

UNDERSTANDING L1 AND L2 TEACHERS' TALK ABOUT 'DIGITALISATION'

Discourses during the process of integrating digital technology in the
educational practice

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Abstract

In Sweden, *The Swedish national strategy for the digitalisation of the educational system* has led to a vast number of projects. This study builds on material from a continuing professional development project among L1 and L2 teachers in Swedish on a local school level. The aim is to contribute to the understanding of how the teachers perceive the integration of digital technology in the educational practice by deconstructing their discussions in a Critical discourse analysis perspective. Research questions: 1) What perceptions about the integration of digital technology in the educational practice can be discerned? 2) How are these perceptions related to the teaching profession and the teaching of Swedish? and 3) How do the teachers build their understanding through the discussions? The study shows how a discourse of challenges dominates the teachers' discussions and that the integration of digital technology in the educational practice is partly perceived as a threat to the teaching profession and, to some extent, the teaching of Swedish. A key finding is that in the way the discussions are enacted, 'digitalisation' becomes the reason for what happens. Consequently, the abstraction of 'digitalisation' seems to be a hindrance to the development work.

Keywords: continuing professional development, critical discourse analysis, educational practice, integration of digital technology, systemic functional grammar, teachers of L1 and L2

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1. INTRODUCTION

How to make digital technology an integrated part of the educational and communicational practice is a worldwide concern. Over the past 20 years, the rapid development of technology has led to national and supranational policies on digital technology and education and the recognition of the importance of teachers' knowledge and skills (c.f. UNESCO framework *Media and Information Literacy Curriculum (MIL) for Teachers*, Wilson et al., 2011). In Sweden, the first computers in school were introduced around 1980. Over the years several projects have been launched to inform both teachers and pupils on computer impact on teaching and learning (Hylén, 2011; Selwyn, 2011). However, a national strategy for digitalisation of the educational system was not established until 2017 (Ministry of Education, MoE, 2017), set to be accomplished in 2022. One part of the strategy is to develop *digital competence* among teachers and pupils. Revisions of the Swedish curricula, mandatory from July 2018, were made to enhance digital competence in teaching and learning in four aspects, respectively dealing with effects on society, use of digital tools, critical awareness, and responsibility, and problem-solving. For the subject of Swedish, a key in the development of pupils' literacy for the contemporary and future society, alterations and additions were made about, for example, digital media, digital tools, shared and interactive texts, ethics, and search engines (Swedish National Agency for Education SNAE, 2017). The implementation of the strategy is often carried out as *CPD* (continuing professional development) using on-line resources provided by SNAE (2020a). How the resources are used are decided either at the regional, local, and/or school level. Like the case internationally, there is a scarcity of studies addressing such implementation work. This article reports on a study of a group of teachers of Swedish as L1 and L2 and their discussions during a CPD-program on the integration of digital technology and the revised curricula. The main aim is to contribute to the understanding of how the teachers of Swedish perceive the integration of digital technology in their educational practice.

2. BACKGROUND

The UNESCO framework *MIL for Teachers* (Wilson et al., 2011) stresses the need for strengthening teachers' knowledge of media and the digital community. Teachers who believe that digital technology is valuable and see the benefits for teaching are more likely to incorporate it into their teaching practices (Ottenbreit-Leftwich et al., 2010). Consequently, the support for teachers to achieve knowledge and skills is important. To support teachers to develop their professional digital needs most European countries offer top-down CPD initiatives by the authorities, focusing on different aspects of digital technology (European Commission, 2019), like the on-line resources launched by SNAE (2020a).

The definition of *digital competence* in four aspects in the Swedish curriculum is influenced by international policy documents from the European Commission (2017)

and the Broadband Commission (2017). Both documents show a tendency in the definition of *digital competence* from a focus on technical skills towards a broader and multifaceted definition that includes critical and responsible knowledge and use, and understanding (e.g. Buckingham, 2007; European Commission, 2017; Lordache et al., 2017; Spante et al., 2018). Although, while the Broadband Commission (2017) puts forward the competencies as generic and presupposes the basic skills of handling digital technology, the EU Commission (2017) framework introduces competencies on different proficiency levels. The Swedish authorities have launched policies and definitions accordingly, and the four aspects of digital competence in the curricula can be seen as generic in some ways, but also with subject-specific aspects.

3. PREVIOUS RESEARCH

Lankshear and Knobel (2008) created the dichotomy of an 'old mindset' and a 'new mindset' to discuss how digital technology relates to teaching and learning. The 'old mindset' refers to when the established practice remains as before but with digital technology, for example when writing is on keyboard and screen instead of pen and paper. A 'new mindset' implies that technology possibilities result in fundamental changes in conceptualisations of learning and knowledge, for example towards collective and participatory meaning-making. For this change to happen, time can be assumed to be necessary, along with what is put forward in the curricula. In an analysis of the revisions in Swedish curricula, Godhe et al. (2020) show the aspect *use of digital tools* to be the most visible and dominant, also in Swedish as L1 and L2. However, when examining the curricula, including the general parts in comparison over the Nordic countries (Godhe, 2019), a conceptualisation of *digital competence* as including societal and critical thinking aspects is noticed, similar to what digital competence implies in research in international contexts (Pangrazio et al., 2020). Additionally, Elf et al. (2018) conclude that there has been a shift from the older curricula's stress of developing pupils' analytical skills to the newer curricula's focus on the pupils' production skills. Furthermore, in a close reading of *The Swedish national strategy for the digitalisation of the educational system* (MoE, 2017), Fransson et al. (2018) show how different meanings are in play and give a variety of possibilities for what *adequate digital competence* can imply over the three dimensions of time, context, and interpretation. One conclusion is that a considerable part of the implementation work is left to be carried out by the local level at schools.

International research concerning possibilities and challenges in integrating digital technology in the educational practice verify the complexity of teaching (cf. Holmberg, 2014). Through a mixed-method study, Moltudal et al. (2019) conclude that teachers' professional digital competence and how the teachers manage to use digital technology in teaching are closely attached. This is similar to a report by Ranieri et al. (2017) on the European project *Teachers' Professional Development on Digital and Media Literacy*, which emphasizes the importance of a close relationship between teachers' existing competencies and the provided training programs. This

is also a conclusion in a study of correlation analyses of the relationship between teachers' perceptions of the benefits of using digital technology for curriculum development and individual and school-level conditions (Badia et al., 2014). The analysis shows the importance of teachers' competencies, training, and technical infrastructure for how the teachers assess digital technology in their teaching. In an Australian longitudinal study on technology's impact on teachers' scholarly practices, results show that support which builds on individual understanding and aspiration is essential for developing new habits. A recent review (Spiteri & Chang Rundgren, 2020) on factors affecting primary teachers use of digital technology, points to the importance of teachers' attitudes, skills, and knowledge, but also highlights contextual factors, as school culture. Gisbert Cervera and Lázaro Cantabrana (2015) conclude from an action research project on an ongoing CPD project to develop teachers' digital competence, the importance of the program being planned in a local context and the positive self-perception of the participating teachers. Also, the need for continuity over time is stressed. The benefits from learning in common have been shown in international research concerning CPD (Hattie, 2009; Timperley, 2011), but research also points to the complexity and a need for evidence-based methods to enhance theoretical knowledge and understanding among teachers (Timperley, 2007). The Swedish model of CPD, called 'collegial learning' is investigated in a study by Kirsten and Carlbaum (2020). They show how the CPD applied in Sweden is centrally staged and as a consequence can limit teacher autonomy. CPD has been criticized for building arenas for a struggle over power and forms of controlling teachers (Hardy & Rönnerman, 2011; Kennedy, 2014) but also as possibilities for teachers to develop their agency and ideas about teaching (Kennedy, 2005, 2014). These international studies are supported by research in a Swedish context, for example, Langelotz (2013, 2014), and Johansson and Magnusson (2019).

Like international studies, previous research in a Swedish context point to the complexity of how digital technology affects teaching. For example, dissertations exploring different aspects of teaching during the implementation of digital technology (e.g. Ahlbäck, 2018; Tallvid, 2015; Willermark, 2018), conclude that the complexity of teaching increases with the demands of digital technology, that teachers' digital competencies differ and that the use of digital technology in school challenges the teaching profession both subject-wise and pedagogically. A study by Erixon (2015) on the incorporation of digital technology in Swedish as L1 results in similar conclusions and a study by Cederlund and Sofkova Hashemi (2018) shows how teachers find it difficult to widen the subject of Swedish to contain multimodal and digital aspects. Teachers themselves stress the importance of educational programs for the development of their competencies. Willermark (2018) also points to the importance of time when developing new teaching habits due to digital possibilities. A review of empirical research projects about technology in L1 in Scandinavia (Elf et al., 2015) presents a methodology to understand technology in L1, as *tool*, *media*, *socialisation*, and *literacy practices*. The dominating conceptualisation in the reviewed studies is *media*, which concerns technology as a means for representing meaning. The

metaphor *tool* in their study refers to when technology is understood as a device that is used to achieve a learning goal. *Socialisation* and *literacy practices* are wider and point to the technology used for identity formation and how technology is part of developing new practices for communicating and being. Another finding is the uncertainty shown by the teachers towards the integration of technology in L1.

Evaluations of how digital technology is integrated in educational practices are often made from a technology-centred perspective, that is from the point of view where the integration merely is accounted for as the implementation of digital tools in school (e.g. Lipponen et al., 2006). This point of view often concludes that the integration processes are (too) slow. The Swedish Schools Inspectorate (2019) concluded the same in a report on the use of digital technology in mathematics and technology teaching. They also concluded that teachers need support from headmasters and technical infrastructure while teachers in the study pointed to difficulties connected to practicalities and time.

The review highlights important issues to keep in mind when working with the integration of digital technology in the educational practice, on a national level as well as on local: what digital technology can bring to education and what digital competence means, the tensions that can arise when old structures in the complex area of teaching are being challenged, and the importance of relating to, and understand, both individual teachers' needs and contextual factors. As stated above, the implementation of digital technology in teaching and learning is of high priority by international and national authorities and research reports from different approaches to what digital technology can infer in teaching and teachers' professional competence. However, studies of the perceived possibilities at a local level, by L1 and L2 teachers, are sparsely reported on. This calls for new research, including a qualitative perspective on how teachers build their understanding of digital technology in the educational practice related to their profession and their teaching, the teacher being an important key actor for learning (Hattie, 2009), and for how digital technology is used in schools (Engen, 2019; Fransson et al., 2019). To contribute to the understanding, this study explores how opinions and views on the integration of digital technology in the educational practice are articulated in CPD discussions at a compulsory school, years 7-9 by L1 and L2 teachers of Swedish. More specifically, the following questions are investigated:

- What perceptions about the integration of digital technology in the educational practice can be discerned?
- How are these perceptions related to the teaching profession and the teaching of Swedish?
- How do the teachers build their understanding through the discussions?

4. THEORETICAL FRAME

This study builds on the adoption that language use is an important aspect of human understanding. Through our speech and ways of expressing, we reflect and construct

the world. This means that speech and mutual construction are socially and culturally situated. *Critical Discourse Analysis* (CDA) and *Systemic Functional Grammar* (SFG) elaborate on how, as both theories and methods (see next section for method). Both CDA and SFG focus on language use and how understanding language use can explain human behaviour and societal structures, for example, power and change. For the present study, these approaches serve as tools for the investigation of what perceptions are constructed, and how they are constructed. The findings are also related to a wider context. By exploring how the teachers in this study talk about the integration of digital technology, I seek to understand how they construct their understanding of what it means in their daily work.

The CDA approach has been chosen to shed light on and facilitate an explanation of an existing discourse (Fairclough & Wodak, 1997). Fairclough (1995) explains two types of discourse. First, the social practice that is going on, as “the language used in representing a given social practice from a particular point of view” (p. 56). Language use constructs ideas, relations and values, all important aspects of society. Second, discourse as a way to communicate, talk and write concerning a special area, often in a certain time or a certain society, that is, discourses with implications on power, materiality and ethics (Fairclough, 1995). The *critic* perspective in this study is about exploring how the language used in the teachers’ discussions can serve as one key to understand how the discourse on the integration of digital technology in the educational practice is constructed, and constructs, the conditions for the human practices in school. By talking about discourse in three dimensions, *the language in use*, that is, *text*, *discursive practice*, and *social practice* (Fairclough, 1992, 2010) it is possible to investigate how language at the microlevel is connected to conditions for production, distribution, and consumption and at the macrolevel with societal structures. As Fairclough (2010) explains, language use is, on a more abstract level, connected to the discursive practice and the discursive practices through language are important parts in constituting social practices. The primary focus of investigation in the present study is the *text*, that is, the teachers’ discussions, merely as the ongoing practice but also as a discourse of the educational practice dealing with the integration of digital technology. The CDA approach building on Fairclough (1992; 1995; 2010) and Fairclough and Wodak (1997) is closely connected to linguistics and Systemic functional grammar (SFG).

Theory on language from an SFG perspective is holistic and encompasses what language does to construct meaning from lexicogrammatical choices to context (Halliday, 2014). Language is social by nature and communication is learned in social interaction. The social functions of language affect and are affected by grammatical structures. SFG theory explains how grammar needs to be described, analyzed, and related to people’s social and personal needs. In comparison to traditional descriptive grammar, SFG also includes semantics and pragmatics and studies both language use and how language use shapes patterns of language (cf. Holmberg et al., 2011). Across the three strata of language, semantics, phonology, and lexicogrammar, the *metafunctions* of language are at play through the *ideational* metafunction (what it

is about), the *interpersonal* metafunction (relations between the involved) and the *textual* metafunction (the type of communication and how it is organised) (Halliday, 2014). In SFG *the process* is the centre of the clause. Processes are realised by verbs or verbal groups and convey meaning together with *participants* and *circumstances* depending on process types. Holmberg and Karlsson (2006) describe four main processes: the *material* processes are events and actions and a sign of change, often with a distinct *actor* involved. *Relational* processes are descriptions of how things are and a sign of the state of things. *Mental* processes are thinking, feeling, and sensing, while *verbal* are communicative acts. Halliday (2014) describes how, for example, mental processes are frequent in conversations, how relational processes dominate in stories and that recipes show frequent use of material processes. The processes are linked to contextual aspects, to genres (Fairclough, 1992). In an SFG perspective, a variety of language used in a special setting, as a result of the context, is referred to as a *register* (Holmberg & Karlsson, 2006). Using SFG theory, Macken-Horarik (1996) developed the concept of *domain* to investigate and describe language use and learning of academic and disciplinary language patterns as genres or registers. She studied science learning and identified three knowledge domains as *everyday domain, specialised domain, and reflexive domain*.

The investigation of processes and the roles of participants belong to the ideational metafunction, as does the *logic expansion* (Halliday, 2014; Holmberg & Karlsson, 2006) which deals with how information is linked in different ways, affecting how meaning is elaborated and contributing to the description of the register. However, also the interpersonal metafunction can be informative on this through *speech functions* (Halliday, 2014; Holmberg, 2011). Speech functions describe how speech is used *for giving or demanding* in an exchange between speakers. The speech functions are expressed in typical forms, but these forms can differ and thus affect the interpersonal meaning and how it is perceived, for example, there is a difference in meaning between "Read the text!" and "Would you like to read the text, please?"

The theoretical frame is operationalized as the three stages used by Fairclough (Fairclough 1995; Fairclough & Wodak, 1997; Janks 1997): *description, interpretation, and explanation*. They are interdependent, not in a linear but in a simultaneous way (Fairclough, 1995; Janks, 1997). This study does not complete a full CDA as the focus is mainly on text but drawing on Fairclough (1995) the findings (description) are elaborated on in connection to the conditions for the implementation work in the discussion section (interpretation and explanation) to understand the productive conditions for the what and how that are shown in the text analyses. The data, and how the research has been conducted is further outlined below.

5. DATA AND METHODS

Applying a CDA approach puts the subjective interpretations and understanding of the researcher in front (Reisigl & Wodak 2000; Wodak & Meyer 2016). Below, I clarify my pre-understanding in connection with the research area.

I have an interest in L1 teaching, how digital technology is integrated in the educational practice, and teachers' professional development. These interests have provided me with valuable contextual knowledge for the study. Initially, I was assigned to give input to the CPD process at the actual school. The plans were not fully realised but gave me knowledge of how decisions and other organisational aspects took place at the school during the time of the study; knowledge that has helped my understanding and, necessarily, influenced my interpretational work. For example, early in the process, I was made aware that the teacher groups and how the discussions were held was an accepted and agreed organisation at the school. This helped my understanding of how the discussions turned out. They seemed to follow a pattern: starting focused on the topic, led by the designated leader who distributed the turns and gave further input on the topic if needed. Towards the end, the focus tended to shift towards urgent matters relating to pupils and upcoming lessons. Consequently, I chose the beginning of the discussions for the SFG analyses. Furthermore, the fact that the headmaster shared his views on the teachers' thoughts on infrastructure, decisions on teaching material et cetera, accentuated the importance of staying close to the material when analysing to ensure that the findings were properly grounded.

5.1 *Data material in the CPD context*

The data material consists of four transcribed audio recordings of discussions over one and a half years taking place in a compulsory school, years 7-9, focusing the teachers of Swedish as L1 and L2, as they hold discussions throughout the CPD program on the integration of digital technology and the revised curricula. Drawing on Fairclough (1992) I see this setting as a *genre*, that is, a relatively stable way of organizing the discussions during a social activity, here; the CPD activities.

The program to enhance the use of digital technology and integrate digital technology in the educational practice at the school was planned by the headmaster and headteachers over three semesters, starting with a CPD-program material from SNAE (2020a), planned to be followed by what was identified as needed the following semesters. In the voluminous material for the CPD-program, a module on leading and teaching in technology dense classrooms was chosen (SNAE, 2020b). The material in the CPD-programs is organized in four stages inspired by the work of Timperley (2011): input, discussion and planning, trying, and sharing and evaluation. The teachers were organized both as groups around certain classes and as groups of teachers teaching the same subjects. The groups were assigned different times to meet, set in the planning led by the headmaster. This formalised the discussions as included in the teachers' duties. The organisation of CPD according to the model launched by SNAE was well known by teachers at the school and appreciated, as in the rest of the country (cf. Carlbaum et al., 2019). While stages one and three in the developmental work took place during the ordinary schedule, stage two (discussion and planning) and stage four (sharing and evaluation) were scheduled every week on two

afternoons, one starting with the whole staff for 30 minutes followed by 60 minutes for the class groups and one afternoon for the subject groups for 30 or 40 minutes. The CPD discussions were initially planned to be held during these meetings but due to several upcoming issues that needed to be dealt with, from different levels of authority, the plans were seldom followed. Most of the discussions that were carried out were held in class groups and the discussions in subject groups tended to fall back. My initial agreement with the school was to give input on curricula and research on digital and multimodal meaning-making in relation to teaching as a background to the CPD work. This input was given as a lecture at the beginning of the first semester and as two workshops at the beginning and the end of the second semester. For my research interest, I arranged to follow the discussions in the subject group of Swedish. The CPD rarely took place in four stages as planned and it was not possible to follow a completed cycle. Therefore, the material chosen for this article, see table 1, is limited to stage two, discussion on the input (discussions 1-3) and stage four (discussion 4). Consequently, the material is limited. However, the four discussions, spread out in time, give a possibility to follow how the group of teachers in Swedish discuss over the three semesters.

Table 1. Data material in the study

Audio recordings	Participants	Length	Collected	Processing
D1. Discussion after individual study of material from "Leading and learning in technology dense classrooms"	6 teachers	48 minutes	February 2018	Transcribed
D2. Discussion after input and during workshop on multimodal meaning-making in class	6 teachers	43 minutes	August 2018	Transcribed
D3. Discussion after input and during workshop on pupils' knowledge and film production and assessment	6 teachers	35 minutes	November 2018	Transcribed
D4. Discussion on the implementation work as a whole	5 teachers	44 minutes	May 2019	Transcribed
		Total: 170 minutes		

5.2 The discussions

The discussions respectively deal with the widening possibilities for meaning-making (D1), pupils' multimodal work in class (D2), film production and assessment (D3), and an evaluation discussion about the implementation work at the end of the third semester (D4). The transcriptions adapted spoken language into written, making marks of pauses and the transcriber's comments, on for example laughter, in brackets (cf.

Norrby, 2014). The analyses were initially conducted in Swedish and then the material was translated. In my opinion, the translation has not affected the outcome of the analyses. The use of data was granted according to ethical demands (Swedish Research Council, 2017). The fact that the discussions were confidential, and that participation was voluntary and could be cancelled at any time not having to give a reason, in my view contributed to the teachers' engagement. A group of initially six experienced teachers of Swedish as L1 and L2 agreed for me to be present and to audio record their discussions. Four of the teachers were the same over the period. Two were replaced from discussion three, and one of these additional teachers was absent in discussion four. The discussions were led by one of the teachers, following the CPD model, and we agreed that I should not take part. This agreement was followed, except for small talk in the beginning and the end, outside the recordings. However, the fact that I gave input to the school's development work, and at times made visits to the school, talking informal with the staff, probably affected the study. The teachers developed their understanding of concepts and technology over time but how much of this was due to my involvement I cannot say. In my opinion, the discussions were held in a good, collegial spirit, not addressing me but the colleagues. However, since data was collected over a period of one and a half years, the wider context of the four discussions needs further explaining. During this period, all 28 teachers in years 7-9 studied and discussed parts of the professional development material produced by SNAE (2017), participated in two workshops held by me and a fellow researcher, the first about multimodality, and the second about pupils' knowledge and film production and questions related to assessment. The teachers also followed a technical skills development program, held by teacher colleagues, designated to facilitate the handling of the digital platforms for teaching and communication with colleagues, pupils, and their guardians, and took part in a test round for digitising the national tests. Furthermore, during this period, the school's technical infrastructure was developed with high-speed internet access and one-to-one solutions for the pupils.

5.3 Data analysis

The study focuses on the *text*, that is, the discussions as *discursive events*. Research question one; What perceptions about digital technology can be discerned? and two; How are these perceptions related to the teaching profession and the teaching of Swedish? are both initially investigated through a close, repeated, reading of the transcripts, inspired by Wodak (1996) and Janks (1997) to find thematic patterns. The process started with iterative reading, to identify the parts that deal with the topic for the research interest, i. e. integrating digital technology. Then the utterances were sorted into clusters of meaning, finally, put together in discursive themes. Figure 1 is a print screen from the work with the first page of transcript for D1, the italics marking utterings considered especially interesting, and clusters of meaning highlighted by colour.

Figure 1. D1, the first page of the transcript, chosen utterings in italics, clusters of meaning highlighted

1: T1: so, a discussion based on the material's questions, to place us in the context. We will discuss what our opportunities look like now and what we expect them to look like in the future. [tells about the article they have read, <i>Tacks</i> dimensions]
2: T2: It's the question of how much you can handle it, want to handle it, <i>first you need a course on how it is supposed to work, then you can try it in reality.</i>
3: T1: <i>Yes</i>
4: T3: <i>you also need technical equipment.</i> I need a projector in my classroom.
5: T4: <i>try to use what I have.</i> a projector and a computer. I use quite a lot power point or show a movie, a content in different formats, or the pupils work with power point - there I have stopped.
6: T1: I feel that too, we use the tools to transfer the knowledge, but to make the pupils interactive, <i>we are not there</i>
7: T5: it <i>doesn't</i> work, you have to book a lot of computer carts and so on, <i>it has not been possible considering the time it takes.</i> but now they get Chrome Books and
8: T4: and the pupils in the seventh grade each have a computer, but <i>many has chosen to write by hand</i> in the latest project because they consider it more personal. Everything could be done with the computer, but some think it should be handwritten
9: T2: It has been so much trouble with the computers that we don't want to use it anymore, <i>it takes half the lesson to get the computers going</i> - if you have a book, you say - page 40.
10: T1: I think <i>that's</i> where we need to end up, <i>the network should just work</i> , now that's the problem.
11: T6: <i>hope that Chrome books will be such a tool</i> that we can sit together with the pupils
12: T4: the pupils should be more eager - I wish it, <i>they do not know how to apply technique</i> , they do not have the strength - I still need to use maps in my classroom.
13: T1: now, how do we relate to the 5 explanations mentioned in the article that we teachers avoid using digital technology [lack of competence, too little pedagogical profit, lack of teaching materials, lack of control in the classroom, lack of time]
14: T4: <i>We have to let go</i> , it is the pupils' responsibility - the tool is not what determines the activity
15: T5: We get more control <i>digitally</i> , <i>we can follow their work and give feedback</i> . But, <i>as long as they do not have a computer each, it will be too much work to arrange everything.</i>
16: T: <i>I'm not used to handle digital learning resources</i>

If and how the teachers' discussions focus their work as teachers in general or as teachers of Swedish, is interesting for the second research question. Using Macken-Horarik's (1996) concept of knowledge domains I have noted the discussions as either belonging to an *everyday teacher domain* (about teaching in general) or a *specialised teacher of Swedish domain* (about teaching the subject of Swedish) or a *reflexive domain* (about wider implications for teaching and learning).

To investigate research questions one and two from another perspective and to answer the third research question; How do the teachers build their understanding through the discussions? parts of SFG analyses were made over the initial 15 minutes in each discussion. In the first step, the core processes with the main verb in all clauses, both dominant (majority) and dependent, were identified and categorised as material, relational, mental, or verbal (Holmberg & Karlsson, 2006). When difficult to decide, I have followed the categorisation for verbs in Swedish made by Lassus (2010) and her thoughts on the result of the clause. The categories were quantified in the first analysis followed by analyses to explore how ideational and interpersonal

meanings were constructed by lexicogrammatical choices. Lassus (2010) work has also guided the identification of participants to explore how processes, subjectivity, objectivity, and actorship work in the discussions. The first participant is considered as central, and the one the action emanates from (Holmberg et al., 2011). The referents were identified focusing on the first participant and who/what the first participant refers to (cf. Lassus, 2010), as in these examples:

Figure 2. Example of analyses (processes and participants)

Ex1.	I	am not used to <i>handle</i> (main verb)	digital learning resources	in my job
	<i>First participant (actor, here teacher)</i>	<i>material process</i>	<i>participant (goal)</i>	<i>circumstance</i>
Ex2.	You	also <i>need</i>	technical equipment	
	<i>First participant (carrier, here: teacher)</i>	relational process	<i>attribute</i>	

The next step was to investigate how the utterings were linked together through logic expansion and which speech functions were used. Halliday (2014) explained how expansion can be *extending* (too, in addition, and), *opposite* (in the opposite, however, but), *time* (before, then, after) and as *a cause* (because, namely, since, in order to). The linking of each uttering was categorised accordingly. Similarly, the realisation of speech functions was investigated, identifying the speech functions in each turn as giving: statement and offer, or as demanding: question and demand (Halliday, 2014; Holmberg, 2011). Example of analyses in figure 3.

Figure 3. Example from D2: analyses of expansions and speech functions

19:T3	and it is not connected so there is no effect whatsoever	cause	ev. statement
20: T1	and the music is so loud or what [do] they say?	extension	question
21:T6	There is also [...] a bit weird with this start	extension	ev. statement
22:T2	Sound is the most difficult to get right when they are filming	extension	statement
23:T1	But it is good with the music in the background [...] but, yes	opposite	statement
24:T5	It is a standard error	extension	statement

6. FINDINGS

The findings section consists of the text analyses through explorations of what the teachers talk about, and how.

6.1 What: perceptions

The first analysis was carried out working with one transcript at a time. The process of how the utterings were put together in clusters of meaning, and then identified as belonging together in discursive themes, are shown for D1 in Table 2. The

examples of utterings are chosen as representatives of utterings judged as similar or close to the example.

Table 2. Utterances, clusters of meaning, and identified themes in D1

D	Utterings, examples	Clusters of meaning	Discursive themes
D1	<ul style="list-style-type: none"> -first you need a course on how it is supposed to work, then you can try it in reality -you also need technical equipment -time is the real issue -It has not been possible considering the time it takes -I am not used to handle digital learning resources -it's too much work to arrange everything -computers take over, knowledge is shifted -digitalisation leads to a new profession -it brings stress -I consider myself a better teacher before digitalisation -they can't concentrate -their concentration and writing skills get worse -mobiles get too much attention -discussions are shallow online -it is too easy for them to copy-paste -many have chosen to write by hand -they don't know how to apply the technique -they can't handle computers, they only know apps -they don't know how to search [for information] -they don't know anything properly nowadays -it takes half the lesson to get the computers going -the network should just work -as long as they do not have a computer each -it's all about the network, incredible vulnerable 	<ul style="list-style-type: none"> Teachers' needs Teachers' conditions and uncertainty Negative impact on pupils Pupils' failings Technical problems and challenges in relation to teaching 	<ul style="list-style-type: none"> Challenges
	<ul style="list-style-type: none"> -I try to use what I have -we are not there -when the network is working... -I hope Chrome Books will be such a tool -we have to let go -we can follow their work and give feedback -you can learn a lot online -we get more control when they work on digital platforms -some of us can share our competences 	<ul style="list-style-type: none"> Hopes 	<ul style="list-style-type: none"> Possibilities

Discussions D2, D3 and D4 were processed by the same method and led to clusters of meanings and discursive themes as displayed in table 3, together with those concluded in D1.

Table 3. Clusters of meanings and identified themes in the discussions

D	Clusters of meaning	Discursive themes
D1	Teachers' needs Teachers' conditions and uncertainty Negative impact on pupils Pupils' failings Technical problems and challenges in relation to teaching Hopes	Challenges Possibilities
D2	Film as resource Pupils' work with film Pupils' technical mastering Teachers' technical mastering Teacher's role Questions on assessment	Film—a part of the subject Swedish Challenges
D3	Shortages in the film Own teaching as an example Technical mastering Questions on assessment Pupils' learning outside school Teachers' working conditions Pupils' use of a variety of modalities Technical affordances	Film as a resource for narration Challenges Possibilities
D4	Impact on organizing teaching Responsive work and assessment Pupils' reports, cooperation, and writing Impact on possibilities for learning Lack of influence in decision making Technical infrastructure Need for competence development Lack of time Teacher's role	Streamlining teachers' work Compensatory possibilities Challenges

As shown above, the themes have similarities over time but also indicate change. The theme of *challenges* is present in all four discussions and similarities are also visible in the clusters. The recurrent clusters concern technical issues, time aspects, issues connected to assessment, teachers' work conditions and aspects of the role as a teacher. These clusters seem to remain as important in the beginning as at the end of the period. The themes show changes in the way the teachers recognise the benefits that come with the use of digital devices. There is a shift from a theme of very modest *possibilities* in D1 (see Table 2) to D4, where the teachers talk about the benefits they see for their work, as in these utterings concerning how to organise teaching:

- D4: -they have everything in their own device, it facilitates work a lot
 -they can't forget things at home or in their lockers
 -you [teacher] have total access, all the time

and concerning responsive work and assessment:

- D4: -we can respond to their work during the lesson
 -responding their text is done so much quicker

Also, the theme of *possibilities* in D3 indicates faith in new meaning-making possibilities by technique. Worth notice is also that the meaning clusters concerning the pupils in D1; 'negative impact on pupils' and 'pupils' failings', have no equivalent in D4. Instead, the meaning clusters in D4 show views on how pupils' work has improved, and that the use of digital technology has compensatory possibilities, especially for pupils with writing disabilities.

D2 and D3 are both discussions on how pupils have worked with film narration and are in parts held in the *specialised teachers of Swedish domain*. In both discussions, moviemaking seems to be accepted as a part of the subject Swedish. The teachers use their subject-based knowledge to talk about how the story is presented and, particularly in D3, how they think the film products by the pupils can be improved. Although, when it comes to technical aspects, the discussions reveal scepticism concerning the teachers' competence, the teaching, and the possibilities of assessing, identified as the theme of *challenges*. It is worth noticing that the theme of *challenges* is more closely connected to discussions held in the *everyday teacher domain* whereas the theme of *possibilities* is more frequent during discussions in the *specialised teachers of Swedish domain*.

6.2 How: construction of meaning

The result from the quantitative analysis of the core processes is outlined in table 4.

Table 4. Quantity and share of core processes, first 15 minutes

Process	D1		D2		D3		D4	
	N	%	D	%	N	%	N	%
Material	43	39	62	37	65	35	86	48.5
Relational	46	41.9	66	40	61	33	66	37
Mental	17	16.4	30	18	46	25	18	10
Verbal	3	2.7	9	5	12	7	9	4.5
Total	110		167		184		179	

Material and relational processes are the most frequent in all communication (Holmberg & Karlsson, 2006), also in this data material. The percentage of processes is a blunt measure but gives information that can be further explored. At first glance, the percentages show what can be expected in the genre of professional development discussions. They deal with change (material processes) and describe the implementation by relational processes and how it affects daily work. Noticeable is the

shift in the dominating processes from the relational to the material in D3 and D4. Although the differences in percentage are small, they indicate a shift from talking about the state of things to describing actions. The small differences between mental and verbal processes in D1 and D4 compared to D2 and D3, indicate different approaches to the subject of the discussions, where D1 and D4 are more general and D2 and D3 are subject-specific and close to teaching practice as they deal with pupils' film production as part of teaching the subject Swedish. However, to discern how the choices of processes contribute to the construction of meaning needs further analysis.

Table 5 shows the identified material and relational processes in the discussions and the referents for the first participants. Additionally, the material processes used in a *specialised teachers of Swedish domain* are in italics.

Table 5. Material processes (used in a specialised domain in italics) and relational core processes and identified referents

Aspect	D1	D2	D3	D4
Material core processes	act, be able to, become, challenge, change, deal with, decide, develop, do, fit, follow, give, handle, have, labour, lead to, let go, limp, manage, <i>plan</i> , process, reserve, seek, share, show, sit, steal, swop, take, take over, try, use, work	<i>assess</i> , bring, build, change, come, <i>create</i> , <i>cut</i> , do, die, disappear, <i>distinguish</i> , drive <i>edit</i> , end, exercise, fall, <i>film</i> , get, happen, keep on, lay, learn, lift, miss, overdo, <i>play</i> , prevent, process, put, <i>rig</i> , stand, try, <i>use</i> , walk, <i>work</i> , zoom	<i>assess</i> , capture, catch, come, <i>create</i> , <i>cut</i> , die, dismiss, drop, <i>edit</i> , end, <i>evaluate</i> , <i>film</i> , <i>flow</i> , give, initiate, lay, learn, <i>maximize</i> , present, <i>reinforce</i> , return, <i>show</i> , start, strengthen, <i>use</i> , walk, weave in, <i>work</i> , <i>write</i> , train	catch, change, come, continue, <i>correct</i> , encourage, <i>facilitate</i> , get, give, go, hold, improve, labour, learn, <i>mediate</i> , move, point, <i>process</i> , <i>publish</i> , put, <i>save</i> , scribble, search, share, show, stand, start, teach, <i>translate</i> , work, <i>write</i> , use
Relational core processes	affect, avoid, be, become, cope, demand, have, need, relate to, want	be, become, depend on, exist, have, live, seem	be, come with, happen, have, fit, impress, let, succeed	avoid, be, be able to, become, exist, have, need, notice
Referents	Digitalisation Pupils (general, own) Teachers	Pupils (who made the film) Teachers of Swedish	Pupils (in general) Teachers of Swedish at this school	Digitalisation Educational system Pupils Teachers

The referents, in this study counted for the first participants, are the actors and those who act or initiate what happens. However, the referents 'teachers' and 'pupils' are talked about in vague terms, 'one', 'we', 'they', in comparison to the referent 'digitalisation'. In D2 and D3, when the topic of the discussion is a film production made by pupils, the subject is closer to 'teachers of Swedish', and the 'we' is closer to the daily work, particularly in D3 where the pupils they refer to, are their own. It is in D2

and D3 the *specialised teacher of Swedish domain* is more visible as they discuss issues relating to film narration as a part of the subject of Swedish (see Table 5). In this example the teachers discuss perspectives and effects:

- D3 Teacher 1: I think it is a rather nice transition, from filming a full screen to a close-up. That is a rather nice transition. And at some point there is "But look at him", from full screen to close up. Nice transitions with close-ups, half screen and full screen. Creates some effects.
 Teacher 4: Exactly, and also when they use black screen, you look at her and then it's dark and then cut—there she lies, good work on that.
 Teacher 2: And then you could have worked more with the narrative and made it more obvious in the storyline.
 Teacher 1: The narrative wasn't used that much; the effects tend to dominate.

Additionally, when the teachers discuss assessment issues in D2 and D4 there are a few times when the domain is moving towards the *reflexive* in the way that the teachers discuss the differences in learning, and the consequences, affected by digital technology (cf. Macken-Horarik, 1996). However, the discussions were to a large extent held in an *everyday teacher domain*; from a common teacher knowledge perspective, sharing experiences as teachers in general instead of as teachers of Swedish.

In all four discussions, but more frequent in D1 and D4, being more generalised about teaching concerning the new demands in curricula, the referent 'digitalisation' itself become an actor and the reason for the discussed circumstances. The teachers talk about what digitalisation 'does—to the teachers, to the pupils, and school. The nominalisations like 'digitalisation', 'the learning', 'the change', 'the teaching' make teachers and pupils fade as actors. In SFG, this is explained as a *grammatical metaphor* (Halliday, 2014; Magnusson, 2013). Digitalisation itself appears as the important first participant and the reason for things to happen. 'Digitalisation' is the primary referent in these processes, and has an impact on the daily work in the school in different ways, as in these extracted utterings:

- D1: Digitalisation leads to a new profession
 Digitalisation steals time from building relations—and planning!
 Digitalisation gives teachers less power in teaching
 Digitalisation challenges the technical infrastructure
 Digitalisation is a possibility for change
 It has to fit in [in the ordinary teaching]
- D2: Digitalisation brings stress..
 Digitalisation prevents my inspiration
- D3: The digital shows learning from outside school
 It is very hard to assess.
- D4: The new technical affordances make it easier to teach [...], also in the script phase
 Digitalisation gives us more control over pupils' whereabouts
 Digitalisation encourages the pupils to learn more

When looking closer at the relational processes, the referents are the same as in the material processes; the digitalisation, the teachers (we), and the pupils combined

with a value or a quality. The teachers become a 'we' without dispute and are identified as a group through individual statements using 'we' as the pronoun. The teachers as referents and first participants are subjects, but the subjectivity is as an administrator who is losing control. Consequently, the pupils are objectified as a group, described through their needs and what they lack, especially in D2 and D3. Examples in the following extracted utterings:

- D1: *We can not know what they have learned here or elsewhere*
We are losing control
- D2: *We have no expectations for the film when it begins like that*
The voice wasn't good
They have no clear idea
The story needs more work
- D3: *We need to learn more about how it works*
The pupils need an explicit table
It [TV] is passed time for them
They [pupils] have no idea

However, in D4, the pupils' performances are still talked about and judged, but instead of being described by their lacking, they are described by how they benefit from the use of digital technology:

- D4: *The quality of their writing has improved*
It is easier for them to make corrections
They have become so good at presenting their work
Now they can use power points
They write more

The examples from D4 show a change in how the use of digital technology is perceived more positively regarding pupils' performance in class, in contrast to the opinions visible in previous discussions. The opinions through the discussions, whether negative or positive towards the integration of digital technology in school, are an important part of building a mutual understanding.

6.3 How: construction of mutual understanding

The discussions, mostly held in the everyday teacher domain with one frequent referent as 'teachers', are at large considered to deal with the general role of the teacher in school. Included in the referent 'teacher' are 'we', 'us', 'one', and some of the 'I', which is most frequent in D4 but occurring in the other discussions as well. By a closer look at how 'I' is being used, together with the mental processes 'know' 'think', 'feel', 'sense', 'consider', 'believe', it is obvious that it is an important part of building an image of a mutual understanding and perception. 'I' is typically used in statements like the examples below, where the mental processes are used as a way of tuning up, or down, what is previously stated, merely in the material and relational processes:

I consider myself a better teacher before digitalisation
I think it is too easy for them to copy-paste
I feel time is too short to try to keep up with everything
I believe that is the case quite often [pupils use effects by chance].

Utterances like these are slightly more common in D1-D3 than in D4. They are not directly responded to and the lack of response work as an acceptance that contributes to building the 'we'. This lack of response, and that these utterings are less common in D4, has not been fully explored. One explanation can be the time factor, that is, the consolidation of the group makes it easier to state things without the need for tuning. Through the discussions, it is evident that there is a construction of a mutual understanding in the way statements are responded to, or not directly responded to at all, although acknowledged by another teacher continuing with the conversation without a direct response.

The building of a mutual understanding can be further examined by investigating the speech play. The analysis detected the most common speech function as giving information through the evaluative statement. Especially in the workshop discussions, D2 and D3, over 50 % of the turns about the pupils' film productions are evaluating statements followed by a statement from another teacher. In my interpretation, these statements are not only giving information, but also a demand on the other teachers to agree on what just has been said. The way they answer to these implicit demands, by adding a new statement, work as acknowledgements to the stated experiences and judgements, adding to the mutual understanding, as in these examples:

- | | |
|----|---|
| D1 | Teacher 2: It has been so much trouble with the computers that we don't want to use them any longer, it took half the lesson to get them started [...]
Teacher 1: It should just work, now the network itself is the problem
Teacher 6: I really hope that Chromebook will be a tool that works in such a way [...] |
| D2 | Teacher 2: It is very odd
Teacher 4: Coming from out of the blue |
| D3 | Teacher 2: It is very hard to make something out of it
Teacher 5: You have to make an assumption |

In this way, the statements build on each other, contributing to the building of 'we—teachers (of Swedish)'. The rhetoric questions work in the same way to acknowledge the mutual understanding as in the discursive theme of 'challenges':

How can we make the pupils remember things?
 How will it be able to assess them individually?
 Should I be in control?

The way of building the mutual understanding by adding statements to continue the discussion can also be studied by returning to the ideational metafunction and the logic expansion. Most common in the material is to link as *an extension*, commenting on what had just been said, as in the following examples:

- D2 Teacher 2: [...] it is very hard to make any sense of it
 Teacher 6: but it is also the language he uses [...]
 Teacher 4: it only makes it rude
 Teacher 3: and it is not connected so there is no effect whatsoever
 Teacher 1: also, the music is so loud or what [do] they say?
- D3 Teacher 1: it's a bit scary when there's a close-up and the blood dripping
 from his mouth
 Teacher 4: just as a black screen has been used and it is very successful
 Teacher 2: and then you could have reinforced it
 Teacher 5: but the story is effective

This way of piling the extensions on top of each other contributes to the commonly agreed understanding, as a parallel to the evaluation statements and the rhetoric questions. They talk, but there is no discussion. Note that in the examples above, D2 teacher six and D3 teacher five, the use of 'but' in Swedish, I claim, has the meaning of 'and' and therefore works as an extension instead of as an opposite.

6.4 Summary of findings

Different perceptions of the integration of digital technology in the educational practice were found. The constructed meanings as a mutually accepted description and perception of what the integration of digital technology means in school and the teaching of Swedish became visible in the concluded discursive themes. The theme of *challenges* dominates and are present in all four discussions. However, other meanings are constructed, for example, those shown in the theme of *possibilities*, sparsely in D1 but more visible in D2 and D3 in the talk about digital film narration, and in D4 in the themes of *streamlining teachers' work* and in the theme of *compensatory possibilities*. When the teachers in D4 talk about the use of digital technology and the benefits they see for their work conditions and pupils, as improvements and compensatory use, there is a change in discourse. The analyses also showed construction of meaning where 'digitalisation' is an actor, who does things to school, teaching, and learning, and where teachers, and pupils, are participants who lack knowledge, means to act and possibilities to be actors. Both teachers and pupils are objectified in relation to 'digitalisation', and in the way the discussions are enacted this perception of 'digitalisation' is not questioned, disputed, nor discussed.

Through the discussions, the teaching profession appears to be threatened by 'digitalisation', which is conceptualised as something additional in teaching, coming from the outside and something that brings change by itself, with demands that are challenging. The discussions are to a large extent held in an *everyday teacher domain* elaborating on a general teacher role. However, in D2 and D3 both challenges and possibilities are discussed in a *specialised teachers of Swedish domain*. The issues concerning assessment are addressed both generally and in relation to the subject of Swedish and the teachers question their possibilities of knowing what has been learned in school or elsewhere.

The way meaning is built through linguistic choices results in a functional variety of language, a *register* (Holmberg & Karlsson, 2006) of collegial discussions on the integration of digital technology, at this school. A prominent feature of this register is the combination of a high percentage of relational processes, especially in the first two discussions, and the abstract concept of 'digitalisation', achieved through the process of grammatical metaphor, which results in obscuring teachers and pupils as actors on behalf of the actor 'digitalisation', in turn, an important part of the interpersonal metafunction. What 'digitalisation' does is an important part of an ongoing argumentation of what are the challenges when the teachers are set to integrate digital technology in their teaching. The way the discussions are constructed, through the linking and the speech play, builds the agreed mutual understanding of these perceptions of 'digitalisation'.

7. DISCUSSION

The CPD discussions in the group of teachers of Swedish as L1 and L2 have shown to mostly deal with the abstraction of 'digitalisation' in relation to general teacher concerns. This, and the other findings, are discussed below regarding language teaching and learning, and development work.

7.1 *Implications for integrating digital technology in the subject practice of language*

The main perception that is discernible through the identified themes is the perception of the integration of digital technology as *challenges*. The challenges, similar to those pointed to in previous studies (c. f. Ahlbäck, 2018; Elf et al., 2015; Tallvid, 2015; Willermark, 2018), are mostly talked about in the everyday teacher domain, not obviously connected to the subject of Swedish. The fact that the teachers in this study mostly address the integrating of digital technology on a more general level can be explained in different ways. It could be a consequence of the integration seen from a technical perspective (cf. Godhe et al., 2020; Elf et al., 2015) where the challenges are connected to how the infrastructure at the school has been handled and the quality of platforms and programs. Additionally, the focus in curricula on technical aspects, also in the subject of Swedish (Godhe et al., 2020) could be assumed to be an important factor that influences both how the purpose of the implementation is perceived and how the discussions develop. Yet another explanation could be the teachers' view on their own competence, what they consider they lack and need, together with uncertainty on what is the meaning and possibilities of integrating digital technology in the subject practice of Swedish. The fact that 'digitalisation' is given actorship and demands change that is questioned by the teachers point to the integration of digital technology as something new in the knowledge base for teachers of Swedish as L1 and L2, drawing on Cochran-Smith and Fries (2005) (cf. Cederlund & Sofkova Hashemi, 2018). This can be seen in the discussions on challenges with assessment in discussions D2 and D3. When the discussions are held in a specialised

teachers of Swedish domain the main focus is still on technique; the skills needed for both teachers and pupils, negative impact on pupils by digital technology use, along with difficulties for teachers' teaching, for example on what should be assessed in the subject of Swedish and how, similar to previous research (cf. Erixon, 2015; Moltudal et al., 2018; Cederlund & Sofkova Hashemi, 2018). Furthermore, in discussion four, towards the end of the CPD program when the themes of possibilities are more visible as the teachers acknowledge that challenges and obstacles can be dealt with (cf. Fransson et al., 2018; Ottenbreit-Leftwich et al., 2010), the focus on technical aspects remain, for example as beneficial for streamlining teachers' work and for pupils' production (cf. Elf et al., 2015: the conceptualisation of technology as *media*). It is important to support teachers to go beyond the focus on technical aspects and investigate the subject practices of language teaching and learning in relation to other aspects of 'digital competence' (effects on society, critical awareness and responsibility, and problem-solving) as put forward by SNAE (2017).

Similar to Elf et al. (2015), this study concludes on teachers' uncertainty on the why and how of integrating technology in L1 teaching. To support language teachers on this matter they must be given the possibility to investigate what the integration of digital technology can mean for teaching of L1 and L2 and how established teaching and learning can be enhanced by the integration of digital technology in the educational practices, moving towards what Lankshear and Knobel (2008) talk about as a 'new mindset'.

7.2 Interpretation and explanation: Conditions for the CPD discussions

The results on the *what* and *how* discussed above need to be interpreted and explained due to the conditions for the discussions (Fairclough, 1995). On the one hand, the planning by the headmaster and the headteachers and set program signaled the activities in the CPD program to be of importance, but, on the other hand; the limited time and the changes, approved and sometimes launched by the headmaster, reduced the importance. Additionally, the discussions were not reported nor followed up since the activities supposed to follow in the CPD program were not carried out. Nevertheless, the discussions were held as stipulated; they dealt with the designated topics and the teachers took part, although the focus faded towards the end of each discussion. The perceptions emanating in the recurrent themes as challenges and possibilities were built together and mutually agreed although expressed as individual views which were not questioned or discussed further. The stacking of evaluating statements and piling of extensions, discussed above, were important features of this speech play (cf. Holmberg, 2011) which made it possible for the teachers to be engaged in the discussion as a part of work, but at the same time keep their distance. Taking the situational context into account, this distance, as well as the repetitive style in the discussions, is understandable. Furthermore, the teachers did not see themselves as subjects and actors, consequently, they had limited agency in their professional development and learning.

The process was organised as a top-down project from national authorities realised at the local school level (cf. Fransson et al., 2018) with a stipulated pattern for scheduled discussions. Decisions on, for instance, infrastructure, platforms, and timetables for curriculum are not owned by the local school but are important aspects of the process. In a CDA approach (Fairclough, 1995; Fairclough & Wodak, 1997), the teachers are cocreators of the social practice in which they act. As shown in the analyses, the teachers do not stand as the actors to deal with the challenges they identify. Neither the successively stronger theme of *possibilities* is ascribed teacher actorship; instead, 'digitalisation' itself, incongruently implemented (Holmberg et al., 2011), become the reason for things to happen. The abstraction 'digitalisation' blocks how the implementation work is staged, and by whom. The register of these collegial discussions limits the possibilities of language (cf. Halliday, 1993) and contributes to a social practice likely to be a reality for more than the actual group of teachers in this study. For CPD programs to be successful previous research point to the importance of meeting the actual needs of teachers and for planning to take place on the local level (Badia et al., 2014; Gisbert Cervera & Lázaro Cantabrana, 2015; Ranieri et al., 2014; Spiteri & Chang Rundgren, 2020). This was not possible to achieve for the school in this study. Drawing on Biesta and Tedder's (2007) view on agency as something that is *achieved* by individuals through active engagement in learning, the teachers' *non-agency* in this study can be explained and understood as something that is supported, and even constructed, by the top-down model. The social practice that emanates from the discussions is that of a CPD program that is performed on the surface, out of reach for the teachers, supported by a mutual understanding which includes a performance that adheres to the top-down model by not going in-depth with questions on what the integration of digital technology really could mean for teaching and learning in the subject of Swedish.

8. CONCLUSION

In sum, findings have shown how teachers in Swedish as L1 and L2 build a mutual understanding of the integration of digital technology in the educational practice during a CPD program. During the discussions, they construct an understanding with the dominating perception from a technical perspective and as something additional that means challenges to teaching, teachers' profession, and the teaching of Swedish, even though time seems to support the development of a perception that includes possibilities. A methodological conclusion is that a complete CDA analysis including the social analysis is needed to fully understand the social practice that is sketched out above. However, the study shows that by text analysis the description of *what* and *how* brings findings that offer insight into the micro-level of teachers working in CPD programs and points to some vital aspects that occur in ordinary, ongoing, development work at the local school level. As a study on the widely used CPD this study serves as a point of departure for further studies in a complex field of research. As a study of the perceptions of the integration of digital technology among

L1 and L2 teachers of Swedish, the study offers insights into teachers' perceptions of threats, challenges, and possibilities which can serve as a foundation for further investigations on these issues.

To conclude, the study indicates that for digital technology to be incorporated in the knowledge base for L1 and L2 teachers, teacher agency must be achieved. This endeavour requires full engagement in professional learning activities in a context that recognises the teachers as actors and the owners of the power to pose the questions in a process where also time is considered a crucial factor.

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