



## Editorial: Platformed professional(itie)s and the ongoing digital transformation of education<sup>1</sup>

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Over the past decades, a growing body of research has identified a substantial restructuring of the education field, caused by global governance transformations such as the rising empowerment of international organizations and policy networks (e.g., Dale & Robertson, 2007), trends of marketization (e.g., Rönneberg, Lindgren & Lundahl, 2019), or the growing dominance of accountability- and test-related policies (e.g., Lingard, Martino, Rezai-Rashti & Sellar, 2015; Grek, Maroy & Verger, 2021). Much of that research has analyzed the various effects of these transformations on educational institutions and classroom practices, and hereby also fostered our understanding of both their global nature and their local manifestations (e.g., Verger, Altinyelken & Novelli, 2018).

It is within that wider group of research that studies on the impacts of governance transformations on educational professional(itie)s can be situated. Little surprisingly, the strongest focus has hereby so far been on teachers, and the conflictual interplay between professionalization and de-professionalization (for an early thematic review see Race, 2002). For instance, in countries such as the US and the UK, which have strongly intensified high-stakes accountability policies in education over the past decades, many scholars have identified a rising de-professionalization (e.g., in the form of diminishing autonomy and trust) and demoralization of teachers (Wronowski & Urick, 2021; Holloway, Sørensen & Verger, 2017). Other work has put emphasis not only on the collegial and individual, but equally on the organizational level of professionalism, as well as on micro-level contextual variation, to address the actual

simultaneity and manifoldness of processes of professionalization and de-professionalization (Frostenson, 2015).<sup>2</sup> While some dimensions of professional autonomy might hereby be observed as diminishing, other dimensions of educators' work (e.g., fostering inclusion) might actually be increasingly acknowledged and responded to with new forms of professional training. This not only applies to research that discusses the changing professionalism of the teacher: research on other types of education professionals has evolved around similar debates, including studies on school principals (e.g., Tekleselassie, 2002; Jarl, Fredriksson & Persson, 2012), superintendents (e.g., Kowalski, 2006), or higher education staff (e.g., Gerber, 2014; Boitier & Rivière, 2016).

With the continuous digitization of the educational sector and, more recently, the rising prevalence of digital platforms within all spheres of the education system, the debate around transforming educational professional(itie)s has substantially gained momentum. On the one hand, there is a significant body of literature calling for new forms of professionalization of educational actors, based on the argument that the emergence of new digital, data-driven technologies in education requires new types of professional knowledge, skills, and attitudes (for recent overviews on teachers see, for instance, Fernández-Batanero, Montenegro-Rueda, Fernández-Cerero & García-Martínez, 2022). In this literature, technologies such as educational platforms are regularly described as highly beneficial for supporting professional practices, including the improvement of professional decision-making (e.g., through providing detailed learning analytics). On the other hand, scholars have expressed substantial concerns that digital platforms risk taking professional autonomy and judgement away from educators, whilst at the same time empowering technology providers and algorithmic systems of decision-making to increasingly influence what is happening in various educational practices (see Roberts-Mahoney, Means & Garrison, 2016 for an example of the classroom or Perrotta, 2021 for a study on universities). It is, consequently, not only the ambivalent impacts of digital platforms on *existent* educational professional(itie)s that matter, but equally the simultaneous empowerment of *new* professional(itie)s to act in education, including platform designers or data infrastructure managers, as well as the rising ascription of platforms as 'professionals' themselves (e.g., Lewis & Hartong, 2022; Perrotta, Gulson, Williamson & Witzemberger, 2021).

Despite this growing interest in the various roles that digital platforms play in reconfiguring professional(itie)s, however, most research in this area is still situated on a more general, programmatic and partly also speculative (either euphoric or dystopic) level (Decuyper, Grimaldi & Landri, 2021). In contrast, not much research has thus far explicitly discussed and, in particular, *empirically studied* the actual reshaping of educational professions through educational platforms (but see for

instance Ideland, 2021, and Lewis, 2020 for the transforming ‘figure’ of the teacher). Related to that, thus far little research has problematized the question of how (de-)professionalization in/through such platforms manifests in *concrete* educational practices, including thorough discussion on the complex interplays between the global nature, versus the contextual nuances of platformed professional(itie)s (cf. Alirezabeigi, Masschelein & Decuypere, 2022; Landri, 2021; Robinson, 2022).

With this special issue, we seek to engage with, and significantly push forward, this emerging body of literature, by bringing together research that (1) *conceptually discusses and empirically deconstructs the surging power of educational platforms in the (re-)shaping of educational professional(itie)s*, and that thereby equally (2) *addresses the specific interplay between broad processes of platformization and different socio-cultural contexts*. In line with what we argued above, the special issue hereby covers the (re-)shaping of more ‘traditional’ professions – namely teachers, school leadership as well as state supervising personnel – but equally discusses the emergence of parents as ‘new’ types of professions, as well as the role of platforms as professionals themselves. Regarding the role of socio-cultural contexts, the collection follows a comparative case study approach (Parreira do Amaral, 2022). That is to say, rather than using national cases as a priori ‘containers of comparison’, each contribution provides a unique, in-depth case study, which actively investigates how ‘context’ becomes visible and is transformed in a specific case of platformed professional(itie)s. In doing so, we respond to more established developments in the field of comparative education that seek to denaturalize territorially bounded understandings of context as ‘given’ and, instead, turn context into a matter of concern and investigation (Sobe & Kowalczyk, 2018; Hartong & Piattoeva, 2021). At the same time, we offer an innovative contribution to that field, by specifically addressing the ‘power of (re-)contextualization’ embedded in digital platforms.

In the following two sections, we first outline some of the most distinct conceptual features that, in our view, characterize educational platforms today, before discussing more specifically how a context-sensitive (yet comparatively oriented) investigation of platforms can look like. Next, we introduce the different types of ‘platformed profession(alitie)s’ covered in this special issue, before providing a brief outlook to fruitful future research in this area in the last section.

## Characteristic features of digital (education) platforms

Over the past decades, digital platforms have gained increasing importance in different educational practices (van Dijck, Poell & de Waal, 2018), a phenomenon that has been substantially further triggered by the recent and ongoing COVID-19 pandemic (Williamson, Eynen & Potter, 2020). What originally started as *Learning Manage-*

ment Systems (LMS) that were fairly limited in scope (that is, largely focused on the management and distribution of files and content), digital environments today have become more and more complex and dynamic, ranging from large-scale meta-platforms to micro-service-platforms, providing services from communication to adaptive tutoring, and spanning all education levels from early childhood to adult education. It is both this growing omnipresence and this variety of platforms that has made it increasingly important (but at the same time quite challenging) to develop a common understanding of what platforms actually *are*, for instance by means of enlisting defining features that characterize them. Addressing this gap, and building on the work of van Dijck et al. (2018), we have recently suggested the following three features that are characteristic of digital platforms (Decuyper et al., 2021, pp. 3 ff.).

First, digital platforms possess specific forms of *digital architectures*. Much like a physical platform, digital platforms can be conceived as stages through which actions and activities unfold in a regulated form and, like any stage, they are built and constructed in specific manners (Bratton, 2015). Two of the most significant architectural building blocks of platforms are the *Graphical User Interface* (GUI) and the *Application Programming Interface* (API) (Kelkar, 2018). Put simply, the GUI is what users of platforms get to see on the screen. GUIs are no neutral transmitters of information, but are highly aestheticized and attractively visualized environments that seek to maximally draw users in, for instance by personalizing the content offered and by using various techniques that seek to keep learners engaged (e.g., notifications to ‘continue learning’, pop-ups that tell that ‘you are dearly missed’ when not active for a while). APIs, on the other hand, are software interfaces that allow platforms to communicate with other platforms, for instance, through plug-ins. Hence, platforms are no monolithic actors with clearly identifiable boundaries, but heterogeneous assemblages that commonly draw in other platforms as well. In that respect, platforms can be conceived as ‘stacks’ of different modules building on, and built on, each other (cf. Bratton, 2015). One example is the embedding of YouTube within the learning management platform of an education institution; another example is Amazon’s cloud-based voice recognition software Alexa, whose API is embedded in many digital education platforms such as Moodle and Blackboard. The central precondition for platforms to be present in, work in, and be able to operate within different other platforms is their *interoperability*, which is, amongst others, made possible through the standardization of meta-data (Kerssens & van Dijck, 2021; Hartong, Förschler & Dabisch, 2021; Kubicek, Breiter & Jarke, 2019).

Second, digital platforms can be characterized by means of their *intermediary status*: they connect different parties and bring them together in centralized digital spacetimes. Platforms, thus, streamline and mediate activities of exchange: they make it possible that users produce, circulate, and consume content. Naturally, the

precise types of production, circulation, and consumption that are allowed to go round depends on the limitations and boundaries that each platform imposes on users. That is to say, from their intermediary position, platforms are not only streamlining exchange; they are equally actively shaping the boundaries and parameters of which (types of) exchange(s) are precisely possible. Platforms, thus, are highly regulative and steering, and set the rules for which specific actions and types of activity can emerge and which not (Gillespie, 2018; Gorwa, 2019; Grimaldi & Ball, 2021). The censorship that is happening on social media platforms is a case in point, but equally platforms more tailored to the educational sector have specific ways to regulate and streamline what can happen on the platform and what not (e.g., Lewis, 2022).

Third, digital platforms can be characterized by being a *new form of organization* that works through the market rationales of extracting value from the activities of its users. An important feature of digital platforms is arguably their possibility for collecting the data traces of their users and analyzing those traces, both on the individual level as well as on the level of the entire databases. In that respect, literature has analyzed how this so-called ‘dataveillance’ of users by platforms has led to a new form of capital, extracting upon and subsequently monetizing user activities and interactions, oftentimes without their explicit knowledge (Komljenovic, 2021; Zuboff, 2019). Specifically in the education field, one of the most prominent sectors of dataveillance is undoubtedly learning analytics, which are extensively generated through learners’ activities on platforms, and this both on the individual and collective (e.g., classroom) level (OECD, 2021). At the same time, equally in the education sector there is a growing awareness of profiling of students and young children the like, with these data then sold to third party actors for targeted advertisement (Human Rights Watch, 2022). Moreover, as a new ‘kind of firm’ (Robertson, 2018), platforms not only capitalize upon the activities of their users, but oftentimes equally promote or even actively require ‘labor’ of their users to produce content, such as didactic material (Lewis, 2022).

Taken together, these three characteristics help us to develop a better understanding of what platforms are and how they operate, also in the field of education. At the same time, it is important to consider what, within these broader characteristics, might be further distinctive features of digital *education* platforms; that is, why such platforms require dedicated research and investigation from the educational field. An obvious difference between more generic digital platforms and digital education platforms, is, firstly, that many digital education platforms have minors, often very young children, as their users. This not only implies that many of the data being gathered are highly sensitive (Human Rights Watch, 2022), but equally that these young users are particularly vulnerable to platforms’ inscriptions (e.g., what the platform conveys as being a ‘good’ user) as well as to intrusive yet often imperceptible

techniques such as nudging (Decuypere & Hartong, 2022). Secondly, digital education platforms come with a higher general level of ‘pedagogical authority’ than their more general counterparts – particularly if used in contexts of formal education, such as when used to hand in and evaluate assignments (Sefton-Greene, 2021). This is because these platforms become linked to, and are inscribed in, institutionally established as well as socially legitimized pedagogical logics of certification, grading, disciplining, and so on (ibid.). Thirdly, and related to that, digital education platforms commonly bridge formal education and informal home/family contexts, thus mediating their specific ideas of what constitutes good and worthwhile education (including ideas of pedagogical professionalism) across those different spheres. While not all these ideas are necessarily problematic (on the contrary), research still indicates that much EdTech has thus far promoted an understanding of education and learning as ‘accumulated economic currency’ (Means, 2018). Such understanding is particularly visible in platforms (e.g., Apple Teacher; Khan Academy) that produce didactical content themselves (Means, 2018; see also Perrotta et al., 2021; Lewis, 2022).

While all these features of digital platforms in general, and digital educational platforms in particular, show why critical attention to the rising platformization of education is of crucial importance, it is equally important to stress that the transformative power of platforms is not to be thought of in a deterministic manner (Decuypere et al., 2021). Instead, contextual factors always play a crucial role in how (if at all) platforms are being used precisely, and which effects are consequently produced. For instance, based on their professional self-understanding, teachers may decide to resist against the usage of a certain platform or to work only with a couple of its functionalities (e.g., Förschler, Hartong, Kramer, Meister-Scheytt & Junne, 2021). That is to say, and coming back to the importance of understanding platforms as digital, intermediary architectures (instead of as monolithic ‘objects’), platforms are always differentially enacted, and while they may substantially alter educational contexts, they will simultaneously always be framed by these contexts themselves. This ‘double-edged contextuality’ of platformization clearly shows the need to carefully investigate overly generalized theoretical statements (e.g., that the platformization of education automatically and/or necessarily leads to a de-professionalization of teachers), and, instead, to intensively scrutinize the detailed interrelations between the dynamic local enactments of platforms and the (re-)making of different sorts of educational professions and professionalities (Fenwick & Edwards, 2016). At the same time, it equally requires a specific understanding of comparative education platform research, to which we turn next.

## Developing a comparative, context-sensitive perspective on ‘platformed professional(itie)s’

For quite some time already, scholars have argued for the need to overcome ‘methodological nationalism’ in comparative education research; that is, to denaturalize territorial spaces as units of comparison, and to instead pay closer attention to the actual and relational enactment of such spaces (beyond others) (Bartlett & Vavrus, 2019; Sobe, 2018). Scholars have accordingly developed alternative, more relationally oriented concepts – for instance, ‘assemblage’ (Peck & Theodore, 2015), ‘polycscape’ (Carney, 2009), or ‘policy fields’ (Hartong & Nikolai, 2017) – to investigate how different forms of context, on the one hand, shape such particular assemblages, and which contexts (for instance ‘the national’) are, on the other hand, actively produced through these processes of assemblage (re-)making (see also Hartong & Piattoeva, 2021). It is important to mention that such approaches do not abandon the idea of ‘national’ systems and their comparison, but that they rather regard such forms of contextualization as relationally (re-)produced, and that they are interested in how specific contextual descriptions attain meaning and legitimacy (e.g., Savage & Lewis, 2018).

Particularly with the increasing platformization of education in its multiscalar, fluid and generative nature, approaches that actively seek to understand such relational and contextual productivity gained further prominence (see for an overview Decuypere, Hartong & van de Oudeweetering, 2022). In that regard, we see an increased interest in how platforms, on the one hand, overcome traditional contextual borders or images (e.g., the territorially located school), and, on the other hand, simultaneously create new contexts/contextual features themselves (ibid.; van de Oudeweetering & Decuypere, 2022). At the same time, research found clear evidence that traditional contextual images continue to substantially matter for the shaping of such new digital contexts (e.g., the mostly nationally or regionally framed political-economic contexts in which EdTech evolves; Cone et al., 2022; Decuypere & Lewis, 2021). It is exactly this interplay that we equally outlined as one of the key features of education platforms above: platforms bring things (actors, policy levels) together in new (digital) ways, while they are simultaneously always inscribed with a specific production context *and* are ongoingly (re-)enacted through multiple forms of contextual usage. The methodological challenge is, then, to capture this complex, multidimensional interrelation, for which comparative approaches are crucial (see also Wallner, Savage, Hartong & Engel, 2020). Such context-sensitive comparative approaches are ‘inventive’ (Gulson et al., 2017) in nature: they take various forms and shapes, and ‘zoom in’ on different thematic foci, through which the aforementioned multidimensional interrelations are investigated. In this special issue, the

common theme of all contributions is put on educational professional(itie)s, yet the ‘entry points’ as well as the specifically adopted comparative perspective substantially vary.

In the contribution of *Steven Lewis and Mathias Decuyper*, ‘*Out of time*’: *Constructing teacher professionalism as a perpetual project on the eTwinning digital platform*, the emphasis is put on a European platformization context and its impact on (re-)shaping teacher professionalism in a ‘delocalized’, digital, yet still locally enacted manner. In contrast, the study of *Vito Dabisch*, *The practices of data-based governance: German school supervision, professionalism and datafied structurations*, problematizes and compares the interrelation between different subnational platformization contexts of the federal German system and their interrelation with school supervisors’ professionalism. The contribution of *Jennifer Clutterbuck*, *The role of platforms in diffracting education professionalities*, investigates the profession-related impact of the OneSchool platform in the context of Queensland, Australia, but, and different from the former two studies, performs a comparison between different stages of platform development/usage, as well as between different ‘levels’ on which different educational professionals (state department personnel, principals, and ICT teachers) are (re-)situated. Lastly, the study of *Sigrid Hartong and Jamie Manolev*, *The construction of (good) parents (as professionals) in/through learning platforms*, discusses the rising platformization and construction of parents as education professionals through comparing two different platforms, one characterized by an Anglo-American, yet globally oriented design and usage context, the other one much more locally framed and only used in Germany.

Taken together, through this comparative case study approach (Parreira do Amaral, 2022), this special issue helps to further develop both a micro- and a macro-level understanding of the manifold interrelations between platformization and educational (de- and/or re-)professionalization, whilst at the same time providing fruitful examples of how comparative, context-sensitive research of educational platformization can look like. In his afterword to this special issue, *Carlo Perrotta* takes stock of the insights generated in this special issue, and tries to sketch some outlines of a future research agenda on platformed professional(itie)s.

## The platformization of ‘traditional’ and the emergence of ‘new’ educational professional(itie)s

In this section, we discuss existent research on the transforming professionalism and professionalism of different actors involved in education and schooling, and show how the articles in this special issue contribute to a further development of the field. The special issue hereby broadly addresses two different sorts of professionals: on



the one hand those who can be described as more ‘traditional’ education professions; on the other hand, those who have ‘newly emerged’ as educational professionals in an increasingly platformized landscape. While the special issue includes teachers, school leaders and supervisors as examples of the first group, it uses the example of parents to discuss the second.

As already briefly noted above, there is extensive literature on how ongoing governance transformations have impacted the *teaching* profession. Large parts of that literature have framed and discussed such impacts in problematic terms; that is, as downgrading and deteriorating teachers’ professionalism over time (e.g., Acton & Glasgow, 2015; Sleeter, 2008; Wilkins, Gobby & Keddie, 2021). A very influential argument in this debate is that teachers’ professionalism has been heavily impacted by a growing performativity culture that comes along with increased productivity, output, and quality expectations, but also with rising control as well as job insecurity (Ball, 2003). Datafication has thereby been identified as a key mechanism of rising control through digital means; that is, increasingly refined data systems becoming anchor points through which teachers should surveil and drive pedagogical interventions on students, all the while being monitored themselves (Holloway & La Londe, 2021; Roberts-Holmes & Bradbury, 2016; Manolev, Sullivan & Slee, 2019). Specifically with respect to platforms, initial research has so far evolved along similar lines – emphasizing the withering of teacher autonomy and discretion – but has equally pointed to the emergence of new ‘images’ of professionalism. For example, Ideland (2021) argues that the figure of the teacher professional is being actively reconfigured by said platforms as an EdTech entrepreneur who possesses associated professionalities such as platform agility, flexibility, creativity, and 24/7 availability.

In a similar regard, we can discern a growing body of research that stresses the aforementioned context-specificity of platformization in educational practices (e.g., Cone, 2021; Decuyper, 2021). This body of research clearly showcases the importance of fine-grained, empirical analyses that show how the professionalism of teachers is in the process of being reformed and reworked by digital education platforms, and this both in negative and in positive ways. As far as the latter is concerned, Kerssens and van Dijck, for instance, argue that in a platformized educational system, the professional autonomy of teachers can actually be fostered under the condition that teachers possess the capacity to “take informed decisions about which app, learning management system, or infrastructural service best suits their specific needs and educational values” (Kerssens & van Dijck, 2021, p. 259). However, in order to develop this capacity, teachers must have the techno-pedagogical skills with regards to how – if at all necessary – to combine different educational platforms aligned to *their* pedagogical framing (ibid.). Another example that shows the importance of researching local platform enactment, is a study of two secondary Australian schools

by Selwyn, Nemorin and Johnson (2017). The study shows how digital technologies and platforms might standardize teachers' work, or might lead to practices of increased monitoring, controlling, and work intensification. However, next to such malicious effects on teacher professionalism, the study equally clearly shows that many teachers actually possess a lot of agency and can actively shape how to use digital technologies, and as such are (potentially) equally actively *in control of* their engagement with platforms. In sum, it is important to stress that the roles that platforms play in giving shape to teachers' professionalism, are multiple and, as such, a matter of differential enactment.

At the same time, while the outlined studies have resulted in important initial knowledge about the increased platformization of schools as workplaces, what has thus far not been thoroughly investigated, is how digital education platforms *themselves* increasingly operate as workplaces for teachers to construct and frame their teaching. It is precisely this research gap that *Steven Lewis* and *Mathias Decuyper* seek to address in their contribution, while equally investigating the impact that Europeanization has on these recontextualizations of the teacher workplace. More specifically, they analyze the *eTwinning* platform, a platform financed by the European Commission that aims to 'twin' teachers around classroom development in a digital and international-collaborative manner. While the platform providers emphasize that *eTwinning* strengthens professional development through creating a European context of digital exchange, the study shows how, at the same time, the platform promotes a very specific understanding of professionalism, and mediates this understanding through its inscribed design to its users. Lewis and Decuyper describe this understanding as simultaneously *projectified* – that is, teacher professionalism as continuous self-improvement *through*, and *as*, projects – and *platformed* – that is, teachers' projectification being steered through ongoing engagement with the digital platform. The article shows in detailed manner how exactly the form of the project takes up a pervasive role on the platform, and identifies the mechanisms that actively (re-)shape teachers' professionalism.

A second 'traditional' educational profession addressed both in the literature and in this special issue, is the figure of the *school leader* (who might be principals, but also school district heads), whose professionalism is equally found to be significantly impacted by increasing platformization. The choice of which education platforms (not) to adopt in line with local contextual needs is, in other words, not only applying to teachers, but equally to school leaders, who are not only crucial in the 'successful' governance of schools, but equally in protecting (and improving) pedagogical professionalism (see also Kerssens & van Dijck, 2021). Many of the aforementioned evolutions around the transformation of the teaching profession are equally valid for school leaders, of whom it has been stated that they have become increasingly

responsibilized and monitored in terms of school accountability, performance improvement, teacher and student dataveillance, or – more recently – innovative digital school development (e.g., Heffernan, 2018; Sugrue, 2009). Many of these shifts are reported to have resulted in increasing professional ‘tensions’ experienced by school leaders, whose interest equally is to protect the pedagogical autonomy of their schools and teachers (e.g., Imants, Zwart & Breur, 2016). Such tensions are equally related to what the literature has described as a need for digital or data literacy among school leaders, that is, to make informed decisions with regards to data usage and data integration, and having the adequate professional judgement in order to do so (Schildkamp, 2019; Selwyn et al., 2017).

The contribution of *Jennifer Clutterbuck* substantially adds to this research on the impacts of platformization on school leaders. Investigating the creation and implementation of the OneSchool platform in Queensland, Australia, Clutterbuck once again shows the importance of adopting a contextual gaze. She does so by disentangling the specific coalescing of more traditional and new sorts of professional knowledge that is required when new platforms emerge. In the case of OneSchool, one example of such coalescing is the original assembling of the platform development team within the centralized state department. The paper shows how a particular, seemingly progressive, group of school leaders (and teachers) was actively ‘brought together’ and turned into so-called ‘subject matter experts’ and business analysts for the design of the platform. The interview material equally illustrates, however, that even though many of those leaders indeed had been actively engaging in local (yet often fragmented) platform development, most of them had done so to counteract malfunctioning state-authorized data systems in place at that time (and, thus, to secure their professional autonomy). As a result, they felt partly alienated by their repositioning as state platformization experts, while at the same time equally feeling how their professionalism was transforming. A second example of ‘platformed school leaders’ discussed in Clutterbuck’s paper refers to when OneSchool became actually implemented in Queensland schools. Here, the article highlights the reshaping of principals’ professionalism around the required granting and auditing of platform ‘roles’ (e.g., the role of financial delegation) and concomitant access rights. While Clutterbuck emphasizes that these roles and access rights brought new (professional) acknowledgement to those platformized activities and were partly very positively received, the paper equally reports about new tensions regarding how professionals became substantially repositioned around the actual data they were allowed to ‘see’ (something strictly monitored by the platform and the state). This new ‘distribution’ of access rights triggered what Clutterbuck describes as both de- and re-professionalization with respect to how these professionals were involved in ‘platform care.’

Finally, a third type of ‘traditional’ educational professional highlighted in this special issue, is the figure of the *school supervisor*. Just like school leaders, school supervisors play a very decisive role in the shaping and evaluating of education systems all over the world, and literature has already clearly indicated that the growing influx of digital data has strongly transformed the profession of the school supervisor/inspector, both in different national contexts and at a more global scale. Ozga (2016), for instance, has argued that interactive, digital data have gained huge influence in the professional judgement of school inspectors in the UK. Other studies report similar results, stating that, for instance, *data templates* are increasingly perceived as central anchor point to undergird and facilitate the school evaluator’s professional judgement (e.g., Hall, 2017). Yet, we should be mindful that much of this critical research stems from Anglo-American, high-stakes accountability contexts, in which centralized platform systems and data flows between classrooms and supervision have become extremely elaborated (see also Hartong, 2021). Indeed, when looking into other, less accountability-oriented systems, we find a lot more debate around how rising datafication and digitization has caused multiple, oftentimes contradictory professional (self-)understandings, which also includes a substantial amount of professional resistance to reforms (see, e.g., Hangartner & Svaton, 2020, for the Austrian case).

The article of *Vito Dabisch* contributes to this group of work that seeks to understand how supervisors’ professionalism has been changing in the deliberately low-stakes-accountability system of Germany. Even though this system has equally undergone substantial expansions of datafication and platformization, the discourse around accountability-oriented data usage is much more controversial. As a result, in the context of Germany, the actual data systems and platforms deployed are oftentimes much more fragmented. This is why Dabisch focuses less on platforms, but rather on what he describes, in a more encompassing manner, as ‘datafied structurations’; a more general conceptualization of digital tools that are ordering and visualizing school data. His study compares these datafied structurations in contrast to school supervisors’ actual practices and professional self-understandings. In doing so, the study provides in-depth insights on how technological context-inscription, regulations, and professional practices interrelate. Despite the clear role and impact of these datafied structurations, Dabisch shows that a substantial amount of agency is equally residing in how exactly these structurations are used, changed, or precisely resisted by school supervisors. What matters most for all supervisors, however, is what they describe as contextual knowledge gathered from school visits as well as direct interaction with principals. Interestingly, the study equally finds evidence that ‘newer’ forms of technology – such as interactive, centralized platforms – do not necessarily impact professional judgement more than, for instance, standard PDF

files or irregularly sent email data. Instead, and crucially, the study shows that what matters more than the specific technology used, is how this usage is ‘framed’ within broader formal regulations.

As noted above, the special issue not only deals with professions that are most commonly associated with the education field, but also discusses ‘new’ types of professions as they emerge in contexts of increased platformization. According to us, the detailed studying of these newly emerging types of educational professions, as well as new forms of educational professionalities, constitutes a huge research gap that has only started to be given substantial consideration. For instance, such studies have been investigating the ‘makers’ of platforms. Even though, as the study of Clutterbuck shows, platform design as such frequently happens within traditional educational contexts and involves a range of traditional educational professions (see also Hartong, 2021), there equally is a growing range of new professions – including platform programmers, user data analysts, data dashboards developers, platform brokers, school consultants, and employees working in big EdTech companies that provide educational data infrastructures – emerging that shape the platformization of education (e.g., Perrotta et al., 2021; Williamson et al., 2020). As stated, such research is still in its inception phase, including questions around the prevalence, impact, and actual ‘status’ of such actors as new educational professions.

Importantly, when talking about ‘new’ professional(itie)s, we should equally shed light on actor groups that might have already participated in education for a long time, but that have thus far, not commonly been associated with educational (de-)professionalization. One of the most important of these actor groups that has become highly affected by platformization, are parents. In their contribution, *Sigrid Hartong* and *Jamie Manolev* provide an in-depth discussion of parents as ‘new’ platformed professional(itie)s, looking into how parents are designed, made visible and normatively regulated (as being/becoming professional) in and through platforms. As they show, while parents are indeed not yet systematically researched in the field of critical platform studies, in the more general field of parenthood studies, there has been a longer debate already on the ongoing ‘educational professionalization’ of parents in relation to education governance transformations. Much of that debate is very critical in nature, and shows how parents have been facing rising pressure to, on the one hand, optimize their children’s education (e.g., through dataveillance), while, on the other hand, being expected to continuously seek expert advice and to partner with other educational professions in order to further improve their parental support activities. Consequently, as Hartong and Manolev argue, bringing both research fields together can offer substantial guidance in a context-sensitive investigation of ‘platformized’ parents. Their article does precisely this, by analyzing two learning platforms (ClassDojo and Antolin) as examples. Like the other contributions, this study

hereby shows that platforms at once clearly ‘do’ something to parents *and* mediate a specific professional understanding to them, but that they do this in very distinct ways: ClassDojo operates with a direct parental portal, whereas Antolin more indirectly addresses parents to participate in and on the platform. Similar to what Dabisch shows in his study on school supervisors, the paper argues that how digitally ‘elaborate’ a platform is, does not necessarily relate how it is impactful for parents. At the same time, the study shows a wide range of actual parental platform *practices*, independent from how parents are inscribed into the platform interface.

## Conclusion and future research

The goal of this special issue is to unpack what happens to educational professions, and various educational professionalities, in our current context of increasing educational platformization. While all contributions in this special issue pick a ‘human’ entry point to discuss matters of ‘platformed professional(itie)s’, they all show that platforms themselves are increasingly developing agency of their own, meaning that they do way more than merely influencing what human professionals (traditional and new) do. Instead, as different case studies in this special issue indicate, this agency manifests through automated decision-making (e.g., the automated parental notes sent by the ClassDojo platform, or the automated access control of the OneSchool platform), which is framing, encouraging, but also limiting what professionals (should/not) do. This automated decision-making has, over the last few years, also been increasingly discussed in the literature, which is – little surprisingly – particularly related to the ongoing advancement of machine learning technology (e.g., Knox, Williamson & Bayne, 2020; Decuypere & Hartong, 2022). In other words, platform algorithms are found to increasingly learn and optimize themselves which decisions to make related to a specific goal (such as nudging students towards a right answer). It seems, consequently, not unreasonable to discuss in how far arguments that we know from the debate around human (de-)professionalization might equally be applicable to such machine learning contexts, and how professionalization as a concept needs to be developed further in an age of *Artificial Intelligence* (AI). While such questions are beyond the aims and scope of this special issue, we argue that the knowledge gathered in this collection can still form a fruitful foundation to develop a more fine-grained understanding of the complex and ever-changing interplay between educational platformization and (de-)professionalization.

It is precisely at this point that *Carlo Perrotta’s* afterword to this special issue offers directions and suggestions to push this emerging research field forward. His afterword starts from the argumentation that even though platforms are indeed always locally enacted and contextually embedded, at the heart of their functioning

still lie logics that seek to capitalize upon the work of educational professionals and extract value from it. Based on this insight, Perrotta argues that educational professionals will not only be impacted by platformed logics and understandings in the future, but that many of these ‘future’ developments (such as automated decision making) are indeed already part and parcel of many of today’s educational practices. Even though such practices of automation might seek to transform and improve educational practice in the name of managerialist accountability and efficiency, Perrotta argues – in a very nuanced manner – that such practices might at the same time decrease personal and social forms of accountability, qualities of professional judgement, as well as activities that might have intrinsic pedagogical and educational meaning. Responding to these evolutions, and in drawing this special issue to a close, Perrotta offers two final insights that form the contours of a new research agenda on platformed profession(alitie)s. First, he shows how it is an inherent feature of platforms that they curtail and diminish the ‘decision space’ of educational professionals, and that it is the task of future research to, in that respect, find ways in order to reclaim this decision space and safeguard ‘meaningful’ educational work (in all the connotations of the word). Second, and as an ultimate hopeful message, Perrotta equally offers guidelines that can assist researchers in (re-)designing new ways in which education professionals can navigate this complex platform ecology, in order to be able to learn to dwell, and to find and make new educational ‘homes.’

### Note

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2. In many regards, such calls mirror developments in the broader field of organizational studies, which for instance investigated the ‘transforming professional’ in terms of reorganization (e.g., ‘good’ working hours), restratification (e.g., the emergence of networked elite professionals with highly specific knowledge), or relocation (e.g., the growing importance of professional time spent in ‘home office’) (Noordegraaf, 2016). Some of that research has in the last years also specifically addressed the impacts of digitization and platformization, including their ambivalent impacts on specific professions and professionalities (e.g., Pareliussen, Æsøy & Giskeødegård, 2022).

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