Digital Bildung from a teacher’s perspective

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ABSTRACT
This article investigates digital Bildung from the teachers’ perspectives by analysing how the teachers reflect on the phenomenon. To understand the teachers’ perspectives on digital Bildung, this article introduces a theoretical framework constructed from three analytic perspectives: inner process, Self-Bildung and democracy. These perspectives represent all sides of Bildung by Wilhelm von Humboldt with a democratic understanding from Dewey. Based on this framework, the article outlines a paradox in education between the increasing focus on the use of digital tools and the blurry, unclear communication regarding schools’ ‘digital mandate’.

Introduction

Digital Bildung is an overall intercultural competence (Baumann, 2015; Gran, 2018), that connects Bildung, competence and learning within the digital and non-digital contexts (Gran, 2018). In light of the diversity that teachers face in the schools every day, an intercultural Bildung is essential and a way to meet the demands of future learning. Bildung is a general concept describing the connection between the wanted ideals and values of a society and the individual. The term Bildung has developed in mainly two aspects in the meaning of constructing and the meaning of image (Gustavsson, 1998). In a book on Bildung in our time, Gustavsson (1998) explained that historically Bildung has been understood as a dynamic whole of these two elements and as a living piece of culture and society. This article connects this approach of Bildung to an intercultural Bildung that creates a society that facilitates learning and is free from barriers (Baumann, 2015). ¹

Alma (2017) contributed an understanding of the concept of Bildung that relates it to intercultural understanding as a prime challenge for plural societies in which cultural and religious diversity easily lead to confrontations and violent conflicts. He argued that intercultural competence has become one of the key competencies demanded across a multitude of professions in recent decades. Referring to Barbara Schellhammer Bildung is introduced as a reflection on education and as a dialogical and holistic term. In this view on intercultural Bildung a core understanding of self is needed to reflect on differences and similarities (Alma, 2017). An intercultural Bildung offers a clear glance at affective, cognitive actions and how this can influence the communication which Baumann (2015) points out that in the intercultural context the concepts of competence and Bildung are as relevant as central educational phenomena. The resurrection of Bildung is founded in the discourse of the Knowledge School (Wedin, 2015). Wedin (2015) argues that the Knowledge School even connects the reactivated Bildung focus with the same movement has paved the way for the manifest economic-instrumentalist school discourse that dominates the current curriculum.

The empirical focus of this paper is teachers’ understanding of digital Bildung using Norwegian teachers as informants. This article concerns teachers’ usage of ICT tools related to the students’ Bildung processes. The digital agenda for Norway (Kunnskapsdepartementet (2015–2016), s., p. 137) explains how students’ digital competence develops outside the school context. ² In a framework of teachers’ professional digital competence, ³ digital Bildung is related to teachers’ insight into ethical issues and participation in the digital and democratic society (Kelentric, Helland, & Arstrop, 2017). Digital Bildung is a process through which the human being forms his or her social, cultural, and practical competence in interaction with digital environments and connects to his or her own experiences of the world (Kelentric et al., 2017).

The international study, International Computer and Information Literacy (ICILS), described teachers as experienced users of ICT who were confident in their ability to use a variety of computer applications. Overall, teachers’ attitude towards ICT was positive, even though they also recognized some detrimental aspects (Fraillon, Ainley, Schulz, Friedman, & Gebhart, 2013). This article digital Bildung is different from both digital learning and digital
competence. Norwegian government documents have defined digital competence according to the understanding of European stakeholders (DeSeCo, 2005; European Commission, 2016) and identified it as one of five skills in Norway’s Knowledge Promotion used into the knowledge promotion of Norway as one of five skills (Utdanningsdirektoratet, 2012). Digital learning is understood as learning to occur through the use of ICT in addition to traditional learning activities where students are given the opportunities to use their digital skills (Hatlevik, Edvard, & Thronsd, 2015).

Previous studies have noted a need to revise the phenomenon of digital Bildung in the direction of higher-order thinking deep learning, innovation and creativity (Borgen & Hjarde, 2017; Briseid, 2008; Willbergh, 2015). Biesta (2008) asked whether schools today should focus more on human qualities and the social competence than on quantitative knowledge and measurable perspectives, which have been the focus for some years with the turn towards a learning outcome curriculum (Proitz, 2016). This discussion applies specifically to the school mandate or the Bildung Auftrag der Schule, which is based on the three concepts of Bildung, upbringing, and competence (Baumann, 2015). The humanities are said to be in a crisis because humanists have not been concerned with the Bildung mandate for schools. Berge (2016) argued that the humanistic studies need to be a more integrated and clearer part of the teacher education programs. Today, the societal mandate is driven by the expectations of improved students’ results, ensuring effectiveness, and promoting learning (Karseth & Sivesind, 2009). Some studies have found that teachers focus mostly on what is going on in the classroom and see themselves as implementers of the curriculum rather than developers of the curriculum (Mausethagen & Molstad, 2014).

Digital Bildung has not been well researched, and studies in the field focus on digital competence, digital literacy, or digital tools (Gran, 2018; Letnes, 2014; Sando, 2014; Willbergh, 2008). However, it can be argued that the concept of digital Bildung is included in different concepts such as participation, democracy, and digital competence, for example in the Education Action Plan (European Commission, 2018) or in the newfound concept of digital judgement in the curriculum (Engen, Giaever, & Mifsud, 2017; Kunnskapsdepartementet, 2017). In the Nordic countries, digital tools are a large part of youth’s lives (Egeberg, Hultin, & Berge, 2016; Kommunal og moderniseringsdepartementet, 2016; Livingstone, Mascheroni, Olafsson, & Haddon, 2014), and schools have increased their usage of digital tools for learning, bringing forth the need to discuss new perspectives on Bildung. For example, Bergander (2015) examined how children organize their peer cultures as they participate with other children in different kinds of digital literacy events. This research determined that children between the ages of 10 and 13 develop different forms of technical and social literacy competencies that draw on their participation and experiences with digital tools (Bergander, 2015). Most European students do not meet benchmarks established for digital literacy skills at their level. Rapid technological development, fake news, communication apps or social media that allows for anonymous communication, and challenges from the Dark Web are just a few issues that will confront teachers in the future (Gehl, 2016).

**Research contribution**

This paper aims to uncover teachers’ understanding of the Bildung processes and how they are affected by ICT use based on teachers’ responses to questions about how they work with students’ Bildung processes, their work on Bildung in the digital sphere and their understanding of the schools’ most important role.

**Research question**

This article seeks an understanding of high school and elementary school teachers’ perspectives on digital Bildung by analysing interview data from teachers in four Norwegian schools during the spring of 2016. This study addresses the research question: How do teachers understand the phenomenon of digital Bildung? To find answers to this question, I conducted twelve interviews with teachers in four schools in Norway. To gather the teachers’ understandings of digital Bildung, the interview guide used a theoretical framework built on Humboldt (2000) theory of Bildung. To make sense of the teachers’ digital Bildung, some questions addressed how they use digital tools in the classroom, how they relate to students’ media usage, and specifically how they facilitate the digital access for the students.

**Analytic perspectives: inner processes, self-Bildung, and democracy**

*Inner process* refers to the human self’s ability to acquire a recognition of its inner improvement. The human being is at the centre of all actions and aims to amplify and increase its nature to give itself with value and duration without complying with a specific goal. What follows is one’s pursuit to expand one’s recognition and their actions (Humboldt, 2016). In other words, the process is the inner improvement. Human thought is merely the will’s attempt to be free and independent, whilst external occupations are only efforts to avoid being useless. Human thought and human action are impossible except through a third factor, namely the understanding and processing of something that has the distinctive characteristic of being not human, such as the world. The human wants to grab hold of and bond itself as
close to the world as possible. Luth (1998) also discussed Humboldt’s theory of inner unrest where people are striving to train their powers through exercise and to secure value and continuance for their being. The attention is directed back towards the world from within the person (Luth, 1998).

Self Bildung is the second analytical concept that sees human beings as motivated to search outside themselves to understand their inner self (Humboldt, 2000). Here, the individual must reflect on his or her inner self and be conscious of the warmth he or she takes in from every-thing around him or her (Humboldt, 2000). What humans need the most is a tool to create an interaction between what they take in from the reality around them and their activities (Humboldt, 2000). In his thesis he presented a concept of Bildung as the individual’s realiza-tion through the free development of skills, without a government intervention. The Bildung process in this understanding is described as an interaction between the human and the world. By interacting actively with its outer surroundings the human will be united and able to fulfil its purpose (Luth, 1998). In a closer description of this process, the subjects are in themselves too narrow and the humans must entrust themselves to the vagaries alone, so that the chosen subject is used is only to complete other goals. Luth (1998) explained Humboldt’s ideas by saying that not much will change within us if we only by create new surroundings and that all the knowledge and immediate useful scientific education completed by human have contributed to the neglected development of the human mind. Self-Bildung has two assumptions in individual freedom and diverse situations for learning (Lovlie, 2013).

Democracy is the third theoretical concept used to establish a theoretical understanding of digital Bildung in this study. When looking to the democratic perspective of Bildung, I draw on Dewey (2008), who included the recognition of common interest as a factor in social control. Further, he also included a freer interaction between social groups and a change in social habits. A continuous restructuring occurs through confronta-tions with new situations that produce a variety of interactions. Bildung, in this perspective, is an experience and a process that occurs in examination and experiments, meaning that Bildung is open at both ends with a movement from past to present time with hope for the future. Dewey (2008) connects the social democratic perspective and individual rights to social unity as a foundation. Learning in this perspective, therefore, means that the individual can assess others and their actions and provide their input on their development and that of others (Dewey, 2008). Intellectual possibilities must be available for everyone with the same terms. Additionally, learning groups of individuals must be composed of others that have the same interests and can reflect on their actions related to others (Dewey, 2008).

Regarding power in Humboldt’s Bildung theory the social relations and their role in Bildung are an exam-ple of how he connects us to the world of the senses outside us. Lovlie (2013) compared Humboldt with Dewey and determined he must be the German thinker that looks most like him, although Humboldt’s theories had no direct influence on Dewey.

Still, the similarities between these two theoreticians from different time aspects are striking, especially con-cerning individuality in Humboldt’s self-Bildung and the relationship between the self and the world. When discussing democracy this article will not focus on John Dewey but on the understanding of democracy as consist-ing of two sides: the general frame for the individual’s practical and political lives and these lives ethical and experience-based foundation (Lovlie, 2013).

Method
To understand how teachers reflect on digital Bildung, this study used a qualitative method to uncover connections between teachers’ ideas of traditional Bildung and their work on digital learning. I began by asking them about their work on Bildung and then connected this effort to their work with students’ Bildung processes when they used ICT tools and the digital sphere. In the interviews, none of the informants questioned the phenomenon of digital Bildung, although neither the curriculum nor the governing documents have offered a clear definition of the term beyond a simple description in a professional digital framework constructed for teachers (Utdanningsdirektoratet, 2018). I asked teachers about classical Bildung as well as digital Bildung because a literature review on digital Bildung (Gran, 2018) revealed that the phenomenon of digital Bildung does not exist independently in schools today. The interviews sought to determine how teachers include work around Bildung in their everyday routine, especially how they do this when using ICT tools. I used Bildung theory to create questions for the teachers and to synthesize the data. The data analysis identified three categories encompassing what the teachers talked about concerning their perspectives on digital Bildung, and I will use these categories to present the results of the analyses. The categories are (a) the teachers’ ICT usage, (b) the teachers’ perspectives on digital learning and (c) the teachers’ perception of digital Bildung.

Regarding the selection of schools and informants in this study, on chose participants based on how they relate to technology and used iPads as a learning tool. The data in this qualitative study consisted of 12 interviews with teachers from four schools in Norway. In processing the data, I used content analysis was used to create an understanding of the teachers’ Bildung perspectives (Bowen, 2009). I chose the selected schools based on their positive attitudes towards technology usage in school.
four chosen schools differed in how they were organized and how they used technology in daily work with the students. However, all four schools had started using iPads or computers in the learning process with children. All four schools have a high degree of digital tool use in their everyday teaching, and many of the students had an own iPad or their own computer.

I sent the research inquiry to each school’s headmaster who selected appropriate teachers to participate. While one school had only one informant, the other three schools each had three or four informants. I used the general term teacher to increase the validity of the study (Alvesson & Sköldberg, 2009); therefore, I present statements from all 12 informants as arguments form ‘the teacher’. The research question aims to understand how the teachers reflect on and talk about digital Bildung. Throughout this article, I use three analytical concepts lift different perspectives of digital Bildung.

I conducted the analysis of the interviews was conducted in several steps using NVivo software together with a content analysis approach. With the content analysis, I used a systematic, replicable technique for compressing many words into fewer content categories based on the usage of codes. Content analysis is broadly defined as any technique for making inferences by objectively and systematically identifying characteristic of messages. In other words systematic procedures to analyse and examine text (Cohen et al., 2015). Using a content analysis approach, I was able to go through a relatively large amount of data in a systematic fashion (Stemler, 2001). Coding the text led to the categories used in the analysis and presentation of the data. Finally, I used the content analysis to draw theoretical constructs from the text (Cohen et al., 2015). At this stage I drew on the theoretical constructs of the data, my prior knowledge in the field of Bildung could have influenced the way I identified theoretical associations. However, because I discovered that the teachers’ perspective on digital Bildung varied from the liberal education of the core curriculum, it was easier to take a more distanced stance from the data. This distance arose from the inconsistency between the government document’s perspectives on Bildung and the teachers’ perspectives on Bildung. In interviewing the teachers, I was open to the creation of new and unexpected phenomena, rather than having ready-made categories to be used in the interpretation of the data. This openness must be balanced together with the researcher’s prior understanding of the phenomenon according to Gadamer (Warnke, 1993). Therefore, the hermeneutic consciousness must open for the ‘otherness’ in the text in advance. Doing so requires neither neutrality nor self-effacement, but acknowledgement of the researcher’s own prejudice and knowledge in advance.

Presentation of findings: the teachers’ digital bildung perspectives

The focus of this article is to develop an understanding of the teachers’ perceptions of digital Bildung. In general, the informants described digital Bildung as having to do with digital upbringing and the ‘routine’ work they already do every year related to the students’ actions online or in their usages of ICT. The teachers also related their work on digital Bildung to the core curriculum or the values of the new curriculum in Norway (Kirke-, 1993; Kunnskapsdepartementet, 2017).

The teachers’ ICT usage

When asked about their ICT usage the informants referred to their own usage of digital tools (e.g. learning iPads, smartboards) in the classroom; specifically, they talked about the different apps their students used. In describing their work with iPads, the teachers explained how they have established learning contracts with the students in terms of which regulations they must follow, which apps to use, and which are forbidden. The following statement illustrates how the teachers communicated the rules for iPad use:

We have rules for iPad usage both in and out of school […] The students have a contract with the school on their iPad […]

Teachers professional competence with ICT might be questioned in the way they reflect their own digital competence. For example, some informants said that teachers did not have their own iPads, but some informants talked about using the smartboard and the iPads in the classroom. It may seem the teachers to claim they have a broader digital competence than they actually do. One teacher explained that using ICT makes it easier for her to make teaching relevant and create authentic tasks:

I want the students to experience something and remember it. I do not want them to be threatened to remember […]. I want them to experience and remember because it was exciting and fun […] Also, it should be applicable to the situation of the world today […] With these kinds of tasks the students become more openminded and deeper thinkers.

Yet, when asked about the challenges of the digital development in school, the teachers referred to netiquette, privacy, and measures to keep the students from using forbidden apps, demonstrating an instrumental perspective of digital learning. Some teachers mentioned the school’s mandate in reference to the work they do with digital learning:

When it comes to the challenges of the school in the future I believe that such a narrow form of knowledge that we give the students […] the school needs to see the necessity of upbringing and Bildung in a lot larger package, to create citizens of
the society. […] for example, the national tests show a narrow approach to learning […].

These statements offer a glance at how the teachers describe the usages of ICT and digital tools as a separate part of the daily teaching; in other words, the teacher talked about using ICT as something they prioritized and specifically planned for. For example, the teachers described classroom management as having transformed after they implemented iPads and digital tools.

**The teachers’ perspectives on digital learning**

Digital learning is regulated by the school and the teachers. In the quotation below, one teacher gave a description of how this is done:

[…]The sanctions we can use towards the students are taking their iPad for a period or completely…We try to generalize the learning tablet like the math writing book, which we would not take away, even if they drew in it […]. We spend time on photographs with the students regarding how they should approve before others can publish photos of them […].

Another teacher emphasized training when talking about digital learning:

Now we have gotten a teacher that is responsible for computer learning, and that can help the students in using the iPad […].

Here, both the sanctions and the digital skills as being related to the iPad. However, the teachers clearly punished the students when they did not obey the rules. In terms of the schools’ overall values, the interviews revealed that they focused vaguely on social media:

Bildung revolves around the students’ social life in the digital context […]. We have not talked so much about this in the school […]only in my class, I experience that we have a bigger and bigger responsibility to address what is coming in the future[…]So, if the teacher is not up to speed on what is communicated and what is going on among the youth we do have a challenge […].I am handling it quite well […].

This statement confirms that the students pursue digital development on their terms without direct influence from either their parents or their teachers (Tang et al, 2018). Still, this teacher claimed to be a pioneer when it came to an understanding of how students used digital tools in the classroom and in their social lives. This study determined that interaction online and cooperation with the parents were part of the teachers’ consciousness. Teachers noted, however that the parents learning potential, depends on how this cooperation is used and how it is created:

[…] they feel totally helpless. One mother said, we had given her daughter something that makes her go online when she goes home from school, and the mother has lost the control[…].We are going to talk about the use of iPads in school; parents must set rules and boundaries at home[…]School iPads are tools for school, and they are not to download any kinds of apps on this[…]Not easy to avoid that the students have private user accounts and other apps […]. Parents rarely control the students’ iPads and are not in touch with the students’ work […].

The misunderstanding of roles between the parents and teachers was illustrated in how the teachers viewed the parents’ role in relation to digital learning:

Interesting that game s[…] some play […] and that the parents let the students have games when it’s the school’s property […]. What do they do with play time etc […].

Teachers expressed digital learning as something that bordered different contexts; for example, in one episode, a student experienced online threats during class hours that ended up with a planned group fight outside the school area and after school hours. The teacher explained that events overlap between what happens during school hours online and what might have happened during leisure time the day before. The teacher stated that digital Bildung must have something to do with developing competence to handle these kinds of challenges. The same teacher also called for a greater system for handling the parents of students in situations where the parents, for example, do not believe their children have committed the action or done the alleged activity.

**The teachers’ perception of ‘digital bildung’**

When asked about how they work with Bildung, specifically in the digital sphere, one teacher explained that they do not control the students’ apps that they download at home or during school hours. Students have their personal user accounts on their iPads, and teachers rarely confront students or look at their iPads. This teacher explained the situation as follows:

The students have users that are private, too, it is not easy to avoid […]. They have other apps; we don’t enter their iPads to control them […]. We are not in contact with their work […]. On Showby I give them the tasks and collect them or they publish their answers […]. In the classroom, I walk around to see how they relate to it. Some access other apps or sites than they are supposed to […]. Usually it is the same students over and over […]. Most of them are concentrating on what they are supposed to work on.

It is a school tool; it is not alright to do other things. Then they have to physically put it back in the sack.

One teacher described digital Bildung as having to do with the students’ digital upbringing and netiquette. Another teacher talked about how students were using the iPads at school to learn and at home to learn, socialize and communicate:
Every year, we work on digital netiquette [...] and I must say something about fifth grade through seventh grade, that now have introduced iPads for all the students [...]. The students use them at home and in school [...]. This has led to changes in the way we master our classes [...] and we have become more professional when it comes to working with references in written work [...] and more particular in guiding the students in their searching online [...]. It has led to some challenges regarding which sites they can enter, and not [...].

In this statement, the teacher described the challenges as concerning which sites the students could visit. This comment does not address the challenges of the students’ everyday digital realities. Online, students are confronted with likes, dislikes, bad comments, exclusions and even risks at higher-level risks such as strangers contacting them, photos being published without their consent, paedophile groups becoming active in their surroundings, and other problematic cyber situations (Medietilsynet, 2018). One informant described an episode where an outsider of the school got control of a whole class and followed the students’ digital movements, social whereabouts, and relational comments. The teacher claimed it could have been an older brother or someone related to the class; however, they were not able to identify the person was. The informants argued awareness and students’ endurance as factors to be included in digital Bildung:

 [...] We work a lot with the digital usage and a potential to structure it. What lies in the concept Bildung [...] how much Bildung can you get in a week focus [...]. It comes up all the time [...]. It comes with more challenges that we are not aware of [...]. I often have students that have digital episodes [...], one that had filmed his class and posted it on YouTube [...]. It is not allowed [...]. If there are issues concerning photos, you must talk to the students about what is going on [...].

The informants referred to the changes brought about by the presence of the digital sphere in their students’ lives, including increased awareness of global development. However, informants argued that digital Bildung has so far not been included in a systematic way in the schools, although one teacher acknowledged that work has begun in this field. One informant was the ICT coordinator in the school and was responsible for implementing systems concerning digital usage and actions. He claimed this role was necessary because of the significant variation in the amount of focus on students’ everyday digital movements. He explained that, from time to time, there is increased focus on effective digital usages in schools and students’ activities, something that generates student work bound to both good assessments of the teachers and self-assessment from the students. For example, the learning platform is available for parents if they are good at using digital tools.

When talking about digital Bildung, the informants did not refer to the curriculum; instead, they described how they discussed different topics and how they handled different issues that occurred among the students in their digital movements. In reference to digital learning, they talked about learning not being entertainment and how they shared different apps with each other. They also underlined the educational usage of ICT. The teachers referred to their own incompetence in using specific digital tools, in knowing which apps to use, and in addressing students’ social media usage.

Discussion

The research question discussed in this article relates to how the teachers understand the phenomenon of digital Bildung using the three analytical perspectives: Inner process, self-Bildung and democracy (Dewey, 2008; Humboldt, 2000) and the empirical data gathered in interviews with the teachers.

Teachers explained that they discovered bullying and different perspectives of the students’ social development by talking with the students about their digital activities as part of their teaching in school. The informants described several examples of learning situations as a result of digital activities. One event stood out in its severity: A whole class was ‘monitored’ by an older brother or someone that knew the class’s movements and whereabouts. Digital work or conflict handling like this contributes to the students’ lives and their development of critical sense and digital judgement. This perspective is in line with the description of self-Bildung (Humboldt, 2000), in Humboldt (2016) argued that humans seek to give themselves value and acquire knowledge about the world to develop.

iPads and other digital tools have contributed to changing the teachers’ management of the class. One teacher stated that they had totally changed the perspectives of being source critical or guiding the students in searching online. However, the teachers’ ‘primary focus was on rules, contracts and sanctions when they talked about digital learning and iPads. The change lays in different possibilities through the use of digital tools, especially in the variation of students’ learning activities and how the smartboards made it easier to access knowledge from all around the world. The teacher also mentioned a clear structure of managing the class in using digital tools for feedback, feedforward, and assessment. Teachers underlined the necessity of being ‘one step ahead’ of the students in understanding, knowing, and using digital tools. Creating classroom cultures that would contribute to students’ self-determination and solidarity can be understood theoretically in light of Humboldt (2016) explanation of human urge to connect to a diverse world that moves our inner minds. Here we might want to question whether the teachers really need to be one step ahead,
or if it is at all possible considering the drive and motivation youth have for digital tools (Berrem, Gulbrandsen, Elgaard, Krumsvik, & Johan, 2018).

The double mandate of education is in the teachers’ awareness of their obligation to both educate and prepare the students for the future. Educating the students for the future could develop freer interaction between social groups (Dewey, 2008) and helping students become critical individuals. However, the teachers downplayed the challenges of their own classes while acknowledging issues in other classrooms. The teacher’s role in the classroom in this situation sheds light on the bullying issues in Norwegian schools, which have been found to be inadequate in terms of following up on bullying cases. A report on bullying in Norway noted a need to both recognize and reveal the bullying where, for example, cooperation between students is crucial to handle bullying situations and conflicts in school (Tharaldsen, Slåttten, Hancock, Bru, & Breivik, 2017).

Based on the responses, the informants understand digital Bildung to be placed in the hands of the students’ parents and other care-takers. Teachers reflected on the parents’ ability to ‘unplug’ their children from the digital tools or Wi-Fi and restrict the use of specific apps or social media. The informants explained digital competence with an instrumental approach to digital Bildung, in the way the informants requested training on the practical side of which apps and programs to use and which are more effective. The informants expressed an appreciation for the school’s efforts in helping them by, for example, hiring ICT advisors at the school. In addition, they also explained that their competence was far from the students’ competence in the field of ‘digital gadget usage’. Here, Humboldt (2000) concept of Self-Bildung can enlighten how the individuals need a certain motivation to search outside themselves to understand and search for external objects.

In this study of teachers’ perspectives on digital Bildung, I found little evidence of cooperation with parents on ICT usage and learning. The teachers exemplified their cooperation with the parents in both parent meetings and learning dialogues; at the same time, they stated that the parents were in charge of what happens outside the school, meaning in and out of the digital context. In addition, parents also have the means to stop students’ digital usage. The informants called for a stricter line on the student’s digital usage at home. The informants noted both the students’ late nights and their usages of games and apps, including social media platforms with higher age restrictions than the students’ ages. One school had a situation involving negative comments posted on Facebook about a student undergoing an identity change. According to the informant, the school handled the situation very well by making the students aware of how important it is to accept each other’s differences. Relating this example to a democratic perspective, situation like this one can call for teachers to work on social unities focusing on individuals providing each other with input about their development (Dewey, 2008).

According to the informants, student had only basic digital competence in their subject-area work on digital tools. The teachers explained that the students were not included in the decision-making processes related to how they used digital tools in the classroom. This finding seems related to teachers’ inadequate digital competence with digital tools (Gunstein Egeberg, Hilde Hultin, & Oa Berge, 2016). The teachers did not want to give the students control in the classroom, in fact, no matter how good the students’ digital competence was, the teachers would not give them responsibility in the classroom. The teachers’ attitudes towards digital tools in the classroom were positive, and they referred positively to the increase of learning with iPads in their schools. Some teachers discussed how the Wi-Fi was very reliable on the iPad in comparison with the earlier use of computers in school. A research report found teachers to be confident users of different apps in the classroom; however, the teachers in the same report claimed they did not have enough time to search for appropriate programs or apps for the learning sessions (Berrum, Fyhn, Gulbrandsen, Nilsen, & Krumsvik, 2017). Given the theoretical foundation in becoming critical selves, Humboldt (2016) viewed the substantial idea of the human as not to acquire an understanding of what it is outside itself through different tools, but to improve its inner understanding and inner recognition of life.

I asked teachers about their instrumental attitudes towards digital tools and what they referred to as being critically aware of how the students could benefit from teaching in a real, democratic society (Dewey, 2008). This view of critical awareness is revealed in relation to the interaction process, or the relationship between human and the world (Luth, 1998). Interacting with one’s surroundings enable one to work towards one’s purpose. Humboldt’s theory indicates that significant changes within us will occur only when we create new surroundings and acquire useful knowledge (Luth, 1998).

The informants had not considered letting students explain how the digital world is for them or what makes them so enthusiastic. The teachers were paralysed when it came to the area of learning where the students at home might participate in digital arenas or games that had them behead or kill others and even conduct massacres with their friends online. One teacher underlined the differences in what the students were allowed to do online at home and at school. Their frustration was clear as they described how parents did not come to
meetings, particularly those who needed it the most, according to the teachers. Informants explained how the parents were not aware of how they could be the clear adults setting the boundaries at home. Dewey (2008) referred to similar situations as pre-formal and described the universe of experience. When the teachers discussed what the students were allowed to do at home but not at school, a paradox arose in light of Dewey (2008) ideas of recognition of common interest as a factor for social control and a free interaction between social groups.

The teachers talked about having discussions with students based on their own experiences in the digital arenas; at the same time, they talked about situation-based management where they handled these situations when they popped up. They admitted that they were not ahead of the students in their digital development, either in knowing which apps the students were using or in determining which mechanisms were working in between them. One teacher referred to feeling the mechanism of the development of a certain ‘gang-leader’ without having the tools or the competence to handle it. The teacher noted that problems arise when they do not have evidence that these mechanisms are in place, even when fights are arranged for after school hours using social media to spread the word. In reference to the students’ self-Bildung and their development of independent selves (Humboldt, 2000), the teachers expressed an idea of the school mandate; however, there is not enough room or time to work with life issues such as this in the classroom. Teachers also addressed the inner process of students, who attach the randomly used knowledge they have learned from life, enabling themselves with value and duration to reach a specific goal (Humboldt, 2016).

Summarizing this discussion, neither democracy (Dewey, 2008) nor student involvement is systematically part of the digital work that the teachers do. These results raise questions about whether students have designated areas to develop their digital Bildung.

### Concluding remarks

An educational paradox exists between the increasing focus on using digital tools (European Commission, 2017; Ferrari, Punie, & BreCKo, 2013; Utdanning-sdirektoratet, 2012) in school and the teachers’ professional digital competence (Kelentric et al., 2017); significantly, this paradox challenges the school mandate that the teachers are obliged to enforce. This article investigated how the teachers who participated reflect on digital Bildung, and the data showed three findings that shed light on teachers’ perspectives of the digital Bildung phenomenon. The first finding relates to digital work in school and how it reveals and processes both conflicts and bullying between students. The teachers pointed at specific episodes with the students’ digital movements or results of these seen during the school days. Secondly, the teachers placed the main responsibility of digital Bildung in the hands of the parents and the caretakers at home. Teachers expressed this belief by describing how most problematic digital actions take place outside the school arena and therefore are not a part of the school context. The third findings concerned the line between the students’ social-life context and the school context and which arena could have a larger potential for learning, especially when assessing the amount of leisure time that students spend online, which ought to present at least some possibilities for informal learning. In addition to these three findings, the informants revealed that digital tools are changing teachers’ classroom management approaches and their digital work with students. The use of iPads has led to changes in classroom management and increases in student motivation, both factors that correspond well with research on the use of iPads in Bærum municipality in Norway (Berrum et al., 2017).

This article contributes to knowledge of the variations in the teachers’ perspectives on digital Bildung. The findings indicated how the teachers’ digital work in school and their need to control the circumstances for learning (e.g. needing to be ‘ahead’ of students) can limit how they work with digital Bildung. The study’s implications highlighted some potential systematic work on identity development and social competence in school. In other words, this creates room for digital Bildung (Gran, 2018; Søby, 2003). Finally, this study found the schools that participated did not have guidelines or routines for discussing upbringing, Bildung or social development in the digital context. They had also done no systematic work around reflection or the comprehensive development of the student in cooperation with the school or in the home. When relating these issues to different learning contexts (Erstad et al., 2016), a great deal of work can be done in the schools regarding Bildung perspectives in the different contexts of the students’ lives.

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### Notes

1. The term digital Bildung has been investigated broader in a systematic review (Gran, 2018).
2. In Norway, the Knowledge promotion underlined the work with digital skills in introducing digital tools as
one of five basic skills seen as the most important skill that students acquire during school years (Kunnskapsdepartementet, 2017b; Regieringen, 2006).

3. The Center for ICT (information and communication) is given the mandate of operationalizing the teacher’s professional digital competence in a framework for teachers (Kelenetric et al., 2017).

4. Bildung or dannelse in Norwegian, is based on the German, continental understanding of learning and upbringing of the child specifically in developing the individual reflection (Humboldt, 2000).

5. The school mandate in Norwegian school is given in several government documents (Kunnskapsdepartementet, 1998, 2008).

6. For example, Bærum municipality in Norway have given Ipads to all the students in many of the schools (Berrum et al., 2017).

7. The term Bildungsperspectives refers to the various fields of human knowledge require in order to expand successfully (Humboldt, 2000). These are views on how the individual can develop to become a fully integrated human beings.

8. The teachers had different roles, from class teachers to arts and crafts subject teachers and an inspector.

9. Questions that were used to investigate teachers digital Bildung perspectives were constructed using the core curriculum (Norwegian Board of Education, 2005), the general skills of the students (Utdanningsdirektoratet, 2012) and the cohesion between Bildung and competence (Gran, 2016).

10. Ideen zu einem Versuch, die Grenzen der Wisksamkeit des Staates, zu bestimmen (1851).

11. In this article Ipads is used as a term referring to tablets, surface and apple Ipads, for example, as is used in for example in a study on leadership in technology-rich schools Halvorsen (2017) and Tang, Darlington, Ma, Haines og Study (2018) uses it in a study on screen-time and parents practices on this.

12. This narrow form of knowledge is detrimental to learning.

13. Some of the teachers are given more funds and time to work on helping and guiding other teachers in digital development.

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