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Political bias in evidence for policymaking and the knowledge work of civil servants: the case of the ongoing digitalization of the Norwegian school

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ABSTRACT

This article engages in evidence-based policymaking by addressing (a) how civil servants endeavor to link evidence and policy and (b) examining how political bias influences this knowledge work in the ongoing digitalization of the Norwegian school. More specifically, it looks at the *uncertainties* civil servants encounter in their ambition to use evidence in policymaking relating to different definitions of knowledge, a lack of the desired knowledge, or incomplete or conflicting scientific findings. The study finds that evidence must meet high academic standards and be useful within a national context to be considered relevant. However, the political decision to digitalize the school, despite limited or conflicting evidence in support of this process, influences the definition of relevant evidence and hinders alternative perspectives and critical research from being heard.

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Introduction

Within the current political–administrative paradigm of evidence-based or evidence-informed policymaking, a key task for civil servants is to provide the knowledge required for policy formulation. This involves identifying relevant evidence and experts, facilitating reports, conducting research and evaluations, and overseeing the translation of international ideas to the national context (Karseth & Sivesind, 2022; Maybin, 2016; Olejniczak, 2017). According to Strassheim (2017), selecting, validating, and appraising the relevance of evidence in the context of policymaking results from an interplay between scientific and political factors. Still, we know little about how civil servants use their personal and professional judgement to strike a balance between political interests and scientific findings, and how they decide on what kind of evidence will be included in the policymaking process (Baek et al., 2022; Oliver et al., 2014).

Even though the ideal might be evidence-based political decisions, research seldom shapes policy in a linear and instrumental fashion (Boswell & Smith, 2017; Weiss, 1998). Policymaking involves seeking consensus, being responsive to public values and including stakeholders, hence the use of evidence will always be a complex and contested matter (Cairney, 2019; Parkhurst, 2017). According to Parkhurst (2017), the failure to engage with issues regarding this political nature of policymaking is a major problem in the growing body of literature on the evidence–policy nexus. The goal of this article

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is therefore to contribute to this gap by addressing how civil servants endeavor to link evidence and policy during a specific policy process: the ongoing digitalization of the Norwegian 1–13 school.

Enhanced access to various technologies within schools is believed to create new possibilities for teaching and learning (Jahnke et al., 2017). However, despite a growing body of research, we still have limited knowledge of how such digitalization affects students and society (Bulman & Fairlie, 2016; Escueta et al., 2017). Evidence points in different directions and this ambiguity is reinforced by the fact that the research field is dominated by relatively small case studies searching for the effects of specific digital learning tools (Zheng et al., 2016). This research has also been criticized for its dominating framing of digitalization as an objective improvement project and for not investigating broader, societal consequences of the current development (Knox, 2019; Peters & Besley, 2019). Given the influence of evidence-based policymaking (EBPM) in education (Steiner-Khamsi et al., 2020), the apparent mismatch between the ongoing digitalization of education and the uncertainty characterizing the research in this field represents an interesting paradox and the starting point for this study. By examining how civil servants handle this paradox, the aim is to make a two-fold contribution to the literature. The first concerns how civil servants do their knowledge work – i.e., seek to link evidence and policy. The second concerns how political bias influences knowledge work in the case of educational digitalization. The analytical framework focuses on the *uncertainties* civil servants face, specifically related to (a) different definitions of knowledge, (b) lack of the desired knowledge, and (c) incomplete or conflicting scientific findings regarding the digitalization of education (Kunreuther et al., 2014).

The data is based on interviews with ten civil servants, all of whom have played key roles in the digitalization of the Norwegian school. The case is relevant to an international audience due to the international character of the ideal of EBPM, and educational digitalization, and because Norway in some respects is a digital pioneer (Gunnulfsen & Møller, 2021).

The article begins with a presentation of the theoretical and analytical foundations. This is followed by the method section, which includes a case presentation, before the findings are presented. Then follows a section on the limitations of this study before the findings are discussed in relation to the theoretical framework and summarized in the conclusion.

Previous research and theoretical foundations

Policymaking and political bias

Evidence-based policymaking was introduced in the 1990s as a rational alternative to former policymaking believed to be based on values, ideologies, and political traditions (Kisby, 2011). The concept is held together by the notion that policymaking works better if based on scientific evidence, preferably of a quantitative or experimental nature (Smith & Haux, 2017). EBPM and the later more inclusive and less instrumental concept of *evidence-informed policymaking* are closely related to a long tradition in which policymaking has been seen as a rational process; a process where evidence plays an instrumental role, and where science and policy are separate domains. From this perspective, the political-administrative system discusses values and set goals, while knowledge producers find answers to society's challenges in the form of objective facts. The influence of science on political-administrative processes thus violates neither basic democratic principles nor science's own ideals of independent and value-free research (Albæk, 1988). EBPM and its rational fundament have been criticized for ignoring the fact that policymaking plays out within complex environments in which knowledge producers as well as stakeholders and policymakers on different levels are pursuing multiple and conflicting ideas of *the good society*. Such conflicts are primarily about different values and cannot be solved by scientific evidence alone (Stone, 2012). In such circumstances evidence is contested and biased and seldom has instrumental impact (Cairney, 2016; Cairney, 2018; Nutley et al., 2007; Parkhurst, 2017). Despite this critique, political-administrative interest in linking evidence and policy remains high (Cairney, 2021; Maybin, 2016; Smith & Haux, 2017; Steiner-Khamsi et al., 2020).

Parkhurst (2017) takes a pragmatic stand in the debate concerning EBPM. In contrast to the rational ideal, he claims that evidence used for policymaking will always be politically biased. *Technical bias* refers to the application of evidence that does not follow principles of scientific best practice, for instance cherry picking research results, and *issue bias* refers to problems caused by *depoliticization of politics* whereby social values might be marginalized by certain forms or bodies of evidence. Despite the potential for bias, Parkhurst (2017) still claims that evidence can be an asset for policymaking. *Good evidence for policy* should meet high scientific standards as well as be applicable in the given context and useful to achieve policy goals.

Uncertainties involved in linking evidence and policy

Policymaking is a complex process in which evidence is contested and may be just one of many sources of information. The demand for evidence does not always match supply and, even if the preferred evidence exists, it does not necessarily mean that a solution is appropriate (Cairney, 2016). From this perspective, Kunreuther et al. (2014) focus on the obstacles encountered by individuals and organizations attempting to link science with policy during this process. These obstacles are referred to as three forms of *uncertainty*.¹ *Paradigmatic uncertainty* results from the absence of a common platform relating to the framing of problems, the methods for investigating them, and how to combine knowledge from different academic disciplines or traditions. This aspect is especially relevant in the case of the digitalization of education because it is studied from different perspectives by, for example, educators, social scientists, technologists, and neurologists. In addition, within educational research there is a divide between the dominant search for the effects of digital learning and a more critical concern related to the broader societal or human impact of digitalization and the values involved in this process (Biesta, 2016, 2019). *Epistemic uncertainty* stems from insufficient information or knowledge to characterize a phenomenon. There is limited and conflicting empirical evidence on the positive effects of using digital technologies in education, and Norwegian authorities have already described this situation as challenging (Ministry of Research and Education, 2017). *Translational uncertainty* results from scientific findings that are incomplete or conflicting, which means they can be used to support divergent policy positions. Because evidence holds such a strong position in policymaking (Stengers, 1999), incomplete or conflicting evidence is likely to complicate the knowledge work of civil servants in general as well as support critics of the ongoing process.

Overall, I believe the factors presented by Kunreuther et al. (2014) represent a useful framework for capturing the general challenges and the political bias civil servants face when trying to link evidence and policy. In addition, I believe the differentiation between technical and issue bias, as introduced by Parkhurst (2017), offers a required nuance to an empirical examination of the political bias involved in evidence for policymaking.

Case presentation

The general notion that *evidence* is a useful asset in policymaking has been evident in the Norwegian central administration since the postwar period (Christensen et al., 2017; Tranøy et al., 2009). In the wake of EBPM, this ideal seems to have been adjusted to a new discourse and reinforced. Most educational policy programs are, for instance, planned according to a future evaluation (Høydal, 2020). Civil servants spend more time and resources on organizing evaluations and applied research, and increasingly believe their jobs have most in common with the role of a researcher (Christensen, 2014; Tornes, 2012). The influence of EBPM has also led to a shift implying that all work in the central administration should be substantiated by reference to research, experts,

¹Cairney (2016) is also referring to the uncertainty involved in linking evidence and policy. Cairney separates uncertainty and ambiguity, and the latter relates to the way in which the problem can be understood or framed.

or evaluations. Within the Ministry of Education and Research there has been an explosion in the use of references in both Green and White Papers (Steiner-Khamsi et al., 2020). Yet, in the case of educational digitalization, the process is taking place despite limited or conflicting evidence to support it, a situation being defined as challenging by the authorities (Ministry of Education and Research, 2017, p. 9) and a subject of criticism in the media and a couple of recent nonfiction publications. Public concern is particularly related to the lack of evidence on the consequences of swapping books and pens for tablets or PCs, a project characterized as *experimenting with Norwegian children* (see, e.g., Brochmann, 2020; Gabrielsen, 2020).

Norway was among the first countries in the world to include digital competence/skills as a core element of a national curriculum, alongside reading, writing, mathematics, and oral skills (Krumsvik, 2011). The digitalization of the Norwegian school involves aspects like SMART boards in the classroom, digital learning resources, digital administrative systems and communication channels between home and school, and increasing use by students of individual PCs or tablets. In 2021, 98% of students in secondary school, 90% of students in the fifth to seventh grades, and about 80% of students in the first to fourth grades had received their own publicly-funded PC or laptop (Norwegian Directorate for Education and Training, 2022). The majority of Norwegian teachers believe the digitalization process to be positive, and see themselves as digitally competent (Munthe et al., 2022).

The most recent element of the digitalization process has been guided by the White Paper *Future, renewal and digitization: Digitalization Strategy for Primary and Secondary Education 2017–2021* (Ministry of Education and Research, 2017).² The main goals of the strategy are to provide students with digital skills and to ensure that, “ICT is well utilized in the organization and the implementation of training increases students’ learning outcomes” (p. 12).³ However, the strategy does not suggest *how* the process of digitalization should take place. It is therefore down to local authorities to prioritize the introduction of individual PCs/tablets and specific digital learning tools, and the head of each school has the power to decide whether to introduce such technology. Hence, there has been significant variation across the country regarding digitalization levels.

Data and methods

The data consist of semi-structured interviews with ten senior civil servants from the Norwegian Ministry of Education and Research, and the Norwegian Directorate of Education and Training. The relationship between the directorate (agency) and ministry demonstrates the balance between the professional autonomy of the agencies with the more political agenda of the ministries. Although the two organizations differ, they are both influenced by the ideal of EBPM and dependent on a continuous supply of new evidence to perform their work (Høydal, 2020). The informants have either been directly involved in the strategic work leading to the current digitalization policy or they are involved in planning the future process – or both. The interviews are referred to as *elite interviews*, a term describing interviews with people who have a closer relationship to power or particular professional expertise (Morris, 2009). The informants in this study are considered to have both particular professional expertise and a close relationship to power in the case of digitalization. As a result of the Covid-19 pandemic, nine out of ten interviews were conducted online using Zoom, a cloud-based video-conferencing service. All interviews were recorded. As the interviews took place during May–September 2020, the informants were already familiar with online meetings.

Before recruiting the informants, they had to be identified. The aim of this study was to talk to civil servants who had been central to the formulation of the current digitalization policy and had in-depth experience of this process, i.e., a strategic sample (Thagaard, 2004). While the internet is believed to ease the search for elite informants (Marland & Esselment, 2019), bureaucrats are an exception. While other organizations present their staff online, sorted in accordance with their

²The title of the strategy and quotes have been translated from Norwegian by the author of this article.

³The strategy period has been expanded to 2022.

roles or responsibilities, the duties and achievements of civil servants remain obscured, continuing to reflect the Weberian ideal of a faceless bureaucracy. The informants were therefore recruited through snowballing, starting off with two of the author's contacts, one in each organization. These contacts provided the names of civil servants involved in the digitalization of education and new names were added to the list during subsequent interviews. When performing the last few interviews, the new informants suggested people with whom the author was already familiar, and it was therefore concluded that there was a good pool of potentially relevant informants. The process resulted in a list of 21 names and these people received an email inviting them to take part in the study. Ten informants accepted the invitation. One of the informants (Informant 4) no longer worked as a civil servant but was very familiar with the process based on their previous experience. All informants possessed in-depth knowledge of the national digitalization process. Their experiences include procurement and assessment of scientific research, contact with digital pioneers in the school sector and those involved in ICT, and producing evidence-informed policy briefs and other documents.

The interviews were semi-structured, and an open-ended interview guide was developed to ensure that the conversation touched upon several predefined topics. This included questions about (1) the informant's educational and professional background as well as their job assignments regarding the digitalization process; (2) their perception of the digitalization process; (3) their thoughts regarding the available academic research on digitalization; (4) the challenges arising from the apparent lack of relevant academic evidence; and (5) alternative sources of knowledge about/solutions to challenges concerning this lack of evidence. Terms such as EBPM were specifically avoided to allow for the informant's own perceptions of the relationship between evidence and policymaking. In the interviews, the process of digitalization of the school sector was not defined to include or exclude certain elements by the interviewee. This openness was applied to gain insight into which elements of this complex process were considered important by the informants. The interviews lasted between 60 and 80 minutes. Notes were taken during the interviews and elaborated on immediately after each session. The subsequent analysis was based on these immediate reflections and the recordings.

Lancaster (2017) is rightly concerned about challenges relating to anonymity when interviewing small elite groups. During the initial recruitment process and in the invitation email, potential interviewees were firmly assured that their confidentiality would be safeguarded. The study was approved by the Norwegian Social Science Data Service (NSD; ref. 502635). To ensure anonymity, no details about any of the informants are revealed, and they are referred to by number (1–10) rather than name or organization. The informants have higher education qualifications, including PhDs, and act as senior advisors or higher within the bureaucratic hierarchy. Several have long experience of working within the digitalization process in education and some have a background in the IT sector and a personal engagement with digitalization.

The analyses have been thematically guided and structured by the three forms of uncertainty outlined by Kunreuther et al. (2014). The categories are closely interlinked and overlap to some extent and one statement could touch upon several forms of uncertainty. This is particularly relevant regarding the two categories of *epistemic uncertainty* (a lack of knowledge that results in an inability to characterize a phenomenon) and *translational uncertainty* (resulting from scientific findings that are incomplete or conflicting). In the analyses, a lack of what civil servants believe to be *the right evidence* is categorized as epistemic uncertainty. This category also includes strategies to handle such situations. Translational uncertainty includes statements related to situations in which incomplete or conflicting research is influencing political as well as public debates on digitalization. The broader practical challenges the unclear evidence situation creates for civil servants in a system supposed to make evidence-based decisions are also included.

The findings presented highlight common themes raised in the interviews and indicate the diversity of opinions that exist. Some informants are better represented in the analysis, in the form of longer quotes, than others. This is because they represent specific in-depth knowledge

about a certain interesting factor or because their statements are the clearest version of several similar statements.

Findings

Paradigmatic uncertainty

Paradigmatic uncertainty results from the absence of a common platform as regards the framing of problems, how to investigate them, and how to combine different forms of academic knowledge (Kunreuther et al., 2014). Issues like educational digitalization can be viewed from several perspectives and the preferred perspective will influence further thinking about the issue and opinions concerning how this issue should be treated (Van Hulst & Yanow, 2016). All but one of the informants viewed an overarching understanding of the digitalization process as a necessary improvement in students' skills and a way to prepare them for the future. This view reflects the national digitalization strategy as well as the dominant international discourse on educational digitalization (Biesta, 2016, 2019). From this perspective, there is limited need for evidence informing authorities on whether to digitalize schools because digitalization is smart or even necessary per se. As such, several informants signaled that the digitalization of education was in fact too important to wait for evidence:

Due to the speed of the technological development, there is a lack of research. Because of this we must base our decisions on tryout rather than evidence from effect studies. (Informant 2)

Despite this indication that the decision to digitalize a school can hardly be described as evidence-based, the informants were nonetheless concerned about what they described as working in an *evidence-based manner*. This meant that their *own work*, such as policy briefs, plans, and recommendations, was supposed to be evidence-based. Evidence was considered particularly useful in relation to (*the positive*) effects of digitalization on children's learning outcomes, i.e., whether the digital school is more effective for students' learning outcomes than the analogous school. As such, the findings echo the mantra of the evidence movement: "Does it work?" (Kisby, 2011).

The one informant who did not share the majority's perception of digitalization as a necessary improvement project believed it instead to be a national prestige project and an experiment driven by international tech companies. This informant also emphasized the political bias involved when the bureaucracy was searching for evidence and expertise:

It was only the people who believe that this [digitalization of the school] is the most important thing to make happen who were invited to meetings. There was no room for nuances or critical voices ... When I called for critical experts to take part in meetings and so on, I was always told that these persons were hard to get hold of ... However, I have observed these kinds of processes over the years ... I know the real reason ... which was to make the current digitalization process take place. (Informant 8)

If this characterization is right, or even partly right, the ideal of EBPM seems to have limited practical impact. The statement indicates that evidence mainly plays a symbolic role in supporting decisions already taken and curbing criticism. This informant accuses the system of not taking research and the views of critical experts into account because doing so may hinder the ongoing process. Interviews with the pro-digitalization majority seemingly confirmed the political bias involved in their valuing of expert competence and evidence:

I think it's funny. The whole debate about technology or ICT in schools is very ideological. XX [name of national researcher] spends a lot of time and effort conducting research about people reading better on paper than on a screen. It's like pushing at an open door! What should rather be looked at is how text could be better structured on screen to improve online reading. (Informant 6)

Instead of comparing two forms of reading, the interviewee believed that researchers should stop being *ideological*, i.e., questioning the very act of online reading. They should instead perform useful research according to the current framing of education and reading as a *digital activity*. Along the same lines, several informants were critical of national academic expertise regarding education:

I wonder whether the [Norwegian education] researchers have the right technological competence? Do they see the possibilities in the technology? Are the educators the right group to perform this kind of research? It is about competence but also about attitude ... are they techno-optimists? I don't want to say that Norwegian researchers are techno-pessimists, I haven't got evidence to support that ... but I doubt they see the possibilities in ten years' time. That's the kind of perspective you need. (Informant 10)

The focus on attitude or *perspective* illustrates the political bias in evidence used for policymaking. The informant signals that research on the digitalization of education should be performed by academics who see digitalization as a possibility rather than a problem. The *digital future* is used as an argument for researchers to take a positive attitude, reflecting how the focus on *what works* is often based on what will happen in the future (Boswell, 2018) – a factor that increases the scientific uncertainty of the process.

Despite supporting the dominant perception of the digitalization process, some informants signaled a possible paradigmatic shift:

We have been very concerned about effects; does this work or not? We don't know. This process of digitalization will in any case lead to severe changes in the school. This field is so complex that we could stop being concerned about effects. ... effects might not be that interesting any longer. Anyhow, the educational system must take digitalization seriously. Digitalization is no longer about reading or writing, it concerns how youngsters live their lives, how they develop their identity ... and this is an important aspect of the school's purpose in society ... to be able to understand and handle such aspects. (Informant 3)

This quote illustrates how school and society are intertwined and how general digitalization of society might lead to a new political framing of the digitalization of education in the years to come.

Epistemic uncertainty

Epistemic uncertainty is a lack of information or knowledge that results in an inability to characterize a phenomenon (Kunreuther et al., 2014). Although the body of research on digitalization in education is growing rapidly, Norwegian authorities still believe that the lack of relevant research poses a challenge (Ministry of Education and Research, 2017). This standpoint was echoed in the interviews:

There is quite good evidence regarding what can be achieved with digital tools under ideal conditions, situations where you have a good scheme, a digital tool that the teachers involved are very familiar with, and where the tool is well-integrated pedagogically. In such cases, we know that digital tools can provide good benefits to both academically strong and weak students. However, there is a great distance between these controlled experiments representing a collaboration between top researchers, the industry, and selected students and teachers, in the U.S. and the Norwegian reality. (Informant 7)

The quote reflects a critical attitude to existing research, even when it could have been used to support current policy. In general, the civil servants seemingly combined (a) a genuine interest in acquiring new knowledge about *what works* with (b) the attitude that legitimate evidence should be of high academic quality and relevant to the Norwegian context. Concerns regarding methodological quality were also evident when informants questioned effect studies per se, due to the complexity of contextual factors in a classroom setting – even though the same informants were eager to identify studies reporting positive effects. Regarding the available evidence, the speed of technological development was considered a complicating factor because effect studies on specific digital tools quickly become outdated. Whether civil servants are competent to make an academic assessment of the research available is questionable. However, due to their educational background, experience, and continuous contact with external researchers and experts, for instance those engaged in performing systematic research reviews, civil servants' competence is not deemed to be problematic.

While the ideal of EBPM seems to maintain a strong position among civil servants, the political-administrative system looks for alternatives outside the evidence hierarchy when the preferred effect studies are missing. In the ongoing digitalization process, the school sector has been an important source of knowledge:

The development of the modern school has to a large degree been driven by innovative teachers and school heads. Teachers who have been technological enthusiasts have played an important role in the digitalization process. They provide knowledge, but they also play a role in legitimizing digitalization in their organization because of their cred among colleagues. (Informant 3)

As a result of being exposed to the positive experiences of fellow teachers or enthusiastic leaders, new schools or local administrators might be more convinced that digitalization is worth trying than if they had been informed by public authorities. In a process whereby local authorities and school heads have been given great autonomy, the (positive) experience of those in the sector might represent an important push in the digital direction. Some informants nonetheless signaled a certain level of ambiguity regarding the coproduction of knowledge with the school sector:

Through the school, we document practices, views, and attitudes. This is knowledge at a lower level of evidence. The knowledge often comes from self-proclaimed pioneers among teachers, municipalities, and schools, who like to advertise their success. That's good. This contributes not only knowledge to us, but also a form of horizontal sharing of experiences between the schools, and that's very useful. But this represents a form of self-selection based on mastery and success. We could risk that the dark numbers are high. It is not the schools that have failed that stand out. (Informant 7)

This quote reflects the influence of EBPM, whereby practical experience is placed at a lower level of the evidence hierarchy and is seen as less reliable. This informant is critical of the tendency to self-selection by actors who have succeeded, although acknowledging the value of the horizontal sharing of experience within the sector.

In addition to the focus on the positive effects of digitalization, civil servants were concerned about the challenges brought about by an insufficient overview of the process at the national level. This aspect was believed to be especially relevant given local autonomy in the ongoing process:

One of the challenges in this process has been the enormous variation in the level of digitalization between classes, schools, and geographical districts. Our mandate as an agency is to inform the ministry about the status quo and lacking an overview of the situation has made this problematic. (Informant 9)

Several informants pinpointed the role of evidence as fundamental to future political action. In line with the ideal of EBPM, “How can we know what to do if we don't have evidence?” seems to be the credo. Hence, epistemic uncertainty seems to be related to (a) a lack of descriptive data at the national level and (b) a lack of high-quality studies framing the effects of digitalization in the right way.

Translational uncertainty

Translational uncertainty results from scientific findings that are incomplete or conflicting, which means they can be used to support divergent policy (Kunreuther et al., 2014). Translational uncertainties lead to what informants tended to describe as an *unnuanced debate*, a *polarized field influenced by speculations or ideology*, and *worried parents*:

This is a very polarized field. There are strong public opinions regarding the digitalization of the school. The lack of clear evidence opens for speculation about the situation and that leads to continuous polarization. There are many different groups who are eager to define the field, and the lack of knowledge is a problem because it opens up endless speculation. (Informant 1)

Public critics of current policy have indeed used the lack of evidence in support of digitalization for what it is worth, for instance by referring to the process as *an experiment* (see, for instance, Brochmann, 2020). As such, the principles of EBPM have backfired. Rather than signaling public control and rationality, it is used by opponents to question the rationality of the process, as observed by Boswell (2018).

Incomplete findings also represent practical challenges for civil servants working in a system supposed to be evidence-based. It is their responsibility to provide evidence for decision-making, as well as arguments to inform political and public debate:

Those who decide, those who are democratically elected, never like it when we tell them that we don't know. In this situation, I feel lucky as a civil servant. It is much more difficult for politicians not to know than for us. They

are the ones responsible ... who must answer difficult questions, for instance from journalists. It's easier for professionals to say that more research is needed than for politicians. ... We give them what [the evidence] we have. With reservations, for instance regarding the relevance of international research in the Norwegian context. As civil servants, it is also our duty to say when we don't know. So that's what we often do. (Informant 7)

First, this quote illustrates the central position of evidence-based arguments in public debate, and hence challenges related to translational uncertainties. The lack of clear evidence in support of digitalization could explain why Norwegian politicians, according to critics, have been absent from public debate (Ravatn, 2020) – a debate, according to the informants, dominated by *worried parents*. Second, the translational uncertainties seem to complicate the work of civil servants. Instead of referring to a few reports, a group of experts or a defined body of research, they must take what they have, and puzzle this together, in line with what Freeman (2007) describes as an *epistemological bricolage*. If not, they must admit that they do not know, which is likely to be challenging in the current system. Third, the quote illustrates how the use of evidence must be understood in relation to the user. While the findings indicate that civil servants use evidence in what could be described as an enlightening way – to learn more about the current situation, to give grounds for their strategies, or to inform the political level, politicians seemingly use evidence more symbolically – to advocate for current priorities or counter criticism.

However, translational as well as epistemic uncertainties are also obstacles in relation to future policymaking:

The lack of research makes it more difficult to stake out a course, as well as to take more specific action ... I mean, what do we need and what should we do? In budget negotiations, it gets complicated if the opposition asks questions. If we're supposed to spend billions on something ... we should know more. (Informant 9)

This quote illustrates that, despite the overall political decision to digitalize the school, the operationalization of this vision is meant to be informed by evidence. This is the only legitimate way to counter criticism, as well as to plan for the digital future.

Limitations

As with any qualitative study, sample size adequacy is shaped by the *richness* or *information power* of the data. According to Malterud et al. (2016), information power depends on the aim of the study, sample specificity, the use of established theory, quality of dialogue, and analysis strategy (case or cross-case study). The higher the value of each dimension, the larger information power the sample holds and the lower the N is needed. Given the relatively broad aim of this study, more informants could have added new and relevant perspectives, for instance in relation to the critique of current policy. As in all interview studies based on self-recruitment and voluntary participation, there is a risk of bias. It could be the case that the proportion of critics among the population might in fact be higher than represented in this sample. The quality of the interviews is nonetheless considered to be strong. The participants possessed very specific expertise and willingly shared their knowledge, perspectives, support, and critiques, and the present study represents valuable perspectives concerning civil servants' efforts to link evidence and policy.

As previously indicated, another limitation could be the lack of differentiation between knowledge work in the agency and the ministry. However, as a group the majority expressed common attitudes and opinions regarding the overarching research questions of this study. Another limitation could be the fact that digitalization is a broad and complex process, and the informants have knowledge of different aspects of this complexity. In this article I present data related to the general process of digitalization and more specific information is contextualized.

Discussion

This article examines the knowledge work of civil servants and how political bias influences it in the case of educational digitalization. The foundation of this study is the apparent mismatch between the ideal of EBPM, on the one hand, and the ongoing digitalization of education despite the

apparent lack of evidence, on the other. By looking through the lens of the paradigmatic, the epistemic, and the translational uncertainties civil servants encounter when seeking to link evidence and policy, I find a political-administrative system clearly influenced by the objective and instrumental *ideal* of EBPM. However, the practical reality seems to be civil servants using their professional judgement when seeking to combine current political interests and high-quality evidence – described as *working in an evidence-based manner*, a phenomenon I believe reflects the ever-present dilemma of the bureaucracy: the relationship between the professional role of civil servants and the political interests they are supposed to serve.

When examining epistemic uncertainties, the findings underscore how evidence used for policy-making must be relevant in relation to the digitalization policy of the current regime, or the phenomenon Parkhurst (2017) refers to as *issue bias*. Research studying digitalization from other perspectives is even criticized for being guided by *the wrong attitudes*. In this way, issue bias reduces the number of studies considered relevant to inform the process as it unfolds. However, studies framed in line with current digitalization policy are also questioned on the basis of their methodological qualities or their lack of contextual relevance. Together with the political framing of digitalization, this leads to what is seen as a challenging sample of relevant studies and the phenomenon of *epistemic uncertainty*, which seemingly complicates the ambition to work in an *evidence-based manner*.

The findings suggests that *technical bias* generally is less accepted by civil servants than *issue bias*. According to Meier et al. (2019), bureaucracy must respond within the interests and values of the political regime, the legitimate functions of other actors, and in a manner consistent with its own professional values. While issue bias may reflect the values of the regime, technical bias might represent a chance for civil servants to uphold what could be regarded as their own independent, professional standards or values. Regarding stakeholders, these include parents and the school sector – among others. While civil servants have seemingly written off parents as potential collaborators, digital enthusiasts from the school sector are important partners. Through coproduction of knowledge with schools and teachers, the bureaucracy gains insight into the practical experience of digitalization, which also contributes to legitimizing digitalization within the sector.

By defining the *right way* to study or understand digitalization in education, the political-administrative system downplays the ambiguity evident in the research field. In this way, political bias might backfire and lead to more polarized public debate and a situation in which conflicting or incomplete findings are used increasingly by critics of the current policy. In this way, *translational uncertainty* could become an even more challenging factor in the knowledge work of civil servants – and for those politicians who are responsible for the ongoing digitalization.

I believe Parkhurst (2017) is right when claiming that issue bias is an unavoidable aspect of using evidence to achieve policy goals. To be useful in plans, budgets or policy briefs, such evidence cannot be in direct conflict with the world view of the current regime. Still, I find the degree of issue bias to be problematically high in the case of the digitalization of the Norwegian school system, and whether current practice reflects *good evidence for policy* (Parkhurst, 2017) is questionable. The findings indicate that issue bias prevents relevant research from informing the digitalization process and thus curbs learning and evidence-informed critique of current policy and its potential consequences. For instance, why should screens replace books if they *don't work*? Such practice seems ideological rather than evidence based. However, in the interviews critics of the digitalization policy were those described as ideological or *worried*, i.e., irrational, while the policy was rational, i.e., evidence based.

Concluding remarks

The study identified the central role of civil servants in the process of linking evidence and policy and their loyalty to current policy through their acceptance of the phenomenon of issue bias. The findings reveal the complexity of the knowledge work of civil servants and how the different aspects

of this work are linked together and interplay with the overall political decision to digitalize the Norwegian school. While issue bias might be an unavoidable part of using evidence in policymaking, I believe future research should look for ways in which to ensure a better balance between the constructive use of alternative or critical evidence and evidence framed in line with existing political ideas.

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References

- Albæk, E. (1988). *Fra sandhed til information. Evalueringsforskning i USA-før og nu*. Akademisk Forlag.
- Baek, C., Tiplic, D., & Santos, Í. (2022). Evidence-based policymaking in Nordic Countries: Different settings, different practices?. In Cham B. Karseth, K. Sivesind, & G. Steiner-Khamsi (Eds.), *Evidence and Expertise in Nordic Education Policy* (pp. 253–279). Cham: Palgrave Macmillan.
- Biesta, G. (2016). ICT and education beyond learning: A framework for analysis. In E. Elstad (Ed.), *Digital expectations and experiences in education* (pp. 29–43). Sense Publishers.
- Biesta, G. (2019). What kind of society does the school need? Redefining the democratic work of education in impatient times. *Studies in Philosophy and Education*, 38(6), 657–668. <https://doi.org/10.1007/s11217-019-09675-y>
- Boswell, C., & Smith, K. (2017). Rethinking policy ‘impact’: Four models of research-policy relations. *Palgrave Communications*, 3(1), 1–10. <https://doi.org/10.1057/s41599-017-0042-z>
- Boswell, J. (2018). What makes evidence-based policy making such a useful myth? The case of NICE guidance on bariatric surgery in the United Kingdom. *Governance*, 31(2), 199–214. <https://doi.org/10.1111/gove.12285>
- Brochmann, G. (2020). *De digitale prøvekaninene – Historien om hvorfor barnet mitt plutselig kom hjem med en iPad i skolesekken [The digital Guinea pigs: The history of why my child suddenly came home from school with an iPad in their backpack]*. Cappelen Damm.
- Bulman, G., & Fairlie, R. W. (2016). Technology and education: Computers, software, and the internet. In J. G. Altonji, P. Arcidiacono, A. Maurel, E. A. Hanushek, S. Machin, & L. Woessmann (Eds.), *Handbook of the economics of education* (Vol. 5, pp. 239–280). Elsevier.
- Cairney, P. (2016). *The politics of evidence-based policy making*. Springer.
- Cairney, P. (2018). Three habits of successful policy entrepreneurs. *Policy & Politics*, 46(2), 199–215. <https://doi.org/10.1332/030557318X15230056771696>
- Cairney, P. (2019). The UK government’s imaginative use of evidence to make policy. *British Politics*, 14(1), 1–22. <https://doi.org/10.1057/s41293-017-0068-2>
- Cairney, P. (2021). Taking lessons from policy theory into practice. *Learning Policy, Doing Policy*, 281.
- Christensen, J., Gornitzka, Å, & Holst, C. (2017). Knowledge regimes in the Nordic Countries. In I. O. Knudsen (Ed.), *The Nordic models in political science: Challenged, but still viable?* (pp. 239–252). Fagbokforlaget.
- Christensen, T. (2014). *Forvaltning og politikk [Public management and policy]* (4th edition). Universitetsforlaget.
- Escueta, M., Quan, V., Nickow, A. J., & Oreopoulos, P. (2017). Education technology: An evidence-based review.
- Freeman, R. (2007). Epistemological bricolage: How practitioners make sense of learning. *Administration & Society*, 39(4), 476–496. <https://doi.org/10.1177/0095399707301857>
- Gabrielsen, B. (2020). *Skjermsslaver. Hva skjermene har gjort med oss, og hva vi kan gjøre med dem [Slaves of the screen. What screens have done to us and what we can do with them]*. Kagge.
- Gunnulfson, A. E., & Møller, J. (2021). Production, transforming and practicing ‘what works’ in education—the case of Norway. In J.B. Krelsler & L. Moos (Eds.), *What works in Nordic school policies?* (pp. 87–102). Cham: Springer.
- Høydal, ØS. (2020). Worlds apart or coproduction? Investigating the relationship between knowledge users and producers. *Evaluation*, 26(4), 404–421.

- Jahnke, I., Bergström, P., Mårell-Olsson, E., Häll, L., & Kumar, S. (2017). Digital didactical designs as research framework: iPad integration in Nordic schools. *Computers & Education*, 113, 1–15. <https://doi.org/10.1016/j.compedu.2017.05.006>
- Karseth, B., & Sivesind, K. (2022). Conclusion: Toward a renewed understanding of evidence-based policy in education. In B. Karseth & K. Sivesind (Eds.), *Evidence and expertise in Nordic education policy* (pp. 409–429). Cham: Palgrave Macmillan.
- Kisby, B. (2011). Interpreting facts, verifying interpretations: Public policy, truth and evidence. *Public Policy and Administration*, 26(1), 107–127. <https://doi.org/10.1177/0952076710375784>
- Knox, J. (2019). What does the ‘postdigital’ mean for education? Three critical perspectives on the digital, with implications for educational research and practice. *Postdigital Science and Education*, 1(2), 357–370. <https://doi.org/10.1007/s42438-019-00045-y>
- Krumsvik, R. J. (2011). Digital competence in the Norwegian teacher education and schools. *Högere Utbildning*, 1(1), 39–51.
- Kunreuther, H., Gupta, S., Bosetti, V., Cooke, R., Dutt, V., Ha-Duong, M., Held, H., Llanes-Regueiro, J., Patt, A., Shittu, E., Weber, E. (2014). Integrated risk and uncertainty assessment of climate change response policies. In O. Edenhofer, R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, & A. Adler, et al. (Eds.), *Climate change 2014: Mitigation of climate change. Contribution of working group III to the fifth assessment report of the intergovernmental panel on climate change* (pp. 2–15). Cambridge, UK and New York: Cambridge University Press.
- Lancaster, K. (2017). Confidentiality, anonymity and power relations in elite interviewing: Conducting qualitative policy research in a politicised domain. *International Journal of Social Research Methodology*, 20(1), 93–103. <https://doi.org/10.1080/13645579.2015.1123555>
- Malterud, K., Siersma, V. D., & Guassora, A. D. (2016). Sample size in qualitative interview studies. *Qualitative Health Research*, 26(13), 1753–1760. <https://doi.org/10.1177/1049732315617444>
- Marland, A., & Esselment, A. L. (2019). Negotiating with gatekeepers to get interviews with politicians: Qualitative research recruitment in a digital media environment. *Qualitative Research*, 19(6), 685–702. <https://doi.org/10.1177/1468794118803022>
- Maybin, J. (2016). *Producing health policy: Knowledge and knowing in government policy work*. Palgrave Macmillan UK, 2016. ProQuest Ebook Central. <http://ebookcentral.proquest.com/lib/hioa/detail.action?docID=4720095>. Created from hioa on 2021-07-06 11:48:35.
- Meier, K. J., Compton, M., Polga-Hecimovich, J., Song, M., & Wimpy, C. (2019). Bureaucracy and the failure of politics: Challenges to democratic governance. *Administration & Society*, 51(10), 1576–1605. <https://doi.org/10.1177/0095399719874759>
- Ministry of Education and Research. (2017). *Framtid, fornyelse og digitalisering: Digitaliseringsstrategi for grunnsopplæringen 2017–2021*. [Future, renewal and digitalization. digitalization strategy for primary and secondary education 2017–2021]. Available at: https://www.regjeringen.no/contentassets/dc02a65c18a7464db394766247e5f5fc/kd_framtid_fornynelse_digitalisering_nettpdf (retrieved March 1, 2020).
- Morris, Z. S. (2009). The truth about interviewing elites. *Politics*, 29(3), 209–217. <https://doi.org/10.1111/j.1467-9256.2009.01357.x>
- Munthe, E., Erstad, O., Njå, M. B., Forsström, S., Gilje, Ø, Amdam, S., Moltudal, S., & Hagen, S. B. (2022). *Digitalisering i grunnsopplæring: kunnskap, trender og framtidig forskningsbehov*. Kunnskapscenter for utdanning: Universitetet i Stavanger.
- Norwegian Directorate for Education and Training. (2022). Utdanningsspeilet 2022—Den digitale tilstanden i skole og barnehage. <https://www.udir.no/tall-og-forskning/publikasjoner/utdanningspeilet/utdanningspeilet-2022/den-digitale-tilstanden-i-skoleog-barnehage/>.
- Nutley, S. M., Walter, I., & Davies, H. T. (2007). *Using evidence: How research can inform public services*. Policy press.
- Olejniczak, K. (2017). The game of knowledge brokering: A new method for increasing evaluation use. *American Journal of Evaluation*, 38(4), 554–576. <https://doi.org/10.1177/1098214017716326>
- Oliver, K., Innvar, S., Lorenc, T., Woodman, J., & Thomas, J. (2014). A systematic review of barriers to and facilitators of the use of evidence by policymakers. *BMC Health Services Research*, 14(1), 1–12. <https://doi.org/10.1186/1472-6963-14-2>
- Parkhurst, J. (2017). *The politics of evidence: From evidence-based policy to the good governance of evidence* (p. 182). Taylor & Francis.
- Peters, M. A., & Besley, T. (2019). Critical philosophy of the postdigital. *Postdigital Science and Education*, 1(1), 29–42. <https://doi.org/10.1007/s42438-018-0004-9>
- Ravatt, A. (2020). “Brett først, spør etterpå.” [Fold First, Ask Afterwards]. <https://www.aftenposten.no/meninger/kommentar/i/dOoveq/brett-foerst-spoer-etterpaa>.
- Smith, K., & Haux, T. (2017). Evidence-based policy-making (EBPM). In B. Greve (Ed.), *Handbook of social policy evaluation* (pp. 141–160). Edward Elgar Publishing.
- Steiner-Khamsi, G., Karseth, B., & Baek, C. (2020). From science to politics: Commissioned reports and their political translation into white papers. *Journal of Education Policy*, 35(1), 119–144. <https://doi.org/10.1080/02680939.2019.1656289>

- Stengers, I. (1999). *For en demokratisering av vitenskapene. [For a democratization of the sciences]* Vol. 4. Spartacus.
- Stone, D. A. (2012). *Policy paradox: The art of political decision making*. W.W. Norton & Company.
- Strassheim, H. (2017). Bringing the political back in: Reconstructing the debate over evidence-based policy. A response to Newman. *Critical Policy Studies*, 11(2), 235–245. <https://doi.org/10.1080/19460171.2017.1323656>
- Thagaard, T. (2004). *Systematik og indlevelse: en indføring i kvalitativ metode*. Akademisk forlag.
- Tornes, K. (2012). Evalueringstradisjoner. In I. K. Tornes (Red.), *Evaluering i teori og praksis* (s. 71–97). Fagbokforlaget.
- Tranøy, B. S., Christensen, J., Nuland, B. R., & Hernes, G. (2009). Innledning: staten og velferdsforskningen. *Hjernen er alene-Institusjonalisering, kvalitet og relevans i norsk velferdsforskning*.
- Van Hulst, M., & Yanow, D. (2016). From policy “frames” to “framing” theorizing a more dynamic, political approach. *The American Review of Public Administration*, 46(1), 92–112. <https://doi.org/10.1177/0275074014533142>
- Weiss, C. H. (1998). Have we learned anything new about the use of evaluation? *American Journal of Evaluation*, 19(1), 21–33. <https://doi.org/10.1177/109821409801900103>
- Zheng, B., Warschauer, M., Lin, C. H., & Chang, C. (2016). Learning in one-to-one laptop environments: A meta-analysis and research synthesis. *Review of Educational Research*, 86(4), 1052–1084. <https://doi.org/10.3102/0034654316628645>