is it possible to identify a change over time in the teachers’ and students’ approaches to digitalized teaching?

Preliminary results indicate that there is a detectable connection between the aspects of teaching that are perceived as positive, and new ethos stuff. This means that a significant amount of the positive statements about digitalized teaching concern situations or aspects where collaboration, participation, distribution or recycling are relevant for the participants. Examples of this are the students' mentioning resources in the learning platforms, seamlessness, and situations when teachers construct "real assignments", whereas in the teachers interviews topics related to fluidity and rapidity in the distribution are identified.

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Lankshear, C. & Knobel, M. (2011). *New literacies: Everyday practices and social learning* (3rd ed.). Maidenhead, UK : Open University Press .

Paper 3: Denmark

Student learning practices and subject specific content

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In our empiric work we observed how technology is increasingly infiltrated into Nordic students' everyday schoolwork, and that technology and students are neither separate nor predetermined but precisely in constant creation in the meeting with each other and the other participants in teaching. Our focus on a student perspective in a Nordic educational research context shows that the boundaries are fluid in relation to what technology can and does, what it is used for, and by whom.

The focus in this study is the activities and student-reflections and -perspectives when they talk about their work in different school subjects according to the digital working base. They make a fast recapitulation of their learning-landscape, learning-materials, and activities in the different school subjects from interviews: 1) What are these students' criteria for quality in the learning-activities in the different school-subjects? The second focus is 2) What is subject specific content in the perspective of these student learning-practices?

The research in this paper draws on video-ethnographic data in CCN in subjects L1, mathematics and a few social studies classrooms in Denmark. The data was generated through three years, 2019-2021, with three to four cameras in four subsequent lessons in each subject. Two cameras were following a focus student each closely each lesson, with a special focus on the student's screen activities and interaction with peers and teacher. The third camera was filming the teacher and teacher-board, the fourth was filming the whole-class perspective. Afterwards, the video-recordings were synchronized into a mixed four-camera configuration and analysed with the NVivo software. In focus group interviews a few

months later each year, the researchers showed teachers and students video-clips to ask for their comments, reflections, and discussions.

The students' recap of their everyday-life in school tells us about how learning is facilitated between very different materials, digitalized learning-platforms, and teacher intentions. One outset in CCN is the *practice architectures* (Kemmis et al. 2014) that help to thoroughly describe learning cultures through *sayings, doings and relatings*. We have previously supplemented this model of practice with a perspective of *student-technology*, a contribution for a theoretical lens to analyzing student's digital everyday life in classrooms (Jensen et al., forthcoming). Student-technology pulls the student and the technology together in an open and interwoven concept and enables us to identify and describe how entanglement with technology is co-constitution of social, relational, and academic action (Deleuze & Guattari, 1987, Murriss, 2016). The hyphen between student and technology underlines a dynamic and interwoven relationship. To study our second question, a case study from an L1-lesson explores what two focus students and their peers act through and tell us about working with literary aesthetic production in the digitalized classroom. Preliminary findings indicate that tacit knowledge and implicit notions are strong as guiding paths for the students, even though the teacher explicitly scaffolds the activities through the lesson.

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- Murriss, K. (2016). *The posthuman child: Educational transformation through philosophy with picturebooks*. Routledge.

Paper 4:

Dialogue on quality of teaching and digital technology – students' perspective

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Today, digital technology is intertwined into everyday practices that also applies to the educational system and all its units such as the classroom (Bluteau, 2019) and because of that, new classroom dynamics have emerged (Elf, 2021). As a result, education today faces strong demands to become digitalized and teachers are under pressure to implement digital

resources into instruction. The aim of the CCN project is to explore what constitutes quality in teaching in relation to digitalization of education and to get diverse perspectives and a deeper understanding of what teaching quality stands for in relation to digital technology in classrooms includes asking participants involved in the teaching and learning process about their experiences and ideas. One of the focal points of the CCN project has been to facilitate dialogue between researchers and students. This could be seen as a way to explore ideas that are essential to meaning-making and to develop mutual understanding to be more open for learning (Wegerif et al., 2020).

The purpose of this paper is to shed light on students' perspectives towards the concept of teaching quality and their ideas about how digital technology can support good teaching practices. The aim of the study was to explore students' understanding of the concept of teaching quality and how it interacts with the use of digital technology in their learning process. Inductive research approach was used to explore students thinking about quality of teaching and digital technology (Lichtman, 2013).

The main questions of the study were what characterizes good teaching and how the use of digital technology makes a difference for teaching and learning seeing from the students' perspective. The participating students' were in 10th grade in lower secondary school in Iceland and most of them participated in the CCN three-year longitudinal study. The study, data collection and analysis took place in spring semester 2022.

The research was carried out in two parts: (1) a conceptual approach to the concept, where 37 students' were asked to write down their ideas about teaching quality and (2) an empirical study in which the opinions of 31 teenagers were elicited through dialogue method based on philosophical approach (McCall, 2009). The dialogue was recorded and a written response about the topic was collected from the students. The students were not used to participating in philosophical inquiry and therefore it was necessary to let them know what was expected of them and exercise the approach with the group.

Preliminary results provide insight into student-perceived teaching quality and use of digital technology. The results indicate that students perceived teaching quality in relation to good classroom management, good didactic skills and interesting and enjoyable study material. They feel that digital technology supports learning and offers a wider variety of tasks. The study was restricted to including the perceptions of one group of students from a digitally rich classroom participating in CCN. It is important to recognise that students' different age groups or school's establishment are likely to have different views. The importance of the study lies in students' participation and their perception on good teaching and it might add interesting perspectives on what constitutes quality teaching. Further research is therefore required into student perceptions of teaching quality in relation with digital technology.

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