



<http://www.diva-portal.org>

Postprint

This is the accepted version of a paper published in *Seminar.net: Media, technology and lifelong learning*. This paper has been peer-reviewed but does not include the final publisher proof-corrections or journal pagination.

Citation for the original published paper (version of record):

Wiklund-Engblom, A. (2018)

Digital relational competence: Sensitivity and responsivity to needs of distance and co-located students

Seminar.net: Media, technology and lifelong learning, 14(2): 188-200

Access to the published version may require subscription.

N.B. When citing this work, cite the original published paper.

Permanent link to this version:

<http://urn.kb.se/resolve?urn=urn:nbn:se:umu:diva-153808>



Digital relational competence: Sensitivity and responsivity to needs of distance and co-located students

Annika Wiklund-Engblom

Applied Educational Science

Umeå University

Email: annika.wiklund-engblom@umu.se

Abstract

Being relationally competent is an essential skill for teachers. This involves, for example, skills in social interaction, emotional communication, and human connection. Two key factors for relational competence are teachers' sensitivity and responsivity to learner needs. In a distance-learning environment this can be a challenge because of the technical barriers, which often entail a lack of nonverbal cues that can guide teachers in social interactions and the orchestration of relations. In this study, nine semi-structured interviews capture the experiences of teachers in upper secondary school, in order to explore how they describe their own digital didactical design for distance courses and how they perceive that it supports students' learning. In the qualitative content analysis of the interview data, the emphasis was placed on teachers' digital relational competence with regard to their sensitivity and responsivity. These two factors are scrutinized in relation to six categories of student needs: emotional, cognitive-epistemic, metareflective, self-regulatory, social, and practical-logistic needs.

Keywords: distance learning, digital relational competence, learner needs, sensitivity, responsivity, digital didactical design, teachers' experiences

Introduction

The recent trend framing this study is the attempt to include distance learning in upper secondary schools in the Swedish-speaking parts of Finland. There are limited resources for teaching all subjects at all schools because of the scarcity of students. The introduction of distance learning is an attempt to create more equal opportunities for students at small schools out in the periphery to study a wider range of subjects. Needless to say, this trend is a balance between economic interests and democratic values of equality. However, there is a risk that, while catering for certain levels of equality, other quality levels might be compromised (Rehn, Maor & McConney, 2016).

Because this introduction of distance learning is rather new, there is an obvious lack of research from the Finland-Swedish context; especially research aimed at

teachers' perceptions of how they facilitate learning with their digital didactical¹ design, i.e. the choices they make for designing for learning while implementing digital tools to assist the learning process. Additionally, many teachers include both co-located and distance students using video conferencing options. Prior research shows that this can lead to problems pertaining to how distance students experience being an equal member of the learning context (Knipe & Lee, 2002; Rehn et al., 2016). Such an outlook is detrimental to feelings of social presence (being part of a community of inquiry), which in turn is an important predictor for cognitive presence (being involved in a process of inquiry) (Garrison & Cleveland-Innes, 2005).

Learning spaces in school contexts are “social products” for interaction and meaning making (Leijon, 2016, 94). The interactions can differ and are divided by Moore (1989), for example, into three types: teacher-learner, learner-learner, and learner-content interactions. The significance of social relations in educational settings cannot be overemphasized. When based on caring and dialogue, social relations are the most significant factor for growth, development, and learning (Aspelin & Persson, 2011; Vygotsky, 1978). It is important that teachers get the tools for and understand how to maintain and design for authentic interaction and positive social relations in a digital learning space (Garrison & Cleveland-Innes, 2005). However, knowing how to bridge the technological threshold and design for this social dimension is not necessarily intuitively transferable from traditional classroom culture. This is especially true because our relational competence is partly based on tacit knowledge developed from our interhuman co-existence (Aspelin (2017b).

Prior research in a Finland-Swedish university context indicated that designing for social relations while combining co-located students and distance students was problematic due to unequal roles of students and a lack of nonverbal cues that guide teachers in responding to learners' needs. This prior educational design research study aimed to improve distance learning through understanding both learner and teacher needs (Wiklund-Engblom, Björkell, Backa & Wihersaari, 2016). The present study aims at deepening the understanding for how we can design for learning and enhance our ability for digital relational competence in an upper secondary school context – often combining co-located and distance students. The nine teacher interviews targeted how teachers described their own digital didactical design for distance courses and how they perceived that it allowed them to be sensitive and responsive to learner needs.

Theoretical Background

In order to frame this study theoretically, two perspectives are used: 1) learner needs framed by research on self-regulated learning (Pintrich & McKeachie, 2000; Winne & Perry, 2005) and 2) teachers' relational competence as to how a teacher is able to be sensitive and responsive to learners' needs (Aspelin & Persson, 2011; Rimm-Kaufman, Voorhees, Snell & La Paro, 2003). Teachers designing for and implementing distance learning are confronted with the task of configuring and orchestrating tools, time, people, and space in new ways. Digital didactical design for learning will always include both affordances and constraints based on the kind of technology that is selected and how it is being implemented. However, a general requirement is that the digital didactical design needs to be flexible enough to consider situation-based learner needs (Goodyear & Dimitriadis, 2013; Peters, 2013), and teachers must be able to promptly address these learner needs (Zembylas, Theodorou & Pavlakis, 2008). According to Anderson, Rourke, Garrison, and Archer (2001, p. 5), a teacher's competence for distance education involves teaching presence, which they

¹ In this study the concept of didactical design is used based on the European tradition of Didaktik (e.g., Klafki, 2000).

define as “the design, facilitation and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes”.

Learner Needs and Self-Regulation

From a needs perspective, to scaffold learners is to empower them to develop their own agency for learning – in any context. The needs of a digital learner can be divided into cognitive-epistemic needs, emotional needs, social needs, technological needs, and content interface-related needs (Nokelainen, 2006; Peters, 2013; Wiklund-Engblom, 2015). One dimension of needs pertains to the covert and subjective learning experience involving both cognition and affect, but also learners’ socio-emotional orientation (Järvelä, Lehtinen & Salonen, 2000). The more objective and overt factors such as content and context involve the technological setup and the interface design of the content display, but also the social context per se.

Self-regulation pertains to learners’ agency for monitoring and managing learning – behaviorally, cognitively, and affectively – in relation to both context and content (Pintrich & McKeachie, 2000; Winne & Perry, 2005; Azevedo, 2007). Hence, self-regulation is the dynamic process influenced by the reciprocal interaction of covert learning experiences and overt factors. For instance, how distance learning is organized affects learners’ emotions (Zembylas et al., 2008), and inconsistency in how teachers use educational technology causes confusion (Olofsson, Lindberg & Fransson, 2018). These are examples of how digital didactical design impacts learners’ self-regulatory agency.

To scaffold self-regulation, we can adapt a metalearning perspective to visualize the learning as such (Säljö, 2004, Hattie, 2009). Metalearning means learning about one’s own learning in order to become a more competent learner in relation to different internal and external affordances and constraints. It involves the learners’ awareness of variations and areas of regulation in relation to learning in a specific context. This can be described as their agency for design-based epistemic metareflexion (Wiklund-Engblom, 2015), which is knowing how, why, and when to manipulate the content and context for maximum learning, being metacognitively aware of our learning process, and being aware of how emotions can be regulated to maintain volitional control, i.e. metamotivational monitoring (Miele & Scholer, 2018). Säljö (2004, p. 493) suggests that metalearning in relation to educational technology is “one of the most important socializing practices of modern education” and is something that teachers have to prioritize in their digital didactical designs. Part of this metalearning is our awareness and monitoring of social interactions for learning. However, social needs stand out as a problem area in distance learning (Wiklund-Engblom et al., 2016). Digital orchestration of social interactions requires knowledge of new ways to engage, and these cannot be compared to traditional interactions for learning (Delahunty, Verenikina & Jones, 2014). Hence, relational competence becomes even more important while designing didactically for learning.

Teachers’ Relational Competence

Humans are born into co-existence, and this co-existence is where we are able to excel and aim for self-realization. The relational dimension of education is, therefore, an empowerment factor for learning (Aspelin & Persson, 2011). The relational space in itself has agency and provides potential for both productivity and creativity. Research shows that the teacher-student relation has consequences for both academic achievement and behavioral adjustment (Hughes, 2012; Aspelin, 2015) and is of significance for the quality of education (Aspelin, 2010; Hatti, 2009). However, the teacher-student interaction has

reciprocal effects, and it also impacts on teachers' wellbeing (Split, Koomen & Thijs, 2011). Also, peer-to-peer relations and dialogues enhance learning, which further highlights the importance of designing for interaction (Howe, 2010; Genlott & Grönlund, 2016).

Aspelin (2017a) describes relational competence as teachers' skills for social interaction, emotional communication, dialogue, personal development, and human connection, the latter involving the maintenance of both closeness and distance. Rimm-Kaufmann *et al.* (2003, p. 152) identified sensitivity and responsiveness as keys to teachers' relational competence. They describe a sensitive and responsive teacher to be "more likely to respond to children in a child-centered way rather than an adult-centered one, displaying his or her ability to take the child's perspective." This involves an empathic approach and awareness of how, for instance, tone of voice and nonverbal communication impacts on the interaction. Listening, turn taking during communication, and being sensitive to how and when to give instructions are also components of relational competence, and the teacher has to know which needs to acknowledge, what actions to take, and how to take them by reading both the situation and the participants.

The dialogue is key in teachers' and students' discernment of the other party's level of understanding of a task or subject. Aspelin and Persson (2011) highlight this as a kind of "shared sustainable thinking" (*ibid.*, p. 51; author's translation). It is an empathic dialogue demanding trust. The student must feel safe enough to be able to express himself/herself and potentially expose misconceptions. In other words, the student must experience enough psychological safety in order to dare to fail. The teacher's part of the social relation is to acknowledge and confirm the student, being the scaffold for his/her growth. An "asymmetric inter-subjective relationship" is the basis for an optimal pedagogical attitude (Aspelin, 2014, p. 243).

However, the pedagogical attitude that is adhered to influences how the teacher interprets students' needs and circumstances as well as students' thinking and experiences. Aspelin (2017b) suggests that teachers' relational competence can be defined according to a two-dimensional framework based on whether one takes an existential attitude of natural care for students or an attitude of ethical care. The first attitude is "an immanent phenomenon" based on teachers' more or less innate and interhuman abilities to recognize and respond to situation-based learner needs. The latter attitude is "a transcendent phenomenon" based on socially constructed ways to manage relationships (*ibid.*, 2017b, p. 39). The present study explores teachers' application of relational competence in a digital context, here referred to as their digital relational competence.

Operationalizing Digital Relational Competence

When looking at computer-based conferencing for distance learning, Garrison *et al.* (2000) found three levels of presence significant for creating a community of inquiry to support higher-order thinking. These are cognitive, social, and teaching presence. The latter is here referred to as teachers' competence to design didactically with the use of digital tools for different didactical purposes, i.e. digital didactical design. Didactical design entails the core of the teaching profession – knowing how, why, where, and when actions are to be taken for the purpose of making learning effective and efficient for various types of learners (Jahnke, 2016). An essential part of this is to design for social presence, which is defined as "the ability of participants in a community of inquiry to project themselves socially and emotionally, as 'real' people (i.e., their full personality), through the medium of communication being used" (Garrison *et al.*, 2000, p. 94). Research shows that how students perceive psychological and physical distance in distance learning influences their sense of community and comfort

(Gunawardena & Little, 1997), and it impacts on feelings of cognitive presence and learning outcomes (Garrison et al., 2000).

A teacher therefore needs to be able to design for social presence didactically in a distance-learning environment (Andersson et al., 2001), i.e. they must have digital relational competence (cf. Aspelin and Persson, 2011). This entails a teacher's ability to anticipate learner needs in a distance-learning situation and to design for these anticipated needs didactically. Furthermore, it entails a teacher's sensitivity to detecting immediate needs in the distance-learning situation, as well as the responsibility to take action to assist students in accordance with the needs that are identified (cf. Rimm-Kaufman et al., 2003).

Research Aim and Question

The aim of this study is to identify how teachers' reflections on their digital didactical designs reveal how they are able to be sensitive and responsive to learner needs in the new digital distance-learning context.

Research question: *In what ways do distance-learning teachers perceive that their digital didactical design is supporting their ability to be sensitive and responsive to learner needs?*

Methodology & Methods

Design-based interviews were conducted with nine teachers targeting their experiences of their digital didactical designs for distance learning (cf. Reigeluth, 1999, on design-based research). The teacher is viewed as a process designer (Goodyear & Dimitriadis, 2013), and the interviews were framed similarly to a coaching situation because the questions were targeted to expand the teachers' reflections on their didactical choices and their impact on learning. From this perspective, teachers are viewed as continual learners regarding their agency in their own didactical design process. The coaching aspect is an influence of the "third wave" of research methods for self-regulated learning research, which emphasizes learner empowerment by producing reactivity and metacognitive monitoring (Panadero, Klug & Järvelä, 2016). Thus this study has followed a design-based research method on teachers' agency in, and reactivity to, their digital didactical design processes.

Data Collection

The coordinators of the blended learning initiative for upper secondary schools provided names of teachers involved in the targeted distance-learning courses. These teachers were contacted by email and asked to name other teachers who were involved. The snowball strategy gave 29 names, of which nine teachers agreed to be interviewed. Eight interviews were carried out face-to-face, and one was done using Skype, for a total of 10.5 hours of audio recordings (ranging from 47 to 88 minutes for each interview). The interviewees received the Instrument for Metareflection on Design for Learning (iMoDeL) one or two days before the interview. They were instructed to fill it out and thus reflect on their own didactical design of a specific distance course before the interview. They brought the iMoDeL with them to the interview, which then served as the basis for the semi-structured interview. The iMoDeL instrument consists of 23 statements to be rated on a Likert scale of 1 to 7. Furthermore, they were prompted to write qualitative explanations for each of these 23 ratings, encouraging them to think of the didactical design solution they had used in their course. The purpose of this was for them to think of specific examples in their own teaching practices and to relate them to different theoretically based factors that are important for learning. The iMoDeL responses can be divided into themes pertaining to

research on self-regulated learning (Winne & Perry, 2005; Pintrich & McKeachie, 2000; Azevedo, 2007; Azevedo, & Aleven, 2013), co-regulation and social regulation (Järvelä, Järvenoja, Malmberg & Hadwin, 2013), self-determination theory (Deci & Ryan, 2000), design-based epistemic metareflection (Wiklund-Engblom, 2015), metacognitive monitoring (Järvelä et al., 2014), and learning technology design (Peters, 2013). However, the themes as such were not mentioned to the participants. The themes target how the digital design is empowering learners to gain agency in their learning:

1. *Emotional agency*: creating feelings of relatedness, creating feelings of autonomy, creating feelings of competence, facilitating motivation (wanting to learn), facilitating inspiration (awakening intrinsic interest), and facilitating engagement (maintaining interest)
2. *Cognitive-epistemic agency*: reflecting on the task, connecting meaning to the task, providing an overview of the task, and facilitating critical thinking.
3. *Metareflective agency*: reflecting on the learning process, documenting the learning process, and visualizing the learning process.
4. *Self-regulatory agency*: taking personal responsibility for learning, planning and setting goals, creating personal learning paths, maintaining focus/concentration, and creating feelings of control.
5. *Social agency*: collaborating, giving feedback, and discussing.
6. *Technical agency*: being able to easily use the educational technology and facilitating active learning.

The purpose of using the iMoDeL was to start the teachers' reflection process in relation to their course designs, rather than to be used as a formal structure during the interview. The interviewees were instead guided to talk freely about their course or courses and to focus both on their own needs and their perception of students' needs. They were also prompted to describe their didactical design, which was generally discussed in relation to the themes of the iMoDeL. Each interview opened up new insights into potential problems, such as inequality, vulnerability, and anonymity, which then were included in the next interview. Thus the interviews developed over time in order to expand the understanding of the phenomenon as much as possible.

Principles of Analysis

The audio files of the interviews were transcribed verbatim; eight were fully transcribed, while only the coded sections were transcribed in the last interview due to time constraints. A qualitative content analysis was carried out using QSR NVivo (11 Pro). The interview data were coded in phases. The inductive, in vivo coding phase focused on keywords and themes the teachers were talking about, resulting in 332 coded excerpts divided into categories of both teachers' and students' needs. The deductive phase focused on teachers' relational competence with regard to how they talked about being sensitive and responsive to learner needs. This resulted in 131 excerpts organized in accordance with the theme structure of the iMoDeL instrument. The condensation phase focused on creating condensed meaning units for each excerpt. The following presentation of the results is based on these meaning condensations written in a narrative form.

Results

Emotional Needs

A teacher's sensitivity to students' emotional needs has to do with his/her ability to empathically sense the students' feelings despite the technology barrier. Most teachers tried to anticipate what would increase motivation while at the same time lower anxiety. For instance, teachers made an extra effort to develop interesting assignments aimed at problem solving in order to inspire, engage, and motivate distance learners in their independent work. They tried to create tasks that students could identify with and could relate to their own life circumstances.

Several teachers highlighted that emotional connection in a co-located class is guided by nonverbal indications and body language, but in a distance course, the teacher has to look for other signs. One teacher described that her intuition tells her that something might be wrong when there is a slight change in communication or activity from a specific student. This is an intuition for, and alertness to, patterns in digital communication. Another example of an empathic attitude towards a student's emotional needs in a one-to-one session was portrayed by a teacher who explained how she tried to get the student to relax by removing the picture of the student's face on the screen and instead focused on the content and how it related to the student's personal interests.

Anxiety is often present when students are required to do group work online. The teachers thought this may be due to fear of making a fool of oneself by asking stupid questions, or otherwise being shy about communicating with other people, who in this case were often strangers to them. Teachers' responsiveness to this need was, for instance, to choose topics that were relevant to the students' life situations, which would hopefully get them more personally involved. One teacher described how he had expressed his own feelings of anxiety when being exposed in new situations, and thus played down the tension in the situation. Another way of lowering the anxiety associated with exposing oneself through new technological tools was to show examples and model the process. This was said to be necessary because distance students often did not even try new tools and seem rather to choose digital communication channels they are already used to.

Cognitive-Epistemic Needs

The teachers tried to provide the same information and opportunities for learning the content to everyone, despite the location of the students. Students' cognitive-epistemic needs were supported by providing routines for feedback and having a thorough and easily recognizable structure of content, links, assignments, time planning, and deadlines. The learning platform was used for visualizing the learning progress in the course and to gather comments and feedback related to assignments. Feedback was seen as the teachers' tool for acknowledging and confirming the students' learning, but it was also related to a more personal connection and support. One teacher noted that by cutting the amount of content in a course, there would be more opportunity for giving feedback during the process of a task, rather than only at the end of a task when the students would not have any opportunity to change the outcome of the task. In general, the teachers seemed to try to minimize the content to the bare necessities, to pose activating questions, and to create assignments with opportunities for reflection in the students' independent work in order to compensate for the lack of opportunity for spontaneous reflection during class time. The latter was seen as a result of the lessons needing to be very structured, which made them more rigid and left limited opportunities for spontaneity.

There were many thoughts about the suitability of various subjects to the distance course format, and the teachers reported both pros and cons related to teaching a specific subject as a distance course. Several teachers noted that it is perhaps easier for students who already have basic knowledge in a subject because a lot of the work needs to be done on their own. Teachers tried to compensate for the reduced number of lectures by providing extra information and links online, as well as by making short videos explaining the content or recording lectures so that students could access them online. Feedback from some students suggested that they wanted the teacher to teach and explain more rather than having to find information themselves. Scheduled private Skype supervision was an option provided for students, but this did not seem to be very popular. The teachers experienced that there were often questions that were not being asked. To compensate for this, they tried to anticipate what these questions might be based on the students' actions. The teachers also addressed answers to potential questions to everyone either based on a hunch that something was not clear to all of the students or because one of the students had asked something. The teachers differed in how they approached learning strategies. Some said they found it difficult to transfer their ways of talking about learning strategies in relation to their subject because this was something that they were used to including ad hoc in their lectures. As mentioned above, the rigid structure of the distance courses did not provide a natural space for such spontaneity.

Metareflective Needs

Students' metareflective needs relate to their ability to see their own learning process and to reflect on their learning from various perspectives. This is a strategy to improve their learning and make it visible to themselves. Here, teachers noted that students lose insight into their classmates' learning process in distance courses because such courses are mostly based on independent work. The possibility to reflect on one's own learning in relation to other's processes is a great source of growing and learning because one is being exposed to a variety of perspectives. Teachers' suggestions for responsiveness to such a need was to design for more collaboration where students solve problems together and have to explain the solutions to each other. However, all teachers interviewed claimed that collaborative learning was the most difficult thing to carry out in the distance courses. Another suggestion to help students visualize their own learning was to have them evaluate their own learning through phases, which makes the learning process transparent to them.

Self-Regulatory Needs

Teachers' sensitivity to students' self-regulatory needs involved a constant follow-up and alertness regarding the balance between procrastination and activity. Reminders can be made in various ways, and a positive option one teacher chose was to write a general thank you to all of the active students who handed in their assignments. This usually served as a subtle hint to the procrastinators to wake up without being called out.

Having a clear structure and time schedule helps students keep up and avoid misunderstandings. One teacher explained how he used a learning platform option where he could follow how students accessed course information. This served as an informal contract with the students because he could point to the fact that they had already read the information. Other teachers solved this problem by making short videos on where to find information, how to write essays, etc. However, although students seemed to need this kind of information, few of them actually watched the videos, which left the teachers confused. Teachers also found it problematic that many students do not reply to e-mails. Hence, the teacher does not know if a student has received the information or feedback. Some teachers chose other channels of

communicating, trying to adhere to the channels students preferred, and this seemed to lower the threshold for communicating online. One teacher explained that he had to change the way he writes information keeping it as short as possible in the form of a bulleted list. Teachers scheduled distance courses as regular classes according to the students' time schedules. Thus, the students could better plan their time. This also provided the teachers with an overview of the students' workload, which was helpful when planning assignments and content.

Social Needs

Teachers claimed that creating opportunities for collaborating and communicating was difficult, and how well it worked depended on the students' level of cooperation and the group size. Having large groups discuss synchronously make students become passive and quiet. A solution was to create smaller groups for discussions. One teacher used the function of the distance-learning platform that randomly assigned groups into teams, and suggested that this was the most similar to an in-class group discussion. Teachers noted that they had to be alert to who was talking while orchestrating discussions, and asking people questions whenever someone had been quiet for a while was one strategy to keep everyone involved. Another strategy for engagement was to provide discussion topics that were directly related to students' everyday lives. This made students more prone to connect, discuss, and collaborate. One way of compensating for the lack of communication was to create assignments in which students could make their own audio presentations. But there was also a teacher who generally did not like discussions during lectures and thus chose not to create opportunities for discussions.

The combination of co-located and distance students was problematic, especially for language teachers, because the students had unequal opportunities to participate in a collaborative dialogue. Furthermore, the language teachers themselves felt inhibited in their own ability to communicate and give feedback during dialogue with the distance students. Some teachers felt awkward being social through technology, and this was something they had to get used to. One teacher talked about the social reciprocity and affirmation through body language from students during lectures and how this is an integral part of the teacher's identity. An example of being responsive and creating new social norms of communicating was explained by one teacher who had to learn how to restrain himself while having to wait a bit longer for distance students to reply to his questions. It was uncomfortable, but necessary. One teacher experienced that it was more difficult to regain discipline in class when a student began to write irrelevant things in a group chat. In a normal situation, she would have reprimanded the student's behavior with a nonverbal gesture. Digitally, the incident had time to escalate before it was found out, the student was identified, and it could be properly dealt with.

A few teachers organized introductions between the distance students so that they would feel more comfortable with each other, while others did not put much emphasis on this because they wanted to save precious time for teaching the content. Different ways of responding to students' social needs were to arrange a meeting in real life at some point during the course; to initially let everyone (both students in the classroom and online) use a laptop in order to experience this kind of communication and to be equal socially during the course; to display everyone's face on the screen to create connection; and to gather the co-located students in front of a camera to introduce them to the distance students.

Practical-Logistic Needs

This category is an expansion of the technical needs theme, as this was considered to be one part of a larger category of practical-logistic needs of the students. However, technical needs are important. Whenever the digital tools did not work properly it stole valuable time and put an extra workload on the teacher, while at the same time hindering the student from progressing to his/her full potential. Teachers had difficulty placing demands on the other schools to make sure the equipment was up to par, and schedules often overlapped between schools, which caused problems for both teachers and students. Furthermore, some teachers took on the challenge of the extra orchestration of teaching both co-located students and distance students at the same time, while others rearranged the groups and had separate lectures in order to be able to respond to different groups' needs properly.

The teachers tried to be responsive to students' needs by making the distance courses easier and more usable by creating structures that were practical and could be easily followed and flexible to fit into everyone's schedule. This involved, for instance, fewer assignments, weekly packages of content, and spaced out deadlines. Having a questionnaire both at the beginning and at the end of the course was a way for teachers to learn about students' preferences and experiences of the course. This served as information for further improvements of the design of the next course.

Discussion

Anticipative, Sensitive, and Responsive Teachers

The ability to anticipate someone else's needs requires an empathic understanding; the ability to place yourself in their shoes. For most teachers in this study, the inclusion of distance students was rather new. However, having taken distance courses themselves seemed to facilitate an empathic approach. Prior experiences (good or bad) guided the teachers in making didactical choices. However, the teachers struggled in many ways to orchestrate the lessons, and they experimented with various options in order to improve their ability to be both sensitive and responsive to students' needs in the distance-learning environment. This was not always successful, however, and this often left them frustrated, but it also portrays the iterative process of digital didactical design. In traditional classroom settings, students' body language, tone of voice, etc., are a teacher's toolbox for being sensitive to students' needs (Rimm-Kaufman et al., 2003). A small view of a face on the screen does not seem to be enough to replace these inherent tools for reading other people. The teachers in this study talked about becoming agile in interpreting digital dialogue and patterns of digital communication, both synchronous and asynchronous. This included being aware of their own emotional reactions as well as the students'. For instance, teachers being open about their own anxiety facilitated students in identifying and regulating their anxiety. The analysis showed that modeling of learning strategies needs to be planned thoroughly because the often rigid lesson structure of distance courses leaves little room for spontaneous discussions related to the learning process as such.

Knowing how to manage the social dimension in a distance course overall requires practice, especially when there are both distance and co-located students synchronously present. We all have different preferences for being social and how and when to connect to others. This fact became evident in how the teachers talked about socio-cultural aspects of learning in a distance course. The socializing part and learning from each other does not come naturally but has to be specifically designed for. For instance, teachers had to be the echo of

questions so that everyone received the same information. Furthermore, how to behave in a distance course did not seem to be something the teacher could take for granted that students knew, and rules of conduct need to be agreed upon. It is obvious that the ability to orchestrate people and social relations with the help of technological tools does not translate from what teachers are trained for in a traditional teaching situation, and it involves a trial and error process as a new learning culture is developed. Bondi and colleagues (2016) suggest separate lectures to be arranged, in which learning and didactical design issues are given full prerogative. Other researchers also emphasize the benefits of having an ongoing dialogue and reflection with students about the impact of technology in learning situations (Genlott & Grönlund, 2016), as well as discussions about awareness of learning overall (Cook-Sather, Bovill & Felten, 2014; Dweck, 2006; Hattie, 2009). These researchers suggest that the best way forward is to teach students to reflect on factors that impact learning, and Säljö (2004) claims this to be even more important in a digital context.

Dangers of Combining Co-Located and Distance Students

The results of this study point to several dangers in combining distance and co-located students. The most alarming results being inequality and anonymity, which in this case gave rise to feelings of vulnerability. Having both groups of students in the same class provided for inequality because of the two groups encountering differing affordances and constraints for communicating and interacting. The constraints of being located at a distance from the other group and the teacher caused anonymity and imbalances in relationships, making the distance students feel vulnerable in their position. This inhibited their interaction and communication. Thus, there is a risk that learner vulnerability might impact on both relationships and learning (cf. Garrison et al., 2000). The teacher's attention and engagement became limited by the orchestration of the double roles of being both a distance and a co-located teacher. Although the teachers in this study were advanced technology users, the orchestration of the digital learning space and the co-located learning space exhausted both time and resources. They were furthermore limited by factors concerning logistics, such as a shorter times for class because of difficulties in coordinating schedules across different schools. This in turn limited the time available to address socio-emotional and metalearning issues.

Concluding and Defining Digital Relational Competence

Digital relational competence involves an empathic approach to learner needs in the context of digital didactical design; i.e. teachers' ability to anticipate needs, as well as their ability to be sensitive and responsive to learner needs in the distance-learning situation. Part of this competence is designing for psychological safety. Being exposed in a digital context might cause anxiety, especially because students are continuously being assessed on their achievements. From a developmental perspective, teenagers are more sensitive and self-conscious than adults, and this needs to be accounted for when designing for social presence. A first-hand experience of this kind of digital exposure is perhaps the best way to develop an empathic approach as a digital didactical designer.

We affirm each other through social interactions and relationships. This is an important process for how we develop our identities, both as students and as teachers. Probably partly because of old social norms not being adequate while new norms have not yet been formed, the social orchestration of distance learning becomes a struggle. The findings in this study suggest that we have to create and agree upon new norms of socializing and affirming each other in the

context of distance learning. By involving students in becoming active co-creators of new norms for social interactions and collaborative learning they are being empowered. Järvelä and colleagues (2014) suggest three design principles to support socially shared regulation aiming at assisting the empowerment of students' own agency for learning. These are 1) guidance for awareness of one's own and others' learning processes, 2) support for sharing and interacting, as well as externalizing one's own and others' learning processes, and 3) prompts to both acquire and activate regulatory processes. These design affordances are opportunities for developing students' design-based epistemic metareflection. And this is critical because we cannot take for granted that students and teachers possess the necessary skills for digital relational competence, especially as the combination of both co-located and distance students places greater demands on all parties involved.

References

- Anderson, T., Rourke, L., Garrison, D. R., & Archer, W. (2001). Assessing teaching presence in computer conferencing context. *Journal of Asynchronous Learning Networks*, 5(2), 1-17
- Aspelin, J. (2010). *Sociala Relationer och Pedagogiskt Ansvar*. [Social relations and pedagogical responsibility]. Malmö, Sweden: Gleerup
- Aspelin, J. (2014). Beyond individualised teaching. *Education Inquiry*, 5(2), 233-245.
- Aspelin, J. (2015). *Inga Prestationer utan Relationer: Studier för Pedagogisk Socialpsykologi*. [No achievements without social relation: Studies for educational social psychology]. Malmö, Sweden: Gleerups.
- Aspelin, J. (2017a). We can recite it in chorus now!: An interactionist approach to the teacher-student relationship and teachers' relational competence. *Classroom Discourse*, 8(1), 55-70.
- Aspelin, J. (2017b). In the heart of teaching: A two-dimensional conception of teachers' relational competence. *Educational Practice & Theory*, 39(2), 39-56.
- Aspelin, J., & Persson, (2011). *Om relationell pedagogik*. [On relational pedagogy]. Malmö, Sweden: Gleerups.
- Azevedo, R. & Aleven, V. (Eds.) (2013). *International Handbook of Metacognition and Learning Technologies*. New York: Springer.
- Azevedo, R. (2007). Understanding the complex nature of self-regulated learning processes in learning with computer-based learning environments: An introduction. *Metacognition & Learning*, 2(2/3), 57-65.
- Bondi, S., Daher, T., Holland, A., Smith, A. R., & Dam, S. (2016). Learning through personal connections: Cogenerative dialogues in synchronous virtual spaces. *Teaching in Higher Education*, 21(3), 301-312.
- Burleson W. (2013). Affective learning companions and the adoption of metacognitive strategies. In R. Azevedo, & V. Aleven (Eds.), *International Handbook of Metacognition and Learning Technologies* (pp. 645-657). Springer International Handbooks of Education, Vol. 28. New York: Springer.
- Cook-Sather, A., Bovill, C., Felten, P. (2014). *Engaging Students as Partners in Learning and Teaching: A Guide for Faculty*. San Francisco: Jossey-Bass.
- Deci, E. L., & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the selfdetermination of behavior. *Psychological Inquiry*, 11, 227-268.
- Delahunty, J., Verenikina, I., & Jones, P. (2014). Socio-emotional connections: identity, belonging and learning in online interactions. *A literature review, Technology, Pedagogy and Education*, 23(2), 243-265.
- Dweck, C. S. (2006). *Mindset*. New York: Random House.
- Garrison, D. R., & Cleveland-Innes, M. (2005). Facilitating cognitive presence in online learning: interaction is not enough. *The American Journal of Distance Education*, 19(3), 133-148.
- Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education model. *The Internet and Higher Education*, 2(2-3), 87-105.
- Genlott, A. A., & Grönlund, Å. (2016). Closing the gaps: Improving literacy and mathematics by ict-enhanced collaboration. *Computers & Education*, 99, 68-80.
- Goodyear, P., & Dimitriadis, Y. (2013). In medias res: Reframing design for learning. *Research in Learning Technology*, 21, 1-13.
- Gunawardena, C. N., & Zittle, F. (1997). Social presence as a predictor of satisfaction within a computer mediated conferencing environment. *American Journal of Distance Education*, 11(3), 8-26.
- Hattie, J. A. C. (2009). *Visible learning*. New York: Routledge.
- Howe, C. (2010). Peer dialogue and cognitive development: A two-way relationship? In K. Littleton & C. Howe (Eds.), *Educational Dialogues: Understanding and Promoting Productive Interactions*, (pp. 32-47). New York: Routledge.
- Hughes, J. N. (2012). Teacher-student relationships and school adjustment: Progress and remaining challenges. *Attachment & Human Development* 14(3), 319-327.

- Jahnke, I. (2015). *Digital Didactical Designs: Teaching and Learning in CrossActionSpaces*. New York & London: Routledge.
- Järvelä, S., Lehtinen, E., & Salonen, P. (2000). Socio-emotional Orientation as a Mediating Variable in the Teaching-Learning Interaction: Implications for instructional design. *Scandinavian Journal of Educational Research*, 44(3), 293-306.
- Järvelä, S., Järvenoja, H., Malmberg, J., & Hadwin, A. (2013). Exploring socially-shared regulation in the context of collaboration. *The Journal of Cognitive Education and Psychology*, 12(3), 267-286.
- Järvelä, S., Kirschner, P. A., Panadero, E., Malmberg, J., Phielix, C., Jaspers, J., Koivuniemi, M., & Järvenoja, H. (2014). Enhancing Socially Shared Regulation in Collaborative Learning Groups: Designing for CSCL Regulation Tools. *Educational Technology Research and Development*, 63(1), 125-142.
- Klafki, W. (2000). Didaktik Analysis as the Core of Preparing Instruction. In A. Westbury, S. Hopmann, & K. Riquarts (Eds.), *Teaching as a Reflective Practice* (pp. 139-156). Mahwah: Lawrence Erlbaum Associates.
- Knipe, D., & Lee, M. (2002). The quality of teaching and learning via videoconferencing. *British Journal of Educational Technology*, 33, 301-311.
- Leijon, M. (2016). Space as designs for and in learning: investigating the interplay between space, interaction and learning sequences in higher education. *Visual Communication*, 15(1), 93-124.
- Miele, D. B., & Scholer, A. A. (2018). The role of metamotivational monitoring in motivation regulation. *Educational Psychologist*, 53(1), 1-21.
- Moore, M. G. (1989). Three types of interaction. *The American Journal of Distance Education* 3(2), 1-6.
- Nokelainen, P. (2006). An empirical assessment of pedagogical usability criteria for digital learning material with elementary school students. *Educational Technology & Society*, 9(2), 178-197.
- Olofsson, A. D., Lindberg, O. J., Fransson, G. (2018). Students' voices about information and communication technology in upper secondary schools. *The International Journal of Information and Learning Technology*, 35(2), 82-92.
- Panadero, E., Klug, J., & Järvelä, S. (2016). Third wave of measurement in the self-regulated learning field: When measurement and intervention come hand in hand. *Scandinavian Journal of Educational Research* 60(6), 723-735.
- Peters, D. (2013). *Interface Design for Learning*. San Francisco: New Riders.
- Pintrich, P. R., & McKeachie, W. J. (2000). A framework for conceptualizing student motivation and self-regulated learning in the college classroom. In P. R. Pintrich, & P. Ruohotie (Eds.), *Conative Constructs and Self-Regulated Learning* (pp. 31-50). Saarijärvi, Finland: Saarijärven Offset Oy.
- Rehn, N., Maor, M., & McConney, A. (2016). Investigating teacher presence in courses using synchronous videoconferencing. *Distance Education*, 37(3), 302-316.
- Reigeluth, C. M. (Ed.) (1999). *Instructional-Design Theories and Models, Volume II: A New Paradigm of Instructional Theory*. Mahwah, NJ: Lawrence Erlbaum Assoc.
- Rimm-Kaufman, S. E., Voorhees, M. D., Snell, M. E., La Paro, K. M. (2003). Improving the sensitivity and responsiveness of preservice teachers toward young children with disabilities. *Topics in Early Childhood Special Education*, 23(3), 151-163.
- Säljö, R. (2004). Learning and technologies, people and tools in co-ordinated activities. *International Journal of Educational Research*, 41, 489-494.
- Säljö, R., & Linderöth, J. (Eds.). (2002). *Utm@ningar och e-frestelser: IT och skolans lärkultur*. [Ch@llenges and e-Temptations: ICT and the Learning Culture of Our School]. Prisma, Stockholm.
- Spilt, J. L., Koomen, H. M. Y., & Thijs, J. T. (2011). Teacher wellbeing: The importance of teacher-student relationships. *Educational Psychology Review*, 23, 457-477.
- Vygotsky, L. (1978). *Mind in Society. The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press. (Original texts published 1930-1935).
- Wiklund-Engblom, A. (2015). *Designing New Learning Experiences: Exploring Corporate E-Learners' Self-Regulated Learning*. Dissertation. Åbo Akademi University. Åbo, Finland: Åbo Akademi University Press.
- Wiklund-Engblom, A., Björkell, J., Backa, L., & Wihersaari, M. (2016). Dimensions of usability as a base for improving distance education: A work-in-progress design study. *The 5th International Designs for Learning Conference* (pp. 91-97). May 17-20, Copenhagen.
- Winne, P. H., & Perry, N. E. (2005). Measuring self-regulated learning. In P. Pintrich, M. Boekaerts, & M. Seidner (Eds.), *Handbook of Self-Regulation* (pp. 531-566). Orlando, FL: Academic Press.
- Zembylas, M., Theodorou, M., & Pavlakis A. (2008). The role of emotions in the experience of online learning: Challenges and opportunities. *Educational Media International*, 45(2), 107-117.