Digitalise and capitalise? Teachers’ self-understanding in 21st-century teaching contexts

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Digitalise and capitalise? Teachers’ self-understanding in 21st-century teaching contexts

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ABSTRACT

The digitalisation of educational contexts has changed the practice of teaching and learning. In this, teachers have a key role in enacting digital technologies for this purpose and have different opportunities to do so. This article explores how digitalisation can affect teachers by focusing on: (a) how teachers manage to capitalise on digitalisation; and (b) how digitalisation can affect and reconstruct their self-understanding. Two teacher colleagues of English as a foreign language (EFL) in the same teaching team are interviewed and observed. Drawing on the interplay between self-image, self-esteem, job motivation, and task perception, it is shown how the teachers’ self-understanding is played out and changes due to the call for digitalisation. Whereas one of the teachers has been able to capitalise on digitalisation in a way that has been beneficial both professionally and personally, the other has felt pressurised by it. A conclusion is that a limited or extended use of digital technologies should not be taken as an indicator of teaching quality.

KEYWORDS

Agency; capitalisation; digital technologies; enactment; self-understanding; teacher

Introduction

Research is seldom a straightforward process of research questions being formulated, data collection methods agreed on, data being collected, and the findings and answers to the questions reported on. On the contrary, research is a curving in and out to find the unexpected and to formulate and report on newly surfaced questions or issues. As Albert Einstein allegedly said: ‘The process of scientific discovery is, in effect, a continual flight from wonder’. This article draws on the unexpected findings of a research project and its consequences.

During a longitudinal research project focusing on the use of digital technologies in three Swedish upper secondary one-to-one schools (i.e. one laptop per student), we met teachers who not only portrayed a variation in digital competence and different uses of digital resources, but who also manoeuvred and capitalised on the digitalised teaching practice with varying degrees of success. We were struck by the way and extent to which individual teachers could be affected positively or negatively by the increased call by policy makers and school leaders to enact digital technologies in school. This became particularly apparent when meeting Adam and Paul (pseudonyms), two teacher colleagues at the same upper secondary school teaching English as a foreign language (EFL).
We soon realised from their respective stories that digitalisation affected how they constructed and reconstructed their professional self-understanding. In our curiosity to understand the effects of digitalisation for individual teachers, we decided to delve deeper into Adam’s and Paul’s stories by re-analysing the data that had already been collected and adding to them.

Like other teachers throughout the world, Adam and Paul work in a highly political, relational, and dilemmatic educational context (Frelin & Grannäs, 2010). In their everyday school practices, teachers have to manoeuvre amongst a diversity of often conflicting or dilemmatic tasks, obligations and expectations, ideas and ‘oughts’ (Fransson & Grannäs, 2013). Teaching is a complex activity (Osberg & Biesta, 2011) that involves teachers in everyday micro-political manoeuvring and negotiations (Kelchtermans, 2007). Thus, being a teacher means being in a vulnerable position, being constantly observed, judged by others, accountable, and emotionally exposed. The vulnerability of teaching can be understood not only from a personal psychological perspective when the pressure becomes emotionally too much, but also in terms of structural conditions of the teaching profession (Kelchtermans, 1993, 2009)—being exposed and held accountable. Digitalisation has added further layers of complexity to teaching and learning (Mishra & Koehler, 2006; Orlando, 2013; Selwyn, Nemorin, Bulfin, & Johnson, 2017) in that it changes the circumstances and processes of teaching and learning as well as the roles, expectations, power, and values in educational contexts (Fransson, 2016). Although digital technologies can contribute added pedagogical value (George & Sanders, 2017; Haelermans, 2017), teachers may lack systematic strategies supporting students (Blikstad-Balas & Davies, 2017; Fransson, Lindberg, & Olofsson, 2018) and technologies may also result in teachers feeling pressurised to use them, even though this may be at odds with their own knowledge, practical skills, emotions, doubts about their potential, or their preferred ways of teaching (Convery, 2009; Howard, 2013). For teachers, this may mean having to continuously position themselves and re-negotiate their own professional stances. In these processes, teachers’ positions and professional self-understanding may be strengthened and/or challenged.

**Purpose**

The purpose of the article is to enhance the understanding of how digitalisation in schools can affect teachers by focusing on (a) how teachers capitalise on digitalisation; and (b) how digitalisation can reconstruct their self-understanding. The following research questions are posed.

- Which variations in teachers’ possibilities to capitalise on digitalisation can be identified?
- Does digitalisation affect teachers’ self-understanding, and if so, how?

**Theoretical perspective**

A person’s self-understanding is a major component of the so-called *personal interpretive framework* described by Kelchtermans (1993, 2009). This framework was developed in order to understand teachers’ professional development and is based on the concept of the
professional self (self-understanding) and subjective educational theory. Notably, the concepts ‘a professional self’ and ‘self-understanding’ have been claimed to be much more dynamic than that of ‘teacher identity’, which could be understood as a rather stable entity in the sense of identity as something ‘you have’—thereby implicitly downplaying its dynamic nature (Kelchtermans, 2009). The professional self is about how teachers perceive themselves, and can be understood as an interplay between self-image, self-esteem, job motivation, task perception, and future perspective (Kelchtermans, 1993, 2009; Vanassche & Kelchtermans, 2014).

In short, a teacher’s self-image is a typification of him- or herself that is based on their own self-perceptions, which in turn is based on how they interpret and understand other people’s perceptions of them. Self-image is closely linked to self-esteem, which is about a person’s subjective emotional evaluation of his or her value. Job motivation relates to why people become teachers and their decisions to stay or leave the teaching profession. Task perception is a component of professional self-understanding. Kelchtermans (2009) argues that teachers have deeply held values and beliefs about the purposes of education and what they are responsible for in that pursuit (cf. Hansen, 2001). Teachers’ perceptions of their tasks, duties, expectations, and so on are reflected in their views of what teachers are expected to do or not do. Thus, task perception is reflected in a teacher’s personal response to questions such as: (1) What must I do to be a proper teacher? (2) What are the essential tasks I have to perform in order to justify feeling that I am doing the right thing? (3) What do I consider as legitimate duties to perform, and what do I refuse to accept as part of ‘my job’? (Kelchtermans, 2009, p. 262.) Thus, task perception is constituted by deeply held personal values, which in turn are related to the educational context with its official tasks and expectations. Finally, the future perspective acknowledges the dynamic nature of self-understanding by focusing on what emerges. In this, a person’s self-understanding forms the basis for action and agency in the present that is related to past experiences and future expectations (Kelchtermans, 2009).

The concept of agency offers an additional dimension to teachers’ self-understanding and opportunities to enact digital technologies, in that agency and self-understanding are intertwined. According to Biesta and Tedder (2006), agency can be defined as the way in which individuals ‘critically shape their responses to problematic situations’ (p. 11), while Priestley, Biesta, and Robinson (2016) regard agency as a “quality” of the engagement of actors with temporal-relational contexts-for-action, not a quality of the actors themselves’ (p. 137). From this perspective, agency is not a capacity that teachers possess, but is something that they do or achieve as a result of the interplay of individual effort, the contextual, cultural, and structural conditions and the available resources (Priestley et al., 2016; Robinson, 2012). In this, teachers’ self-understanding can be viewed as a resource that constructs agency as self-image, self-esteem, job motivation, task perception, or future perspective, which can affect how agency is played out. Regarding task perception, if an issue is not perceived as part of the task, there is little incentive for action. On the other hand, if a task perception is to enact digital technologies, this enactment will encompass the task perception so that it becomes a positive resource in the enactment process. Further, in digitalisation, self-image and self-esteem may be dependent on teachers’ digital skills and abilities to reframe their teaching and learning practices and to enact and integrate digital technologies in their work. Consequently, teachers’ self-understanding becomes a key factor in the construction of agency, in that it determines what the processes of enactment will be like and how and to what extent digital technologies will be integrated and used in their teaching practices.
Method

The data were collected in the context of a four-year multi-dimensional and longitudinal research project. The project is multi-dimensional in that it includes policy documents, managers at municipality level, school management teams (principals), teachers, and students (cf. Lindberg, Olofsson, & Fransson, 2017). For ethical reasons, and in order to maintain confidentiality, the two teachers are both portrayed as ‘male’ and have been given the fictitious names of Adam and Paul. Both teachers are aware of the other’s real identities and have approved the portrayals.

Data sources and procedures

The data were collected over a period of two years by means of interviews and informal ‘small talk’ conversations with Adam and Paul, observations of their teaching, and group interviews with some of their students (see Table 1). The main data for analysis have been the individual interviews with Adam and Paul in their roles as teachers of EFL. The in-depth semi-structured interviews focused on biographical issues, their teaching practices, and their views of the challenges and opportunities related to the use of digital technologies, both in a wide sense and professionally as a teacher.

The informal ‘small talk’ conversations covered what was happening in their private lives, in their teaching, or at school, and were conducted in places such as the school corridors, the library, the dining room, the participants’ personal workplaces, classrooms etc. These conversations were mainly general in nature, but nevertheless generated information about specific aspects of their teaching, school context, or how their self-understanding was constructed. The conversations varied in length from about 2 to 15 minutes and notes were often taken afterwards.

Adam, Paul, and four of their EFL colleagues were invited to participate in a related design-based research project (DBR). In the end, Adam was the only person who participated. Paul showed initial interest, but due to a misunderstanding on the part of the researchers, the response to his enquiry was sent to the wrong e-mail address, which resulted in him not participating. Adam’s participation in the DBR project resulted in 20 semi-structured interviews or ‘design conversations’, which yielded just over 18 hours of recorded conversations. These design conversations revolved around the potential situated use of digital technologies for added pedagogical value, Adam’s perspective of his work as a teacher, the school context, and his views of teaching and learning.

Table 1. Overview of the analysed data.

<table>
<thead>
<tr>
<th></th>
<th>Adam</th>
<th>Paul</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews</td>
<td>20 semi-structured, 18 hours</td>
<td>Two semi-structured, 4 hours</td>
</tr>
<tr>
<td></td>
<td>one interview, with a specific focus on</td>
<td></td>
</tr>
<tr>
<td></td>
<td>self-understanding, 30 minutes</td>
<td></td>
</tr>
<tr>
<td>‘Small talk’ conversations</td>
<td>Seven occasions</td>
<td>Six occasions</td>
</tr>
<tr>
<td>Observations</td>
<td>60 minutes</td>
<td>60 minutes</td>
</tr>
<tr>
<td>Validation, reflective reading interview with respondent</td>
<td>80 minutes</td>
<td>115 minutes</td>
</tr>
<tr>
<td>Student interviews</td>
<td>Three focus group interviews of</td>
<td>Focus group interview of 30 minutes</td>
</tr>
<tr>
<td></td>
<td>25–30 minutes with a total of 15 students</td>
<td>with a total of three students</td>
</tr>
</tbody>
</table>
The ‘small talk’ conversations with Adam took place on seven occasions. One observation was conducted during a collaborative professional development group discussion with other teachers. Information about Adam’s teaching and his students’ views of it was highlighted in classroom observations and three focus group interviews with a total of 15 students, each lasting 25–30 minutes.

Paul participated in semi-structured interviews on two occasions. One interview lasted for 110 minutes and focused on his perspective of being a teacher, the school context, and teaching and learning with or without digital technologies. The second interview was conducted with Paul and another EFL teacher and lasted for almost 120 minutes. This interview focused on the rationalities of teaching EFL and the opportunities and challenges of using digital technologies, both in general and especially in an EFL context. The focus on the two teachers’ experiences, ‘doings’, and conceptions gave valuable insights into Paul’s self-understanding and conceptualisation of teaching and learning, his work as a teacher, and the school context.

A 60-minute observation of Paul’s teaching was performed on one occasion. Three of his students were interviewed for 30 minutes and some of his students participated in a group interview with other students (Olofsson, Lindberg, & Fransson, 2018). ‘Small talk’ conversations with Paul were conducted on six occasions.

An understanding of the school context in which Adam and Paul operated was developed due to the wider longitudinal research project on digital technologies (see Lindberg et al., 2017; Olofsson et al., 2018). The amount of data collected in the project facilitated an understanding of the school contexts and their digitalisation and contributed additional information about Adam’s and Paul’s teaching practices (cf. Kelchtermans, 1993, for combinations of data sources).

The analysed data revealed an imbalance in the amount of interview data that were accessible for analysis, which may have caused problems if data saturation had not been reached (Fusch & Ness, 2015). In the event, our conclusion was that data saturation had been reached for both Adam and Paul. The interviews with Paul, and some of the interviews with Adam, contained ‘dense data’ of immediate relevance for the analysis of their self-understanding. However, the data from Adam’s participation in the DBR project were less dense (e.g. including conversations about the use of specific tools in situated educational design) and thus only implicitly informed the analyses of his self-understanding.

Data analysis

The interviews with Adam and Paul, the observations of their teaching, and the students’ views constituted the main data. All the interviews were transcribed and field notes were taken during the observations. The data were analysed with a view to gaining an in-depth understanding of Adam’s and Paul’s self-understanding and narratives about themselves, their teaching, and the school context—with a specific focus on digital technologies. Much of the general data from the longitudinal research project and the DBR-project were analysed in brief in order to inform this specific study, although the specific data relating to issues concerning Adam and Paul were analysed in greater depth.
NVivo® software was used for the organisation and analysis of the data. The data were analysed in relation to the component of self-understanding, which included the self-image, self-esteem, job motivation, task perception, and future perspective aspects of Kelchtermans’ personal interpretative framework (Kelchtermans, 1993, 2009) and a thematic categorisation made (Miles, Huberman, & Saldaña, 2014).

The main data were first read to acquire an overall understanding of Adam’s and Paul’s narratives about themselves, their teaching, digitalisation, and the school context. In a second step, key stories, episodes, or utterances exposing their various professional beliefs or dimensions of their self-understanding were identified. This included stories and information about how they positioned themselves in relation to the school context, digitalisation, teaching in general, and teaching with digital technologies in particular.

In the first round, Adam’s and Paul’s narratives were preliminarily analysed as individual cases in relation to the school context. Central in this vertical analysis (Kelchtermans, 1993) was the internal coherency of Adam’s and Paul’s stories. In a second round, these ‘individual cases’ were comparatively analysed and ‘written’ in relation to each other and the school context. In this comparative process of analysis, and in the light of each other, the cases of Adam and Paul added additional dimensions and meanings to their respective self-understandings. For instance, when dimensions appeared in Adam’s story they were analysed in accordance with whether, and then how, these dimensions appeared in Paul’s story, and vice versa. This comparative analysis is in line with what Kelchtermans (1993) calls a horizontal analysis, which also strengthens the coherency of the vertical analysis. The analysis was conducted in an iterative process in relation to a close and recurrent re-reading of Kelchtermans’ theoretical framework (cf. Kelchtermans, 1993, 2009; Mesker, Wassink, & Bakker, 2017).

Validation process

Following the analysis, a draft text version of Adam’s and Paul’s self-understandings and narratives was created, to which they were individually invited to respond. In short, they read the text section-for-section, commented, reflected on, and responded to additional questions. What we here call a reflective reading interview was conducted within the space of 80 minutes (for Adam) and 115 minutes (for Paul) and was recorded. This validation process allowed for comments and reflections on the analysis process and for correcting or nuancing what had been written. Furthermore, it provided an opportunity to ask new in-depth questions, test our understandings, or ask for certain issues to be clarified or elaborated on. These additional data were, in turn, analysed in order to validate the overall analysis and the formulations in the draft text. Minor adjustments were made to the text and were either characterised as nuances or minor additional information. In this way, the previous analysis was both confirmed and strengthened. In the overall analysis and the validation interview, signs of impression management (Goffman, 1990) were sought and counteracted by an intimate approach, straightforward questions, and trustworthiness in relation to our overall understanding of the dataset as a whole.
Results

To begin with, Adam’s and Paul’s contextual circumstances are described in order to frame their self-understanding and the reported components self-image, self-esteem, job motivation, task perception, and future perspective.

Context

Adam and Paul are colleagues at the same upper secondary school in Sweden and teach EFL in different study programmes. The school has six theoretical programmes, seven vocational programmes, and five ‘introduction programmes’. There are approximately 830 students and 110 teachers at the school.

Adam has been a teacher for six years. First, he worked for three years at a small upper secondary school with limited digital resources, where he worked in a ‘traditional manner’ using textbooks and paper-and-pen assessments. However, with increased experience, Adam’s interest in developing his digital teaching practice grew and he increased the digital elements in his teaching, e.g. through some kind of gamification or essay writing using computers. Adam also had a personal interest in digital technologies, e.g. in online gaming and interactions with friends in different countries. In 2014 Adam started work at his current and much larger upper secondary school, where every student has a laptop and where the digital infrastructure is well-developed. Compared to his former school, the opportunities to use digital technologies are richer and Adam has explored and increasingly digitalised both his teaching and the students’ learning practices. He spends many hours exploring the internet in search of digital technologies and examples of their uses for pedagogical purposes. These include the use of mobile applications or web-services for presentation, polling, assessment, and student interaction and collaboration. Adam has also started blogging as a way of sharing his professional reflections and spends a considerable amount of his spare time on his professional development.

In 2016 Adam was offered a post as a lead teacher (cf. Erlandson & Karlsson, 2018), mainly due to his enactment of digital technologies to change and develop the school’s teaching and learning practices. Adam regards this appointment as a professional turning point that has boosted his self-esteem and enabled him to participate in professional activities at conferences and professional development activities both inside and outside his own school.

Paul has lived and worked as a teacher in different countries, but has worked in this particular upper secondary school for more than 25 years. Over the years he has inherited, saved, and developed an extensive amount of analogue teaching material, which is now stored in ring binders. In school, Paul mainly uses computers to inform himself, communicate with colleagues, and for overall administrative purposes, such as reporting students’ attendance/absence. Paul does not use PowerPoint presentations very often. When the first Learning Management System (LMS) was introduced in the municipality in the 1990s, Paul and his colleagues developed ‘stable routines’ as they found the LMS functional, understandable, and easy to integrate into their everyday teaching. However, some years ago a new LMS was introduced at the school, which Paul and many of his colleagues have not found as easy to use. Due to shortcomings in the functionality, which led to critique from teachers, the new LMS was complemented in 2015 with Office365. However, Paul and his colleagues have been obliged to use the
LMS in their daily work for teaching, learning, and administration, with only a few teachers using Office365 as the primary tool for teaching and learning. For Paul, these changes have meant that he has had to try to learn a new and more complicated digital system that he thinks is less suited to teaching and learning than the former. One of the challenges for Paul seems to be that the ‘logic’ of the new system does not correspond with his own logical way of thinking and teaching. The teachers are obliged to create so-called ‘rooms’ on the LMS for each subject in which they can place course objectives, teaching materials, student grades, and teachers’ responses. According to Paul’s experience, the majority of his students are not interested in visiting these rooms and instead send him an e-mail or hand in a written paper. As digitalisation has now become more far-reaching, Paul has expressed a need for recurrent support from the ICT support team at the school. The call from the school management to actively use the new LMS and other digital technologies has proved too much of a challenge for Paul and has led to stress. He is concerned that the school management may monitor his activities on the LMS. In general, Paul is not satisfied with either the implementation or the principal’s demands and expectations of his daily teaching and administrative work. As Paul is not particularly interested in digital technologies for teaching, he often uses his old analogue teaching materials, books, and papers. Furthermore, Paul does not explore the internet to search for new digital technologies that could be used in teaching and learning activities. However, now, albeit to a limited yet slowly increasing extent, he is trying to find new digital teaching materials.

In 2015, Adam, Paul, and their EFL colleagues at the school were invited to participate in a PhD student’s design-based research project (DBR). Paul showed some initial interest, but due to miscommunications in e-mails, he was not given an opportunity to make a final decision about whether or not to participate in the project. However, Adam did participate and even though he claimed to be experienced in the use of digital technologies, he was eager to be part of the project and develop this use further. Afterwards, Adam described the impact of his participation as having strengthened his teaching practice.

Adam also described the benefits of participating in the DBR project in other ways. One example is that the DBR researchers’ suggestions for constructive alignments have been useful for creating a clearer instructional structure and a more research-based and reflected assessment practice.

Adam and Paul are appreciated by their students and generally recognised as ‘good teachers’. However, as is to be expected, the emphases and opinions vary. For instance, with regard to the use of digital technologies and resources, for some of Paul’s students his limited use of the LMS has resulted in extra administrative work. Other students said that they felt quite comfortable with ‘pen and paper’, because they were not fully comfortable with the LMS or other digital technologies themselves. When Adam introduced Wikispaces® as a tool for collaborative online writing, some students thought that: ‘it was hard to understand that digital tool, and it made our work more difficult’, whilst others described Wikispaces® as interesting and supporting their learning.

According to our observations, Adam and Paul are regarded as ‘good teachers’ due to their good relations (Frelin, 2010) with their students, the way they organise, vary, and structure the teaching and the tasks (Oder, 2014), and how they support, encourage, and give feedback to the students. The academic level (Oder, 2014) of Adam’s and Paul’s
English classes seems to match that of the students. In the interviews and informal conversations, the teachers’ theoretical, analytical, and pedagogical knowledge, experience, judgement, and care for their students are all evident.

**Self-image**

Six years after graduating, Adam still regards himself as a fairly new and inexperienced teacher. He thinks of himself as a personal and professional ‘seeker’ when it comes to testing and developing new teaching methods, materials, or digital technologies. Adam’s immediate interest in participating in the previously mentioned DBR project is an example of his drive to develop professionally. Adam’s self-image is boosted by his recognition as a ‘digitally knowledgeable and innovative teacher’. Another boost is being a lead teacher at the school, which he conceptualises as a symbolic recognition that he has something to share with his teacher colleagues and the wider teacher community. He conceptualises the lead teacher role as an official and public platform, for instance at conferences or through his blog.

Paul’s self-image is defined by his long-standing experience as a teacher and his good results. He views himself as a ‘traditional and perhaps conservative teacher’, with empathy for his students. However, digitalisation challenges Paul’s self-image as ‘a good teacher’, in that it entails new tasks, roles, and expectations that he struggles to keep up with, and in many respects also fails to meet. Thus, for him, digitalisation has led to a more negative reconstruction of his self-image.

**Self-esteem**

Adam has a high level of self-confidence, which reinforces his self-esteem. As a rather young teacher, Adam appears to know how the students think and act, and has good relations with them. Despite his relative inexperience as a new teacher, and still ‘in the induction phase’, where he learns, elaborates, and aligns his teaching and develops his ‘personal teaching theories’, Adam has a high professional self-esteem. Regarding the use of digital technologies, the recognition received from the school management and the students reinforces his self-understanding as a teacher doing a good job—both in the classroom and in his professional development. He has also received recognition for his work outside his own school and has been invited to talk about his use of digital technologies on different occasions.

Adam’s need for confirmation seems to be played out in his use of digital technologies in his professional and private life. The appointment as lead teacher has had a symbolic impact on his self-esteem. This position also adds a sense of expectation and puts pressure on him to do an even better job. However, as digital technologies and resources change, are replaced, and emerge, he feels that he needs to work harder to keep pace with the developments so that he can maintain his self-esteem and the feeling of being at the cutting edge. According to Adam, he should be a ‘knowledgeable lead teacher’. His participation in the DBR project can be seen as a sign of such an understanding and a way of displaying agency and learning.
Paul’s self-esteem oscillates, depending on which aspects of his teaching are evaluated. His self-esteem relates to teaching in general, and his desire to build relations with students, facilitate their learning, and achieve results is high. Paul feels that he makes a difference for the students. However, the call for and participation in the school’s digitalisation in general, and using digital technologies for teaching and learning in particular, challenge Paul’s general self-esteem, especially when it comes to using the LMS in the way the school management expects. Paul ‘feels shortcomings’ in using digital resources to the extent that others and himself expect, which increasingly diminishes his self-esteem and partly overshadows his otherwise high level of proficiency. Sometimes Paul worries that his reputation as a ‘good teacher’ will be damaged due to the challenges of using digital resources in the expected way. At the same time, Paul says that he does not worry too much what his colleagues think—‘they know I am doing a good job’. What Paul does worry about is the pressure that the school management puts on all the teachers to become more digitalised. For him, this seems to be both painful and deeply emotional.

Although the ongoing digitalisation of the school brings joy, satisfaction, and recognition for Adam, it mostly evokes feelings of inadequacy in Paul. However, in his role as a tutor of student teachers, Paul has recently initiated a cooperation project with a student teacher to develop a ‘bank’ of internet links that can be used in teaching and learning activities, as well as a digital cooperation project with the school library in the field of literature, which may help to increase his self-esteem.

**Job motivation**

Adam and Paul are both highly motivated in the process of interacting with the students as long as they make progress in their studies of English. They mainly became teachers for altruistic reasons and their commitment to their students is based on a desire to make a difference for the students.

Adam is motivated to find ‘the most successful teaching method’. When it comes to digital technologies, Adam stresses that resources such as mobile applications or web-services do not per se increase his job motivation, and that he only conceptualises digital technologies as tools with which to deliver relevant pedagogy. According to Adam, digital resources motivate him to produce ‘effective and innovative teaching that analogue versions cannot’, thus bringing added value. He feels comfortable navigating and elaborating digital resources and finds it joyful. In fact, digital resources seem to be an integrated part of his professional and private life.

For Paul, digital resources and the pressure to use them at ‘the required advanced level’ limit his job motivation. The main reason for this is Paul’s difficulty in working with a lot of technological devices and not being able fully to meet other people’s and his own expectations. For instance, comments in performance appraisal and the symbolic introduction of how digital technologies are used as a criterion for determining salaries reduces his job motivation. However, students’ responses and evaluations and the socialising and cooperation of colleagues evens this out somewhat.
**Task perception**

A central part of Adam’s task perception is the quest to align with and conform to what the governing authorities stipulate, e.g. in relation to the curriculum, syllabuses, and criteria and the rubrics and matrices used to evaluate students’ work. Thus, there is a dimension of teachers as ‘civil servants’ in Adam’s task-perception, which at the same time acknowledges the freedom to choose content, methods etc. Furthermore, Adam trusts the school management team’s pedagogical leadership because they have also been teachers, have an overall perspective, and what they do is in the best interests of the school. For Adam, cooperation with teacher colleagues is important and desirable and benefits the students and the development of teaching and learning practices.

Adam firmly believes that digital resources could improve teachers’ performances significantly if they are used wisely. He further describes that the circumstances for many teachers and students to improve their use of digital resources for teaching and learning are not always optimal. For instance, the time and support allocated for professional development at the school are limited, so they really cannot overcome the steep learning curve when it comes to managing new innovations in teaching. Adam also thinks that some teachers’ negative attitudes to digital resources ‘drain energy’ and adversely affect their efforts to enact digital technologies and their trust in the school management’s good intentions.

Paul’s task perception focuses on the teaching and learning process and emphasises the relational dimension of the teacher–student interaction. He questions the working pattern in which many teachers respond to students’ assignments by written comments in Word documents dropped and ‘communicated’ in the LMS. Paul instead points out the importance of communicative feedback and a here-and-now response, where he and his students together discuss an assignment, its merits and weaknesses, and can interact and correct it together. For instance, when students write an assignment on the computer, Paul often prints it out, discusses it with the student while correcting it by hand. For Paul, the relational, emotional, and theatrical dimensions of teaching are important, and here he thinks that he can offer something personal and unique that is different from a digitally supported learning practice.

Digitalisation has severely challenged Paul’s task perception and views of what it means to be ‘a good teacher’. His approach to digitalisation is to use what is possible. His extensive ‘analogue’ teaching material and the heritage of ‘good teaching materials’ play a central role in Paul’s task perceptions. In fact, he uses modern digital technologies to digitise the analogue material in order to pass on this rich heritage to the new generation of teachers.

Paul knows that using digital technologies is part of a teacher’s work. However, the challenge of keeping up with technological developments and using the digital resources as some of his younger colleagues do and the school management expects conflicts to some extent with his overall task perception. For Paul, the students’ well-being and learning processes and outcomes are more important than the tools for achieving them.

Students’ results seems to be very important for Paul, although this task perception is not dominated by an ‘evaluative civil servant perspective’. Instead the focus is more on formative evaluation and wanting his students to make progress and learn well. It can also be noted that while Paul prefers stability and moderate change for maintaining quality, Adam prefers accurate change.
**Future perspective**

Regarding the future perspective of self-understanding, Adam sees himself as a teacher who will continue to develop his teaching and learning practices and continue to seek new ways of teaching, learning, and using digital resources. His involvement in the professionalisation of the teacher community will probably increase and a future career outside the upper secondary classroom is not excluded, but rather something that he finds exciting and desirable. A future career as a teacher educator, PhD student, or educational consultant are all possible options.

Paul thinks that the use of digital resources in school will increase and speaks warmly about cooperative digital teaching. Paul’s view is that slowly but surely he will use more digital aspects in his teaching, including the functionality of the LMS. Further, Paul is in a process of reframing his view of what it means to be ‘a good teacher’ and that this will entail a future use of digital technologies. Paul loves his job, and as long as he finds teaching stimulating and digital technologies are at an appropriate level and acceptable, he will continue to teach.

**Discussion/conclusion**

This study has shown that the implementation and enactment of digital technologies for educational and administrative purposes in school can be very different for teachers—even for those teaching the same subject.

First, as Adam’s and Paul’s stories indicate, teachers have quite different prerequisites, skills, interests, attitudes, and approaches when it comes to enacting digital technologies. Such differences have been shown in research (George & Sanders, 2017; Ryan et al., 2010), but should also be acknowledged at the ‘teacher level’ if we are to understand what the opportunities, challenges and tensions, educational, social and emotional processes, and the implementation of digital technologies in school entail.

A teacher has to teach, work, and manoeuvre in the same (digitalised) educational context, albeit sometimes under quite different circumstances—as the examples of Adam and Paul have shown. Thus, the challenges of enacting digital applications in school need be understood against the backdrop of individual teachers’ skills, attitudes, interests, opportunities, challenges, and use. They also need to be understood in relation to different groups of students and their circumstances, abilities, and ambitions.

Second, Adam’s and Paul’s different enactments of digital technologies should not simply be understood as a consequence of different technological skills, interests, or approaches. Their relations and approaches to digital technologies should also be understood in terms of where they are in their teaching careers (cf. Day & Gu, 2007). Adam has six years of teaching experience but considers himself as a relatively new teacher who is still working on and exploring different content and teaching methods and how to best integrate his digital skills.

Paul has a long experience of teaching in an ‘analogue setting’. He has a broad repertoire of teaching methods that work and a great deal of teaching materials and content to draw on. Compared to Adam, Paul has already developed himself as a teacher. Thus, for Paul, digitalisation means a reframing of his professional self, way of working, and how to ‘be’ as a teacher. Digitalisation means that to some extent he has
to adapt or change his existing teaching methods, materials, and experiences, or invent new ones. In the latter, Paul will be in the same situation as Adam, but not as digitally literate. Furthermore, Paul is not as knowledgeable as Adam about the advantages, disadvantages, opportunities, or challenges of digital technologies for teaching, learning, and administrative purposes. Paul’s long teaching experience has provided him with a kind of healthy critical view of digitalisation, although this can limit his use and enactment of digital technologies. In Paul’s case, Orlando’s (2013) call for research on ‘why teachers are using the practices they do, rather than a focus on why they are not using the practices predicted for them’ would be worth pursuing. Age should not to be regarded as a key component for explaining the differences between Adam and Paul, in the sense that younger teachers by default enact digital technologies in a better way than older teachers.

Third, teachers have different opportunities and abilities to capitalise on the digitalisation of education. Although Adam has been able to do this in a way that has benefitted him both professionally and personally, Paul has felt pressurised by digitalisation. Adam has been recognised as a good example of a ‘digitally competent’ teacher, both at his own school and in other contexts. He has been appointed as a lead teacher and has participated in a DBR project. Paul, on the other hand, has felt under pressure, which has had a negative effect on his self-esteem and contributed to him re-framing his task perception. Due to structural conditions and psychological mechanisms he is in a more vulnerable situation (cf. Kelchtermans, 1993). In particular, the expectations of the school management, the pressure and rewards of other teachers embracing digitalisation and the proposed working models have not been very positive or rewarding for Paul at a personal or professional level. Adam’s capitalisation of digitalisation has given him opportunities both inside and outside school, whereas Paul has not had such opportunities. The digitalisation in school has boosted Adam’s self-image, self-esteem, and job motivation, while these dimensions of Paul’s interpretative framework have been challenged and partly reduced.

From the cases of Adam and Paul, it is possible to conclude that teachers with a certain level of digital competence and who have integrated digital technologies into their teaching and learning practices are well positioned to personally and professionally capitalise on digitalisation, whereas this is more difficult for teachers who are less digitally competent. This study has shown in some detail how this can happen.

Fourth, digital technologies can be erroneously perceived as visible ‘indicators’ of teacher professionalism. The ability to integrate digital technologies in teaching and learning has been claimed to be an integrated part of teacher professionalism (Holmberg, Fransson, & Fors, 2018; Mishra & Koehler, 2006) and as providing opportunities to add real and new value to teaching and learning (Haelermans, 2017). However, for example, only using an interactive whiteboard to present information without any interactive element gives no real added pedagogical value over traditional whiteboards. Thus, valuing a teacher’s professionalism on the use or ‘non-use’ of visible digital technologies may not be a good indicator. On the contrary, there is a risk that such an ‘indication’ will be superficial and may lead to incorrect conclusions. Further, Orlando (2013) found that teachers used digital technologies to support teaching and learning, but not in the expected way to result in a ‘constructivist practice’, which according to Orlando often is an expected and a visible effect and indicator of a good use of technologies. Thus, valuing the enactment of digital technologies based on changed teaching and learning practices may be misleading.
This research shows that both Adam and Paul are regarded by their students as excellent teachers, but that Paul expresses that his use of digital technologies seems to be valued as insufficient by the school management and used as an indicator to put pressure on him. However, no such criticism is voiced in relation to Adam’s practice, although he does underline his intention to develop and align more strongly his educational planning and assessment practices. This development area is not visible to an observer in the same way as a teacher’s use or ‘non-use’ of digital technologies. Thus, as März, Kelchtermans, and Vermeir (2017) claim, artefacts can be authoritative actors in educational reforms.

Fifth, this research has shown how teachers’ digital skills and self-understanding operate when Adam and Paul try to achieve agency in the enactment of digital technologies. For instance, it is shown how changes in the structural conditions, such as the introduction of new technologies, change the interplay between individual effort, self-understanding, and the contextual, cultural, and structural conditions, and how these aspects positively or negatively influence teachers. Especially Paul’s self-understanding and opportunities to achieve agency are negatively influenced.

When digital competence is highly valued, teachers who are both able and willing to develop and display such competence receive credit for it as a visible and sought after competence. This can help them to develop their self-understanding, which in turn affects how their teacher agency is constructed and enacted in relation to the pedagogical use of digital technologies and other aspects of the teaching profession. Adam, who was already confident about his digital competence, volunteered to participate in the DBR project and was therefore in a good position to achieve agency and develop his teaching competence further, for example through an improved alignment of planning, task construction, and assessment in relation to the learning outcomes.

Sixth, school management teams (principals) play a key role in the implementation of digital technologies and in a strategic leadership (Hadjithoma-Garstka, 2011) that includes strategic planning, fostering a sharing culture, supporting teachers’ capacity building and their work in the classroom (Niemi, Kynäslahti, & Vahtivuori-Hänninen, 2013). Principals act according to a governing logic that is related to their tasks and the available vehicles to manoeuvre in a certain direction, often with a ‘whole-school approach’ and the use of policy texts or gambits, expressed expectations, rewards, praise, or reprimands as tools. In this, individual teachers may be praised, criticised, or even overlooked in favour of others. This study reminds us that principals are well advised to not only focus on structural conditions, but also acknowledge every individual teacher and try to understand their self-understanding and their specific circumstances for displaying agency in the enactment of digital technologies for teaching, learning, and administration. In this way, principals can better understand teachers’ perspectives and take these as points of departure to support their enactment of digital technologies and sensitively promote teachers’ self-understanding.

Finally, although this is a small-scale case study it provides valuable insights into the differences between teachers (e.g. Adam and Paul), even those teaching the same subject, when it comes to integrating digital technologies, capitalising on the digitalisation, and how they impact teachers’ self-understanding.

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