



The construction of (good) parents (as professionals) in/through learning platforms¹

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Abstract

The increasing platformization of contemporary education is reshaping schooling in a multitude of ways, including the relationship parents have with their children's education. While a growing number of research is revealing the influential impacts platforms have on various educational professions, few scholars have so far looked at how parents are designed, made visible and normatively regulated (e.g., as being/becoming professional) in/through specific platforms, also because associating parents with educational professionalism seems much less self-evident than for groups such as teachers or principals. As we argue in this contribution, drawing on ongoing discussions from the field of parenthood, studies offers fruitful inspiration to not only better understand what parental (educational) professionalization means, but equally how it can be brought together with research on parental platformization. Building on that literature framework, we then illuminate what we see when employing such an approach empirically, using two distinct learning platforms as case studies – *ClassDojo*, a classroom and behavior management platform used mainly in anglophone countries, and *Antolin*, a reading enhancement platform used in German schools. Drawing on the initial findings from both case studies, we conclude with a suggested research agenda around 'platformized parents' and offer a framework of questions to guide its advancement.

1. Introduction

The last decade has seen an increasing prevalence of 'platformization' in contemporary education, that is, digital platforms around the world are increasingly implicated "in the assembling of education, connecting artefacts, actors, epistemologies, techniques and values into novel educational forms" (Decuypere, Grimaldi & Landri, 2021, p. 2; see also van Dijck, Poell & de Wall, 2018; Perotta, 2021). In the field of

formal schooling, this transformation includes expanding usage of platforms³ for communication (e.g., between teachers and parents, among students, etc.), for administration or management, but equally for shaping pedagogical activities in the classroom, all of it further triggered with the recent and ongoing COVID-19 pandemic (Oliveira et al., 2019; Selwyn, Macgilchrist & Williamson, 2020).

With this rising presence of digital platforms has come an increased interest from researchers in the transformative effects they are having on how education is conducted, experienced, and understood (Decuypere et al., 2021; Hartong, 2021; Manolev, Sullivan & Slee, 2019). While there has, consequently, been a gradual evolution of *critical education platform studies* over the past years (see section 2), there is still much work to do to further sharpen our understanding of what exactly educational platforms 'are,' what they 'do' (not only) to schooling (DiGiacomo, Pandya & Sefton-Green, 2019), and how they can be researched conceptually, methodologically, and empirically.

In line with the overall aim of this special issue, we argue that one promising, yet equally challenging area of work associated with developing a more nuanced understanding lies in the critical investigation of platforms' transformative effect on the roles and (self-)understandings of different actors, including the transformation of *educational professions/professionality*.⁴ Indeed, on the one hand, there is a significant body of literature, which has discussed the *usage* of platforms (e.g., in terms of platform-provided educational data) by teachers, principals or state leadership (see Tyler & McNamara, 2011; or Callaghan, 2021, as two of many examples), and which, in that context, has commonly argued for a need to 'professionalize' educational actors in the application of technology. On the other hand, little work so far has explicitly discussed the reshaping of these actors *through* digital technologies (but see e.g., Ideland, 2021, for the transforming 'figure' of the teacher) and, related to that, problematized the question of what, for example, professionalization in/through educational platforms actually means and how it manifests.

This contribution seeks to address this research lacuna, while at the same time turning its focus towards an actor group which has, at least so far, been largely ignored in critical education platform research: parents (but see Head, 2020; Selwyn, Banaji, Hadjithoma-Garstka & Clark, 2011; as well as Wong-Villacres, Ehsan, Solomon, Builn & DiSalvo, 2017). Indeed, and in contrast to the more unquestioned professional (self-)understanding of teachers of school leaders, the relationship between parents and educational professionalism seems, at least at first sight, much less self-evident. However, when looking into the field of parenthood research (see section 3), over the past years, the notion of parental educational professionalization has become intensively and also very critically discussed as part of the ongoing, global (re-)construction of parental roles (e.g., Jergus, 2018; Jergus, Krüger & Roch, 2018;

Lee, Bristow, Faircloth & Macvarish, 2014; Ott & Roch, 2018). More specifically, parental educational professionalization is hereby associated with a growing understanding of parents (1) as (data) monitors and opportunity maximizers in order to optimize their children's educational success, hereby (2) as active members of 'educational (monitoring) networks' (including the school), but equally (3) as permanent seekers for external advice/support in this process. As we will discuss in more detail below, is it particularly such findings from parenthood research which we view as providing enormous potential also for the critical analysis of educational platforms, that is, to not only better understand what parental educational professionalism 'is' but equally how it might be (re-)shaped on/through platforms (section 4).

As initial examples of what we see when employing such conceptual considerations empirically, in the second part of the paper, we turn to two platform cases we studied over the past years in different cultural contexts: *ClassDojo*, a platform used in many Anglo-American contexts to improve classroom behavior, and *Antolin*, a reading enhancement platform used mainly in German schools (section 5 and 6). Both studies broadly investigated platforms in terms of their regulative power and their effects on schooling, so specific data on parents was limited. Still, interesting precursory insights could be revealed into how parents are actually included, made visible and normatively regulated (as being/becoming professionals) in/through platforms. We summarize these cross-study findings toward the end of this contribution (section 7) and discuss how they may provide a launch pad for future, more systematic research on parents and platforms.

2. Critical education platform research: Towards a more nuanced understanding of regulation

As in the broader research field on platformization, scholars in critical education platform research have increasingly opposed an image of platforms as places of 'open' participation or as instrumental tools which, for example, visualize data for easy usage. Instead, emphasis has been put on (finding new ways of) understanding what platforms 'do' to education (Landri, 2018; Williamson, 2017b; Decuyper et al., 2021), ranging from school monitoring and governance (e.g., Hartong, 2021; Landri, 2018), to school management (Grant, 2017) and classroom practice (e.g., Manolev et al., 2019; Jarke & Macgilchrist, 2021).

A key argument hereby is that each platform enacts a particular *design-based*, *datafied* and, at the same time, *datafying* form of digital education (Decuyper, 2019, p. 416). Put differently, each element (not) visible or (not) operable on a platform – including the users themselves – can be regarded as the result of numerous political moments of selection and modelling (Bowker et al., 2019, p. 4), all of them carrying

powerful, yet often implicit normative inscriptions (e.g., of ‘good education,’ or ‘successful learning’) (Decuyper et al., 2021). Various design-based mechanisms such as data formatting, default option setting or user choice architecting (aka nudging, see Decuyper & Hartong, 2022; Knox, Williamson & Bayne, 2020) mediate and evoke these inscriptions to/in users, not only when they directly interact with a platform, but equally when interacting with others with relation to a platform (e.g., when teachers talk with each other about students’ platform performance). Put differently, through these inscriptions and mechanisms, platforms affect both cognitive and emotional-affectual dimensions of identity building – such as wanting to be(come) a ‘good platform user’ (Bowker et al., 2019, pp. 2–8). It is such regulative effects that we conceptualize here as the platformization of users themselves.

However, despite their regulative power, scholars have equally emphasized that education platforms should neither be regarded as all operating in the same way, nor as determining how people interact with them (e.g., Hartong, 2021). In contrast, small modifications in design – e.g., which user groups ‘see’ specific content, what exactly is contained in a pop-up window, how easily users can disable particular functions, etc. – can make large difference in terms of regulation. The same is true for various other contextual factors – such as the practical relevance of a platform, individual user dispositions or background knowledge – which affect how platforms, in the end, ‘act’ within educational settings and what effects they produce. Responding to this need for nuanced disentanglement scholars have, more recently, systematized different methodological ‘entry points.’ Such entry points include investigating platform interfaces (‘on’ the platform), their usage (‘with’ the platform), their production and design (‘behind’ the platform) as well as their wider platform ecologies (‘beyond’ the platform) (Decuyper, 2021, see also Dieter et al., 2018, for app methodologies). Such a multidimensional approach simultaneously steps away from viewing platforms as ‘objects’ which can be investigated as a whole. Rather, it is the ongoing interplay of distributed agency and cognition across multiple sites (Bowker et al., 2019) that is regarded as bringing platforms themselves into being and constantly (re-)enacting them. It is such a view that has equally been discussed in critical education platform research as the most promising gateway to shape platforms differently, that is to say, to empower schools to bring platforms into being in a more pedagogically-reflected manner (e.g., Landri, 2018; Macgilchrist, Hartong & Jornitz, forthcoming).

As noted in the introduction, a growing, yet still small number of researchers have recently taken up such a regulation/contextualization-aware view of platforms to also investigate the changing construction or subjectivation of, for instance, students or teachers (e.g., see Selwyn, Pangrazio & Cumbo, 2021; Holloway, 2021; Williamson, 2017a), with few having specifically addressed transformations of teachers’ profes-

sionality (but see e.g., Ideland, 2021; Lewis, 2020). At the same time, those initial studies revealed fruitful insights into how different interface designs (What do teachers see when? How are they nudged into particular cognition or affection? etc.), or manuals from the platform designers shape ideas of professions/professionality (e.g., the teacher as data manager or self-entrepreneur). In doing so, they can offer fruitful inspiration also for the analysis of ‘platformized parents’ and their educational professionalism/professionalization. At the same time, since this relation seems a lot less self-evident than, for instance, for teachers, it seems important to first seek more conceptual clarification, for which we turn to the field of parenthood research.

3. Parenthood research: Understanding ‘educational childhood’ as an object of parental professionalization

With regard to how constructions of parents or (good) parenthood in general, and parents’ relationship with schooling in particular, have been changing over the last decades and centuries, the (rather young) research field on parenthood⁵ (see for an overview Jergus et al., 2018) particularly points to three consequential interlinked transformations.

To begin with, in most countries around the world, parents are traditionally perceived as holding the key – natural – authority and, consequently, responsibility for childcare, while the state is generally responsible for monitoring parents’ fulfillment of these responsibilities, and for intervening in cases when parents pose a risk to their child’s wellbeing (Ott & Roch, 2018). However, as Ott and Roch (2018) show, over the past decades, there has been a significant transformation of how children’s wellbeing and risk are understood in policy and governance:⁶ whereas in earlier times, state interventions were mostly limited to cases of abuse, the focus of the state then shifted towards wide-ranging supportive and preventive measures to foster ‘optimal’ childcare/education, and to evoke the same responsibility among parents (see also Macvarish, 2014). Rose (1999) explains how, through this shift, parents have been allocated ‘social duties,’ that is, that they were increasingly responsabilized with the health, wellbeing, and academic development of their children as a means of state-driven intervention.

While this transformation resonated with ‘neoliberal’ thinking which had been penetrating various policy fields around the world since the 1980s, it equally came together with a gradual expansion of children’s rights. The result was a new construction of ‘good’ parenthood as caring for and educating children in the mode of a partnership and ongoing negotiation, but equally through clear regulations and guidance, and driven by a self-motivation to provide optimal conditions for children’s development. Other literature describes this turn as an ‘intensivication of parent-

hood' and debates the rising pressure and also insecurity this shift has caused for parents who also need to increasingly navigate between dual-career or patchwork family expectations (e.g., Faircloth, 2014; Buchinger, 2001; Wall, 2021).

Independent from this overall parental responsibilization for optimizing children's wellbeing, already since the mid-20th century, the relationship between parents and schools had substantially transformed (Head, 2020; O'Heir & Savelsberg, 2014).⁷ As research has pointed out, it was around that time when the traditional differentiation between school education (= learning) and home education (= disciplining, playing, partly being involved in family work) was increasingly replaced by an equalization of schools and parents to educate children together, both in terms of learning and disciplining (Kirk, 2012). Fölling-Albers and Heinzel (2007) describe this turn as a simultaneous 'familiarization of schools' – meaning that parents became (obliged to be) structurally involved in schools through parental boards and frequent communication with teachers – and a 'pedagogization of families' – meaning that parents were now equally expected to provide learning activities at home, e.g., supervising homework or engaging in music/arts education. Indeed, research indicates an increased parental engagement after that turn (e.g., O'Heir & Savelsberg, 2014, p. 12), mainly directed at children's cognitive development at home, but also a more active involvement of parents in the classroom. In Australia, for example, this emphasis on connecting children's educational success to the partnerships built between schools and parents has been strongly formalized in national policy since 2008. Enacted through the 'Family-School Partnerships Framework,' the policy frames education of children as a 'shared responsibility' between schools and families (Department of Education, Employment and Workplace Relations, 2008, p. 2). Moreover, the policy identifies "connecting learning at home and at school" (ibid., p. 6) as a key element through which strong school family partnerships can be fostered which it associates more broadly with "improved student learning, attendance and behaviour" (ibid., p. 2). All these examples show how parents have, already for decades, gradually moved from standing on the periphery of their children's schooling to performing a prominent role also in their children's formal education (ibid., see also Reay, 2002).

Since the turn towards the twenty-first century and, particularly, the impact of global education evaluation studies such as PISA (Programme for International Student Assessment), both ongoing transformations have joined up and were further empowered with a new global emphasis on education policy as the key to economic prosperity. While homes/parental activities were hereby again – yet now supported through large-scale numerical evidence – found to crucially matter for children's educational success, parents now became equally repositioned around what Jergus (2018) describes as the 'educational childhood' as a new collective 'object of

professionalization’ (see also Killus & Paseka, 2016; Bischoff & Betz, 2015; Head, 2020; Emerson, Fear, Fox & Sanders, 2012). What is meant by this is that the educational success of children has become re-associated with various actors (teachers, principals, parents, but also community-based educational institutions such as libraries, colleges, music schools, etc.) which altogether should install a strong network of partnership to provide optimal learning opportunities (Jergus, 2018, pp. 126 ff.). Importantly, one dimension of this expected partnering is participating in ongoing mutual monitoring and reporting, consultation and information (ibid., pp. 130 f.), which also implies making use of and producing comparable data (see also Seehaus, 2018, p. 194). Jergus (2018, p. 130) describes this shift as a new ‘invocation of parents alongside professional-pedagogical standards,’ (own translation) which means that (good) parenthood is (re-)formed alongside educational success, but – different from the figure of the teacher – imagined in the much more subtle and implicit mode of opportunities, choices and required prevention through monitoring. Still, more than ever before, this invocation has come with a perceived need to *professionalize* (to ‘activate’) parents (Crozier & Reay, 2005), that is, to ‘learn parenthood’ in this monitoring- and opportunity-oriented mode (see also Ott & Roch, 2018). While, again, targeting parents as subjects to be educated on ‘good parenthood’ is not new at all (Rose, 1999), a number of new actors and activities has recently emerged to support this new form of monitoring-oriented professionalization, of which the literature inter alia lists family guides, vouchers for educational activities or childcare consultants (e.g., BMFSFJ, 2021). Put together, within this new figure of professionalization, parents are (only) perceived as professional when they (a) accept their need for external expertise, (b) seek for (numerical) proof to have used opportunities and monitored child development well (Ott & Roch, 2018), and when they (c) agree to continuously collaborate and negotiate with the other educational partners about how to further optimize children’s opportunities (see also Deppe, 2018, pp. 248 f.).

As noted above, alongside this prevalent conceptual work, studies from parenthood research have empirically investigated how parents perceive their changing role as well as the expectations expressed towards them (e.g., Faircloth, Hoffman & Layne, 2013; Furedi, 2002). In this regard, the literature has particularly identified the enormous pressure and confusion parents experience when facing these highly demanding, yet in many ways subtle expectations, and that this often results in an expanding search for orientation and consultation (which, as stated above, is actually part of the professional figure). Unsurprisingly, digitization and the rising prevalence of digital media, in that context, is perceived ambivalently. Whereas parents, on the one side, regard digital technologies as very helpful for giving them (back) some feeling of orientation and control (e.g., children tracking technologies which give

parents the feeling to control the safety of their children, e.g., Kind & Thiele, 2016), on the other side, parents also report digitization as a rising stress factor (e.g., regarding children's screen time and online security), alongside which parents need to navigate the path to 'optimal' childcare and education (BMFSFJ, 2021; Wall, 2021). Lastly, empirical investigations revealed strong differences between parents from different milieus/classes: while privileged parents seem to enthusiastically accept, or even overfulfill their role as educational optimizers, and hereby often doubt the public school system to provide optimal conditions for their children, less privileged parents much more often struggle with expectations and, consequently, are at much higher risk themselves of becoming objects of targeted intervention by the state (e.g., Bæck, 2010; Desforges & Abouchaar, 2003). Taken together, the field of parenthood research has developed a considerably nuanced understanding of the transforming role of parents in education, which consequently offers fruitful orientation in how to conceptually capture the specific meaning of 'professionalization' associated with the rising impact of platforms in educational settings.

4. Parents and education platforms: Bringing two research fields together

As section 2 and 3 have shown, both research fields – critical education platform research and research on the transformation of parenthood – provide important points of departure to investigate how parents become constructed in/through education platforms, and how this can be related to notions of professionalization/professionality. All the more so, since, as noted in the introduction, only very few studies have so far brought together educational platforms (or digital education technology in general) and parents. One example is Selwyn and colleagues' study (2011) which, in accordance to what is discussed in parenthood research, shows how learning platforms compel parents "to act as monitors and guarantors of their children's engagement with schooling" (p. 314). Ramaekers and Hodgson (2020) come up with similar conclusions, even though their study does not focus on educational platforms, but on parental apps more generally. Still, they state that such apps have empowered the notion of "an instrumentalised, scienticised, skills-based understanding of parenting [in which the apps] provide information, advice and activities to parents and children" (p. 114). Hence, in accordance with what parenthood research has shown (see section 3), parental apps contribute to 'professionalizing' parents, yet professionalization mainly means optimizing both their children's and their own learning through ongoing, app-mediated, visualized (e.g., data dashboards) feedback loops. Since these feedback loops are adapted to individual users' data input, they hereby create the feeling of personalized interaction and, consequently, are perceived by many parents as a trustworthy orientation (ibid.). Similarly, Cho, Borowiec and Tuthill (2021)

investigated schoolwide system usage of electronic behavior management programs, including ‘digital collaboration’ with families. Their findings indicate that school leaders and teachers indeed saw greater collaboration between schools and families through the use of instant notifications and qualitative notes. Somewhat in contrast, Head (2020), who studied digital home-school relations, mainly in terms of communication, reports new extensive amounts of digital information which parents are required to handle in the sense of ongoing ‘management tasks,’ is a process which she describes as “bureaucratisation of parental involvement” (p. 599).

In sum, even though small in number, the studies clearly indicate that platforms not only mirror, but seem to bring to a new level, what parenthood research has named the ‘educational childhood’ as an object of parental professionalization. At the same time, the aforementioned literature has, at least so far, remained either at a more conceptual level, or used, for instance, interviews with schools or parents to reconstruct their (general) interaction with/perception of technology, yet without investigating *specific* platform designs. Put differently, a lot of work still lies in establishing a simultaneously regulation- and contextualization-aware understanding of the specific *platform mechanisms and operations* (see section 2) that seem to be relevant in terms of (re-)shaping parents and parental professionalism.

Following this line of argumentation, we would like to use the remainder of this article to provide some initial insights into such specific mechanisms and operations when approaching different educational platforms. To do so, we revisited two platform cases we studied over the past years in different cultural contexts: *ClassDojo*, a platform used in many Anglo-American contexts to improve classroom behavior, and *Antolin*, a reading enhancement platform used mainly in German schools. Even though both studies much more broadly investigated platforms in terms of their regulative power and effects on schooling, they also revealed interesting first insights into how parents are designed, made visible and normatively regulated (as being/becoming professional) in/through specific platforms.⁸

5. Empirical insights I: ClassDojo or ‘Make routines at home easy as pie’

ClassDojo (www.classdojo.com) is a platform mainly used to support the management of classrooms, focusing in particular on interventions around student behavior and the improvement of communication within school communities (including parents). Over the past years, ClassDojo has expanded considerably and is now used by millions of schools around the world, with its biggest market shares in Anglo-American contexts (UK, the US, Australia) (see also PR Newswire, 2021). Despite this expansion however, there is a growing scholarly critique directed toward the problematic impacts of ClassDojo on contemporary education. Such critique for

example has referred to the platform's techniques of surveillance (Manolev et al., 2019; Williamson, 2017a), its implication in perpetuating existing teacher bias and prejudice (Jiahong Lu, Marcu, Ackerman & Dillahun, 2021), its role in promoting new psychological explanations and interventions in education (Williamson, 2017a), the hidden networked digital relations of power which shape ClassDojo user experiences (Robinson, 2020), and the way it reshapes student and teacher subjectivities through the presumptions and ways of knowing encoded within its design (Williamson, 2017a, 2017b).

Indeed, the basic logic of ClassDojo is that teachers give students feedback on the platform in the form of points, which are intended to reinforce or discourage particular behaviors. The points students receive algorithmically accumulate as individual behavioral data and are displayed along-side students' names on the platform. In ClassDojo, teachers can invite parents to create an account which provides them with access to their child's data (e.g., through data dashboards), a direct line of communication with teachers, a way to receive notifications from both the platform and teachers, and ways of engaging with teacher-generated content on the platform.

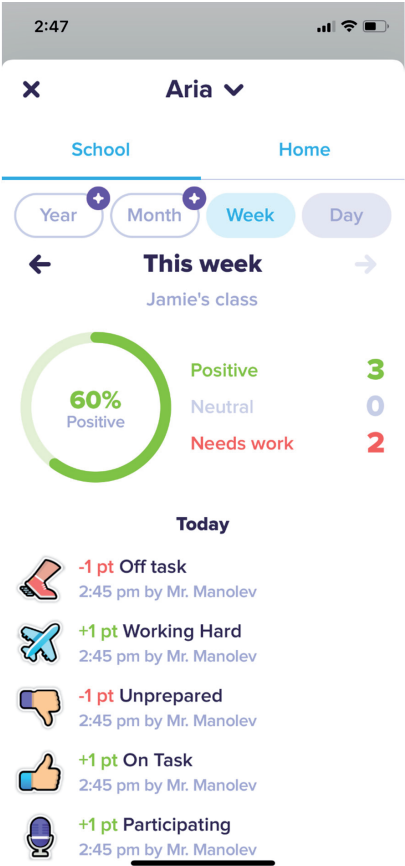
According to the provider, parents are central to the platform and its functions. Through connecting parents, teachers, students, and school leaders the company aims to 'create a positive school culture,' which on the webpage is described mainly as the creation of a collaborative work community. Teachers are hereby actively encouraged by ClassDojo to 'bring every family into your classroom' and to 'connect with families' through the platform.

Parents who use ClassDojo are required to sign up with a parent specific account which links them to their children's data profile (and to any siblings or other parent members of the same family). Parent accounts on ClassDojo are free of charge, however, a premium subscription containing additional features can be purchased (see below). The class and family connections interface displays each class a child belongs to and enables parents to either access an overview of their child's average data, or to 'zoom in' to a specific class. Students, in contrast, can be connected to multiple classes within ClassDojo, each of which stores behavioral data about the student unique to that class.

A student's profile which parents 'see,' is comprised of three separate interfaces, a student profile overview, a student behavior report, and the aforementioned class and family connections. The student profile overview displays the student's name, a monster avatar that represents the student on the platform, as well as an aggregated, color-coded behavior feedback score (see Figure 1). Positive reward points are colored green and possess a positive value, negative points are colored red and possess a negative value. Teachers can modify point values to make particular behaviors worth more or less, as well as give them a neutral value of zero. Notably, this traffic-

light-model, condensed (both graphical and numerical) visualization is a powerful mechanism which not only indicates particular actions (e.g., concentrating on eliminating or avoiding red), but equally particular self-perceptions (e.g., more red indicating poor performance). On ClassDojo, red points are categorized as a metric of ‘needs work’ behaviors. Subsequently, it is through many of these design-based features and functions that ClassDojo implicitly and normatively inscribes what it means to deploy good discipline, be a well-behaved student, and a successful learner (Decuypere et al., 2021). In addition to the summary dashboard, parents can access a detailed data-based breakdown of their child’s behavior in the behavior report.

Figure 1: Student behavior report (data dashboard) in a parental ClassDojo portal



Beyond the idea that parents should have detailed access to their childrens' behavior data, ClassDojo equally establishes an ongoing synchronization between classroom space-times and parents' daily life (which in the material is narrated as 'homes,' but actually reaches much further, since the point of reference is the parental phone). The idea is that parents should be given behavior report data which is updated in real-time whenever a student receives feedback on the platform, or when other (data) activities around the child have been registered. Feedback data notifications typically include the 'name' of the behavior, the color-coded feedback point value, the date and time it was given, and the name of the teacher who awarded the points. As commonly found with apps, notifications even appear when the app is shut down, but still runs in the background. Parents do have the option, though, of disabling push notifications within their account settings.

In sum, we see how the ClassDojo design extends the day to day of school discipline from school and classroom into family homes (aka parents' locations), mediated through a combination of data dashboards, ongoing automated data synchronization and pop-up notes. These combined features not only address parents by encouraging them to stay constantly alert to what is happening on the platform – that is, to how their children behave –, but also, at least implicitly, through potential parental reaction to the ongoing platform notifications via either communicating with the teacher on the platform (they also get a notification as soon as the teacher has read the parental message), or (later that day) with their children about their platform data. Put differently, the notification system can be interpreted as constantly seeking to activate parents to generally and continuously engage with platform data and turn it into a central source of knowledge. In doing so, ClassDojo constructs parents as partnering with teachers in intensive behavior monitoring and disciplining of their children, and to use the platform data for checking behavioral optimization – which also implies to evaluate their own success as parents through that data. The role of the parent is subsequently – in line with what Selwyn et al. (2011) have shown – mainly constructed as an inspector or children's data (Lupton & Williamson, 2017). Both forms of constantly adapting dashboards – the summary as well as the detailed, customizable reports – can hereby be regarded as highly persuasive mechanisms that not only mediate a particular view of the child and their behavior (= 'get a window into your child's day at school,' ClassDojo Parent Account Overview), but also that trigger the affective self-identification of parents.

Notably, and somewhat contradicting the idea of parents partnering with their children for educational success, in the ClassDojo design parents are positioned in relation to their children just as teachers are to students, that is, in a hierarchical relationship which encourages power to be exercised unilaterally around the enforcement of behavior norms. At the same time, however, it is mainly the teacher who,

through creating behavior data or other platform content such as messages in a specific way and at particular points in time, co-regulates *together* with the platform what parents get to see and how they are, consequently, addressed. In other words, while ClassDojo promotes a partnership between teachers and parents, it simultaneously offers an actual empowerment for teachers not only to reach, but also, within the platform design, to regulate “parents at a distance” (Wyness, 2020, p. 164).

In that regard, it seems important to note that ClassDojo’s understanding of parental engagement not only refers to fostering the dataveillance of children, but equally to track all parental activity on the platform. Here, we clearly see how ClassDojo installs a monitoring architecture which affects all participating groups alike and, consequently, implies for *all* actors that engagement in the school community equates to logged activity on the platform (Murakami Wood & Monahan, 2019). For example, whenever parents log-in, view their child’s behavior report, comment on points, or send a message to a teacher data is captured about such activity on ClassDojo and can be used to monitor and further optimize parental platform activities (e.g., optimize nudge interventions to make them respond to pop-up notes).

An additional way of optimization, which ClassDojo intensively promoted, is the premium parent account: *ClassDojo Beyond* (<https://www.classdojo.com/en-gb/plus/?redirect=true>):

Join ClassDojo Beyond: get amazing benefits for your kids at home. Make routines at home easy as pie with Dojo points. Watch your kids reach new heights with Goals and Rewards Plus, kids get access to hundreds of new monster parts! (ClassDojo website)

As we see here, through its premium version, ClassDojo provides parents the option to duplicate and directly apply the disciplinary system used in the classroom by the teacher, in their own homes. We argue that this duplication – even more than the aforementioned regulative activation – carries a strong idea of ‘platformized’ parental professionalization, that is, the construction of parents as home-based educators which, through the platform, are given the equipment to plan, monitor and control the behavioral learning of their children just the way teachers do. ClassDojo hereby takes the role of an expert adviser and facilitator role for parents on how to optimize their children’s behavior (Manolev et al., 2019) which, however, only works if parents are accepting the external expertise of ClassDojo to ‘improve’ their parenting. Parents may do so because, as noted, the idea is impressed upon them to (be able to) act like ‘professional’ (co-)teachers. The platform, thus, can be regarded as an avenue through which a school’s approach to discipline is transposed into family homes, with the role of the parent becoming one that involves more and more platform-based disciplinary practices rather than primarily behavior monitoring.

7. Empirical insights II: Antolin or ‘The teacher stopped the platform when she realized that the moms were getting the points’

In contrast to the global reach of ClassDojo, the Antolin platform was produced by a large traditional German publishing house (<https://antolin.westermann.de>) and is, at least so far, only used in the German context, yet by the vast majority (approx. 85%) of elementary schools.⁹ The self-declared aim of Antolin is the promotion of reading activities and skills. After teachers have signed students up (students or parents cannot do that themselves), students are asked to perform multiple-choice quizzes – mostly as homework assignment – on the platform based on analogue books they have read, each answer rewarding them with positive or negative points. Final scores for each quiz, as well as longer term reports of their performance are displayed to them, while the teacher equally receives comparative data dashboards about his/her students. Furthermore, Antolin includes an automated recommendation system for books to read/quiz, as well as a communication tool for students to recommend books to peers or to collaboratively work on tasks the teacher provided.

The most significant difference between ClassDojo and Antolin in terms of ‘designing in’ parents is that Antolin provides no separate parental portal, so no direct activities are enabled for parents *on* the platform. Consequently, to gain access, parents need to use their child’s profile. Also, the role of teachers is configured differently since they are not judging the performance of students and inserting it into the platform (in the case of Antolin: gaining or losing points in book quizzes). Instead, the students directly interact with the platform interface and are judged by the platform algorithm. Teachers’ activities are, hence, more focused on assigning particular books/quizzes to their students, sending messages to them via the platform, accessing data dashboards which summarize the students’ quiz performances and log data across the class, and awarding e.g., medals that are designed into the platform to students who performed particularly well. This also means that, while the students and, consequently, their parents can only see their individual score(s) on the platform, teachers often communicate comparative scores in their classes, and some (yet only a few) equally use Antolin scores as part of the course grading.

Interestingly, despite the substantially different design, the Antolin provider stresses a quite similar vision of parents as participating in Antolin as found in ClassDojo, namely to bring schools and home environments closer together in supporting the learning of children. Hence, just like in ClassDojo, in the platform material parents are addressed as key actors to ensure the platform’s successful realization (‘Antolin is not thinkable without parental collaboration,’ Hoffmann 2021, own translation). But what, then, is meant by that in the case of Antolin?

First and foremost, it means that the integration of parents into the Antolin platform mainly relates to the field ‘beyond’ the platform, that is, the active fostering of activities which may affect children’s platform interactions and performance results. Yet, such broader activities can nonetheless carry powerful normative inscriptions of (good) parenthood, even though there might not be a parental portal for acting *on* the platform.

The most prominent activity is, of course, organizing the books children want, or are required to, read/perform quizzes on, either from libraries or bookstores. However, in our analysis, we found many other types of activities and also different ways of prompting parents to engage with the platform in a particular way, yet mediated much more strongly through the teacher. For example, while ClassDojo directly sends popup notes and reminders to parents’ phones, teachers can find standard letter drafts for parents on the Antolin webpage which encourages them to follow the work of their children on the platform, to recognize the performances, to ‘praise much’ and to ‘celebrate successes’ (webpage Antolin, own translation). Also, the platform provides various add-on modules such as ‘reading effort’ (= *Lese-Fleiß*) or ‘reading pass’ (= *Lese-Pass*), with each requiring particular beyond-the-platform activities from parents. Examples include measuring how long the child is reading or signing a document after the child has completed a particular reading time, and to pass that information on to the teacher.

Another interesting activity that parents are encouraged to engage in, relates to workings that occur ‘behind’ the platform, namely the submission of potential book quizzes to the publisher. However, not only do the parents compete here with various other submitters, but it is the publisher who decides whether or not the quiz is selected for the platform. While we did not collect more detailed data about this parental activity of quiz creation in our initial study, the idea alone that parents can actually contribute to generating (platform) content for classroom activities, yet in a highly prescribed form, seems to be very interesting also with regard to the discussion on professionalization.

While the material we found on Antolin to a large extent promotes how parents can and should support the platforms’ usage or even contribute to its further development, there are also quotes which evoke a quite distinct vision of parents, as the following example illustrates:

The emotional life environment of the family marks the precondition for a beneficial, inspiring and successful reading/learning space. Ideally, parents read books themselves, value those and frequently make books a subject of conversations. Through acting as a personal role model, parents automatically integrate their children into the world of literature and stimulate more impulses around books and reading than any teacher could achieve through his/her number of classroom lessons – however high that number may be. (webpage Antolin, own translation)

Indeed, here we not only clearly see how reading as a cultural practice ('integrating children into the world of literature') is turned into a 'learning space,' but equally how parents are responsabilized to 'stimulate more impulses around books,' because they have, as the quote emphasizes, more opportunities in their homes than any teacher could have in a classroom. This also means, however, while the platform interface design does not include parents directly, the 'mode of opportunities' in which parental professionalism is created and linked to the 'educational childhood' (see section 3), still clearly manifests in the platform material.

In contrast to the ClassDojo study, the study on Antolin equally included data on how parents talk about Antolin, that is, how the platformized construction of parents is perceived and which activities are reported. It seems important to note, however, that the data collection only reflects particular forms of parental voices (154 posts from parental online forums as well as 5 semi-structured interviews). Still, it offers a number of interesting insights.

In general, the data indicate that many parents assess Antolin quite positively, for example with regard to its ability to motivate their children's reading behavior. Such parents report to not only engage highly in supporting the platform usage, but also enforce and extend the numerical logic of the platform beyond the interface. As an example, some of our interviewees stated that they actively inform themselves about the scores of their child's classmates and, based on these scores, evaluate the performances of other parents or themselves. Here we see how parents indeed adopt a strong self-understanding as permanent and comparatively oriented monitors of their children's data as a perceived value of educational success. Some parents even reported completing the quizzes on the platform themselves in order to 'boost' their children's scores, which indicates that these parents experience high pressure to proof their children's educational success through the platform's logic of valuation. Some teachers, then, were reported in the forums to react quite strict to such manipulative behavior:

In our case, a highly annoyed class teacher stopped Antolin when she realized that the moms were getting the points. (F3B13, parent webforum comment)

However, there are also parents who observed Antolin very critically. In addition to concerns about data security, the validity of the reading performance assessment by the platform was questioned (when seeing parents around who do the quizzes themselves). The strongest concern of parents, however, was found to be related to the quantification of reading in the form of competitively oriented scoring (especially when medals are awarded or the scores used for grading). Some parents clearly stated that reading should be fun and that schools are already competitive (enough) due to pressure to perform. Consequently, they are very worried to see their children's attention shifting towards gaining points on Antolin – which often comes along with

increased screen time –, instead of reading because they want to. In a few cases, concerns or aversion to the platform cause parents to explicitly prohibit their children from participating in Antolin. It is the presence of such critical views on Antolin which may point to parental struggles with different (self-)expectations and, consequently, with the high complexity of being a good parent. Importantly, beyond parents who either enthusiastically follow or criticize the platform, we also found parents who are not interested in the platform and who consequently do not engage (as intended), simply because they do not care.

8. Discussion and outlook for future research

The aim of this article was to provide a contribution to the investigation of education platforms' regulative potential, particularly with regard to the roles and (self-)understandings of different actors participating in education. In particular, we hereby problematized the transformation of educational professions/professionality, and, within this 'problem space' (Lury, 2020), focused on parents as a group of actors which is – with some exceptions – still widely neglected in the field of critical education platform studies. Consequently, with this contribution, we aimed to fill that gap by providing a multidimensional discussion on how parents (may) become inscribed in(to) school platforms and how this relates to, or implies, particular understandings of professions/professionality.

Therefore, we first provided a summarizing literature review, bringing together recent developments in critical education platform studies with ongoing research on (transforming) parenthood. While the former has, over the past years, developed a profound understanding of the regulative, yet non-deterministic power of educational platforms, as well as on methodologies to study them, the latter has intensively discussed the gradual, multi-layered transformation of how parents' discursive, social and political 'positioning' occurs in relation to their children's education. Of particular interest hereby is a growing discussion on the educational childhood as an object of parental professionalization (Killus & Paseka, 2016; Bischoff & Betz, 2015; Head, 2020; Emerson et al., 2012), which indicates an expanding understanding of parents a) as (data) monitors and opportunity maximizers in order to optimize their children's educational success (and to act early to prevent educational failure), and b) as active seekers for external advice/support in this process. Building on this literature overview, we argued that bringing together both fields of research offers enormous potential for studying the 'platformization' of parents.

In the second part of the paper, we then turned towards two empirical case studies – the *ClassDojo* and the *Antolin* learning platforms – to illuminate which initial empirical findings with regard to platformizing parents we could reveal (also as poten-

tial starting points for further investigation). Hereby, a range of similarities, but equally interesting differences between the two platform cases became visible. In general, the empirical insights confirm what the literature indicates: platforms matter and they successfully trigger particular parental figures, activities, communication, and self-understandings. While ClassDojo hereby more directly ‘designs parents in,’ and equally tracks their platform activities, this does not mean that in Antolin parents are less relevant for the design, even though parental activities are much more focused on the ‘beyond’ the platform. Similarly, even though ClassDojo’s premium edition may rightly appear as a powerful further step to address and activate parents as dataveillors, Antolin equally, yet in a more indirect way, fosters a platform-aligned parent-child interaction (here: about reading) at home. However, as our data on parental reactions to Antolin showed, there are large differences in how parents ultimately perceive the platform and in how far they actually follow the inscribed parental activation (as noted above, since we did not include usage in the ClassDojo study, there are no options for comparisons at this point).¹⁰

As our contribution has further shown, educational platforms not only suggest greater control on children’s education, but equally more options for parental participation. However, when looking at the platform operations and mechanisms, parental participation seems to mostly refer to following a given design within adaptable scopes, rather than to an actual involvement in platform-relevant decisions or design issues (see also Selwyn et al., 2011, p. 322).

Summing up both the literature review and these initial findings, we would like to end this contribution by suggesting a future research agenda on education platforms and parents/parental professionalism and offer the following framework of questions to guide its advancement:

- (1) How are parents ‘designed’ into platforms, that is: what do they see when, what are they supposed to do, and how are they supposed to see themselves in/through platforms? What kind of (good) parenthood in general, and parental professionalism in particular, is, consequently, constructed in the design?
- (2) How does material about the platforms/how do designers speak about (good) parents? Do they use the idea of professionalism? Does the idea manifest in a subtle way?
- (3) How do contextual distinctions between different platform designs manifest with regard to parents and what does this mean for the construction of (good/professional) parenthood?
- (4) What do we see when disentangling parental ‘usage’ of platforms, both in terms of direct interaction with the platform, and in terms of communication/interaction with others with reference to the platform?

Inspired by the ongoing methodological discussions for platform research (see section 2), this research agenda seeks to enable investigations from multiple perspectives and methodological entry points, thus fostering an understanding of platforms as simultaneously regulative and ongoingly contextualized. In doing so, it may contribute to a further conceptual, methodological, and empirical elaboration of research, which speaks to critical education platform research and parenthood research alike.

Notes

1. This work was supported by the German Research Foundation (grant number HA 7367/3-1) for Sigrid Hartong.
2. Jamie Manolev is working at the Centre for Research in Educational and Social Inclusion, UniSA Education Futures, University of South Australia, Adelaide, Australia.
3. We use the term platform here to bundle together what is equally discussed as school management and monitoring systems, learning apps, website usage, online courses, videoconferencing tools, etc., since all of them operate on similar logic.
4. Which is, hence, closely related to being constructed as a ‘good’ teacher, ‘good’ principal, etc.
5. This refers to parenthood studies as a stand-alone research field. Of course, research on families or childhood is much older.
6. Unsurprisingly, this transformation falls together with decreasing numbers of children per family, which also intensified the role parents play in family constellations.
7. Literature here points to large similarities between western countries, while the role of parents and schools might look quite different in, e.g., Asian countries (see Busse & Helsper, 2007, p. 336).
8. The studies combined methods of interface and ‘walkthrough’ analysis (see Light, Burgess & Duguay, 2018) with analyzing material such as the public platform websites, platform descriptions, material from the school homepages, but also interviews with teachers and (in the case of Antolin) parents as well as (in the case of Antolin) data collection from parental online forums. For methodological details on both studies’ data collection and analysis see Manolev, forthcoming, as well as Förtscher, Hartong, Kramer, Meister-Scheytt and Junne, 2021.
9. Some secondary schools use the platform as well, but the market share with elementary schools is much higher.
10. Noteworthy, a crucial dimension was not investigated in the Antolin study, which is the influence of different parental milieus as well as cultural differences.

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