




Colloquium 1(53)/2024  
ISSN 2081-3813, e-ISSN 2658-0365  
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DOI: <http://doi.org/10.34813/08coll2024>

## NEW WINE INTO OLD WINESKINS? ON THE RECURRENCE OF ANTI-PEDAGOGICAL IDEAS IN DIGITAL EDUCATION

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### Abstract

The purpose of this essay is to address digitalization of educational practices from the perspective of continuity by critically examining two practices that shape (new) digital education based on (old) anti-pedagogical ideas: gamification and digital study. We argue that these practices, in their current state, show anti-pedagogical features as they implicitly, or explicitly undermine educational experiences regarding students and teachers and their relation to one another, and to the world. On the one hand, gamification calls for activity, proximity to the lifeworld and naïve enjoyment of nature, ideas already found in old and problematic models of progressive and anti-authoritarian education. On the other hand, digital study reinforces a traditional and dominant idea of studying in Western cultures as a cognitive, solitary and elitist practice. Thus, both practices take a form that not only aims to replace conventional pedagogical forms and spaces, but even threatens the very possibility of teaching itself. Against this backdrop, we introduce and discuss the figure of *analogizing* (what remains and/or becomes analog), which asks which parts of the educational system should be excluded from digitalization, where it should be reversed, or where there are good reasons to at least approach it with doubts, or skepticism.

**Keywords:** digitalization, education, gamification, study, anti-pedagogy, analogizing.

### Introduction

The vast field of education and teaching has been undergoing a deep transformation in a context of pervasive and partly compulsory processes of digitalization (Buck & Zulaica y Mugica, 2023; Kergel et al., 2022; Krogh et al., 2022). Against this backdrop, digitalization is often characterized as an eminently *disruptive phenomenon* to

which educators and educational institutions around the world either succumb or resist. On the one hand, it is assumed that the integration of digital technologies into educational processes is a necessary and inevitable response to the ubiquity of such technologies in the lifeworld of schools and higher education students. Thus, traditional educational institutions are in danger of becoming obsolete if they do not quickly embrace digital transformation. On the other hand, some educators and institutions are reluctant to incorporate digital technologies into educational settings assuming that face-to-face teaching in brick-and-mortar classrooms is irreplaceable (Masschelein & Simons, 2021). From this point of view, digital educational settings are regarded as less authentic, incomplete, or deficient. In any case, the exclusive focus on the disruptive – and on the apparent novelty of the digital – contains a tendency to overlook *phenomena of continuity* which survive technological, societal and educational changes, or even paradigm shifts like inclusion, digitalization etc. and, in turn, teach us about the propositional content that we consider a crucial and persistent basis for educative actions. These phenomena not only refer to the experience of a post-digital world in which the digital is no longer new and the boundaries between the analog and the digital seem to become fuzzy (Cramer, 2015; Fawns et al., 2019), e.g. something as simple as the coexistence of printed and digital books as educative media.

In this essay, we want to address phenomena of continuity by critically examining two practices that shape (new) digital education based on (old) anti-pedagogical ideas: gamification and digital study. We argue, that these practices, in their current state, show anti-pedagogical features as they implicitly or explicitly undermine educational experiences regarding students and teachers and their relation to one another, and to the world. While doing so, we presume a constitution of ‘the educational’ as a contingent social, embodied, aesthetic and discursive practice (Biesta, 2014; Willatt & Buck, 2021), which simultaneously rejects notions of positions that reduce learners to solipsistic psychological entities, or subjects to overwhelmingly powerful structures. Instead, in accordance with an educational anthropology which is a guiding principle since the Enlightenment, experiences like learning and *Bildung* are assumed to be possible (also as the ultimate goal of teaching) for every human being. Yet, they are painful since they force us to change both our worldview and the integrity of our self-image (Meyer-Drawe, 2013).

Instead of cognitive efforts, self-formation and critical thinking, gamification calls for activity, proximity to the lifeworld and naïve enjoyment of nature, ideas already found in old and problematic models of progressive and anti-authoritarian education. Likewise, gamification suspends possible subversive and critical shared moments of teaching due to its inherent features and closed structure, fostering the isolation of students and the potential degradation of teachers to IT support personnel (Buck, 2017). What is more, digital study, far from being an educational innovation,

reinforces a traditional and dominant idea of studying in Western cultures as a cognitive, solitary and elitist practice. This idea contrasts with the practice of studying as an inherently bodily, social and aesthetic practice, as we have shown elsewhere (Willatt & Buck, 2021). Thus, both practices of gamification and digital study take a form, that not only aims to replace conventional pedagogical forms and spaces, but even threatens the very possibility of teaching itself.

This essay is divided into three sections. In the first section, we address the common understanding of digitalization in educational contexts as a disruptive phenomenon. We argue that an examination of the phenomena of continuity allows us to distance ourselves from the ‘presentism’ around current digitalization processes in order to develop a historical and critical perspective. In the second section, we briefly analyze progressive and anti-authoritarian educational ideas in relation to traditional pedagogy. We then describe the practices of gamification and digital study by giving some examples from digitalized school and higher education settings. In the last section, we discuss the consequences of anti-pedagogical practices for teaching, learning and studying. We also ask for ways to generate genuinely educational experiences in the challenging situation of increasing digitalization of social life. For this purpose, we introduce the figure of *analogizing* (what remains and/or becomes analog) which asks which parts of the educational system should be excluded from digitalization, where it should be reversed, or where there are good reasons to at least approach it with doubts, or skepticism.<sup>1</sup>

By introducing the figure of analogizing educational settings, we add discomfort to the discourse characterized by a Silicon Valley-like spirit of optimism. This may prove useful as a device for cross-checking seemingly innovative and neutral, yet power-laden and ultimately anti-pedagogical practices and phenomena within teaching, learning and studying. While some of these (BYOD = bring your own device) are already critically examined under certain categories (reinforcing the digital divide; Adhikari et al., 2016), others get away scot free, or are even implemented in recent education policies. This may or may not be indicative for a discursive drift (Ljungqvist & Sonesson, 2021; Armila et al., 2022) towards a techno-chauvinistic (Broussard 2018) or: anti-pedagogical rather than educational basis for political decisions.

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<sup>1</sup> It should be duly noted that we are not the first and only ones to point to analogization as counter-force or counter-movement to ongoing processes of digitalization. Back in 2018, Julia Cohen (<https://www.nzz.ch/meinung/digitalisierung-war-gestern-es-gibt-eine-wiederentdeckung-der-sinnlichkeit-abseits-der-geraete-ld.1436918>) referred to analogization as a “deep desire of actual human connection, the production and handling of physical objects and the protection of privacy” with reference to an article by Wilhelm Schmid in the Swiss daily newspaper NZZ. Our argumentation does not follow this antagonistic logic, but rather advocates for scientific consideration and reflection of digitalization.

## 1. Digitalization as a disruptive phenomenon

In recent decades, social life has been profoundly transformed by global processes of digitalization and the expansion of the Internet. Castells (2010) describes such processes in the light of the “information age”. In this respect, Buck (2020) reminds us that the phenomenon of digitalization is no longer limited to *digitization*, to a mere technological procedure of converting analog (continuous-variable) into digital (non-continuous-discrete) data. Moreover, the original meaning of the digital has nothing to do with our current understanding of it. Etymologically, the term ‘digital’ comes from Latin *digitus*, which refers to the realm of embodied experience: to someone’s 10 fingers or toes and the probable origins of the decimal system (Oxford Latin Dictionary, 2012, pp. 594–595). In the field of education this original meaning of the digital has been continuously blurred. While at the end of the 19<sup>th</sup> century the notion of digital education still referred to the embodied experience in relation to the difference in skills between the left and right hands, a century later it became a general reference almost exclusively to education about, with or through electronic technologies, the use of digital spaces on the Internet, digital literacy and educational approaches based on digital media (Fawns, 2019). In this sense, and as the field of Philosophy of Technology shows (Verbeek, 2022), much of the discussion around the digital today focuses on device-centered perspectives, which place the human body as a physical device among others. Thus, the disruption of digitalization becomes evident in a sort of displacement of the embodied human being.

On the other hand, digitalization itself has become the *telos* of a new and multifaceted discourse on technology-based progress. This becomes evident especially at the level of (multinational) educational policy. The OECD for example claims that digitalization fosters the democratization of learning without the need to explain how this is possible and which aspects of democratization are affected by it. This fuzziness in dealing with specific terms and concepts seems to have become a decisive strategy in disseminating one’s policies (Buck, 2020). The last major event in this sort of (uncritical) digital transformation of the lifeworld took place during the COVID-19 pandemic, which, in a way, only accelerated what was already underway.

Even if we assume a post-digital perspective on this transformation by considering the coexistence of the analog and the digital in everyday experience, the question about what would be the next great revolution based on digital technologies remains open (Taffel, 2015). In this sense, the concept of the post-digital does not imply an overcoming of the digital at a higher stage of technological development, nor its radical questioning, nor a regression to a pre-digital stage. In the face of this, reactions in the educational world tend to be rather simplistic: resignation or rejection. In both cases ‘presentism’ predominates, either in terms of a feeling of being overtaken by

the present moment; or in the sense of using categories of today's world to idealize a 'better past'.<sup>2</sup>

To leave this (false) dichotomy behind, we argue that it is necessary to introduce some nuances. An examination of the phenomena of continuity within apparently discontinuous processes allows us to move in this direction. The question of continuity has to do, for example, with those aspects of face-to-face teaching that persist in digital teaching such as:

- Digital education involves the human body and the intrinsic materiality of electronic devices that make digital mediation possible (Gourlay, 2021).

- The structure of a pedagogical situation formed by the so-called pedagogical triangle. This means that in both face-to-face and digital teaching there is someone – or something – teaching, an object, subject or content being taught and someone learning it. Even in an asynchronous format without a teacher, there is at least a tacit or explicit intention to teach. (Friesen & Osguthorpe, 2017)

- Closely related to the previous aspect is the task of directing or attracting the attention of students through fundamental pedagogical practices: pointing and asking as defining, contingent (i.e. non-technical) practices of the pedagogical. (Brinkmann, 2023)

- Teacher's improvisation when something goes wrong in the course of the class, for example, when interruptions appear, the online platform crashes, the screen freezes, etc. In a way, the teacher's improvisation responds to the occurrence of 'negative experience'. (Ravn et al., 2021)

From a historical point of view, the emergence of digital media can also be understood in a manner analogous to other processes in the past, such as the wide spread diffusion of writing and books. The disruption of the technological device goes hand in hand with the continuity of human reactions. Regarding writing and books, there have been not only enthusiasts, such as Comenius, but also detractors, such as Plato. However, Plato's rejection of writing in the *Phaedrus* – because it will supposedly destroy memory, an indispensable faculty of the human being – remains paradoxical: Platonic thinking, in fact, has reached our days only thanks to the writing that the great philosopher so rejected. Somehow the old thoughts and paradoxes reemerge from time to time. In the following, we will show in what sense this happens with digital education.

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<sup>2</sup> The emergence of AI technologies complicates the perspective on the post-digital once again, as it is no longer just pedagogical practices such as teaching and learning that are potentially subject to change. It is rather entire professions and institutions that are being called into question. In general, we advocate a similarly skeptical, sensible approach to AI in education as to other digital technologies. We would like to thank both reviewers for very inspiring and challenging queries.

## 2. Anti-pedagogical ideas, yesterday and today

There were heydays of both so-called progressive education and anti-authoritarian ideas. Progressive education began thriving at the turn of the 20<sup>th</sup> century, driven by numerous social, technical and economic changes. Western societies changed rapidly in a short space of time, for example in terms of urbanization and mechanization, mobility and efficiency in industrialization. At the same time, schools were called upon to take account of the rapid changes and form a corresponding workforce. Refusing to accept these rapid changes, ‘progressive education’ developed as a collective term for attempts to create counter-realities. These were often characterized by demanding a return to an imagined past—or realizing it in their schools—that for the most part never existed. Proponents were calling for schools outside of busy cities, under the control of ‘loving and beloved’ (yet controlling) teachers and mentors, distanced from the highly cognitive requirements of city schools, offering some idea of activity, wholeness and proximity to both nature and students’ lifeworld. Many pedagogical concepts were arguably regressive romanticism in action under the guise of progress (Oelkers, 2019).<sup>3</sup>

Similarly, there was a strong anti-authoritarian movement after the May ’68 events. Akin to progressive education, anti-authoritarian education was embedded in social and Civil Rights movements, framed by national and global events. In certain countries it bore whole milieus and sub-cultures such as the hippie movement. The according educational movement of anti-authoritarian practice, however, drew on ideas from progressive education and took them to the extreme. Progressive education still focused on ‘gentle’ methods and a supposed child-centered approach, anti-authoritarian education began as means for democratization of any form of educational interaction, but developed an extreme form of ‘anti-education’ (Braunmühl, 1975) as the rejection of *any* educational action due to its inherent power structure. Ironically, what this movement called anti-education is what we consider anti-pedagogical since it excludes to possibility of teaching from the very start. Historically both progressive education and anti-authoritarian education became formalized as a mere refusal of (proven, established) pedagogical practices, no matter how little or much these aim for inclusive, democratic participation. This opposing pedagogical thinking was a presentism of its own kind. It forgot all the insights, experiences, thoughts and theories of the past centuries that our discipline had thought of, tested, and reflected upon.

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<sup>3</sup> Of course, due to the brevity of an essay, this is painted with a broad brush and it would take a whole monograph to dissect the myths and reception of progressive education and its local differences and nuances to paint a scientifically sound picture. As Oelkers (2019) points out, (regressive and vague) school critique is a central motif in most of their proponents’ concepts and theories.

Instead, in the name of newness and an alleged revelation of how everything we developed so far *must* be wrong from the roots. Thus, calls for an education as *tabula rasa* emerge.

Gamification is an illustrative example of this type of pedagogy, which appears innovative, but is potentially regressive in the way it works, its view of human nature, its learning theory and so on. By introducing game mechanics such as experience points and level advancement, it attempts to transform pedagogical practices in such a way that increases motivation and fosters an easier understanding of the subject matter (Buck, 2017). It aims to utilize the power of narratives and thus subjectivizes its users/players in a subliminal way (Zulaica y Mugica & Buck, 2023). Although play is elementary to educational practice – we’ve known this since Friedrich Fröbel at least (Brehony, 2013) – there is suspicion that the transformation of any pedagogical practice into games undermines central presumptions about modern education. This exemplifies within gamified settings in the compliant surrender of the planning of a course due to the prior set of rules, which (especially in the case of electronic games) can only be influenced to a very limited extent by the intervention of teachers or educators. It is merely “an act of subordination under a set of rules that can only be controlled indirectly by teachers, who – traditionally – are responsible for pedagogical actions such as learning, and thus are the last instances controlling the school framework in which learning, *Bildung* and social interaction takes place.” (Buck, 2017, p. 37). By handing the helm to digitalized learning environments, we actually act anti-pedagogical in denying our responsibility for educational settings and persons therein. Instead, by affirming gamification of educational practice, we suspend what is central to pedagogical professionalism and what gives our profession its *raison d’être*: the ability to make pedagogical judgements on a case to case basis that require pedagogical tact, as Herbart calls it as early as 1804 (Friesen, 2022). As Buck argues further, gamification is also a violation of the time structure that is inherent to educational practice. Whilst the latter does not and cannot rely on immediate effects of teaching,<sup>4</sup> a technified, gamified education relies on the presumption of immediacy in its relation between cause/intervention and effect. What is more, gamified practices reduce pedagogical action to the effects of learning. Dimensions like self-formation and the practice of moods of sociality are barely touched, thus gamified practice is the epitome of what Gert Biesta (2010) coined the “learnification” of educational institutions. One might argue that this is still the central aim of education, but by doing so we might forget that it is a great historical achievement to recognize that pupils, children, students are

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<sup>4</sup> Anyone who has ever tried to teach a child a cultural technique such as eating with a knife and fork knows that it initially requires a great deal of patience and wiping cloths. The duration and intensity of this process is absolutely impossible to predict. In addition, it is clear that such a learning and educational process takes place within a spectrum and cannot be reduced teleologically to the achievement of different levels of competence.

not just learners, but that we have a pedagogical responsibility to ensure that all of them participate in public education systems with different backgrounds, just as we have different daily forms and struggle with things that are already in the distant past for us – e.g. family conflicts with siblings and parents, puberty, the first love etc.

This clearly shows that gamified pedagogy is a throwback to pre-modern pedagogical conditions. Under the guise of progressive, objective, individualized pedagogy we re-introduce a standardized idea of students that have to adhere to our prior norms, without any chance of participation, objection or even opposition. Of course, this is only one aspect of seemingly modern pedagogy, so it is worth taking a general look at studying in the digital medium.

Elsewhere we have argued, that digital study reinforces a traditional and dominant notion of studying in Western cultures, namely studying as an eminently cognitive, solitary and elitist practice (Willatt & Buck, 2021). This notion can be found in an archetypical manner in Comenius' famous work *Orbis Sensualium Pictus*, first edited in 1658 and for decades the most refined and common textbook in Europe, illustrated with 150 copper cuts. Comenius provides a characterization of the practice of studying (lat. *museum*), which allows us to sum up at least four central features of traditional studying: 1) studying requires a specific space and time; 2) studying is an individual and intimate practice; 3) studying is closely associated with written culture; and 4) studying is a process of systematization. In our view, Comenius' characterization is not wrong, but rather incomplete, since it represents only a specific moment in the practice of studying. Such a moment would not be possible without previous elementary experience, that is inherently embodied, social, and aesthetic.

Co-presence in the physical space of the face-to-face classroom differs from co-presence in the virtual classroom, for example, during a synchronous online lesson via video conference. Without a doubt, it is possible to develop a specific sense of place in the virtual classroom, although no longer based on sharing a physical space but on the mere sensation of being there, together and involved in individual and collective activities. However, this difference also means that body language cannot bear witness to co-presence on its own, and one must resort to the written or spoken word. This is the case, for example, in the chats that discuss a lesson in real time. A second example would be learning management systems such as Moodle or Canvas. These platforms and devices insinuate a possible replacement of lessons (and therefore teachers) through sophisticated tasks and automated, so-called self-directed formative assessments. Alas, this technical idea of a substitute for the risky endeavor of teaching and learning may turn out as a grave confusion with performance (Soderstrom & Bjork, 2015). What is measured may or may not represent the result of a learning process, but rather indicated a students' possibility to show expected behavior.

On the other hand, studying an asynchronous online lesson seems to make it easier to remain in current thoughts and sentences. It would be enough to stop, or pause the



audiovisual resource at the moment and for the desired time. However, the attention paid to a certain object does not depend exclusively on our will. In the amazement of what is perceived, there is a moment of pathos that escapes all subjective and technical intervention. As we can show with just a couple of examples, digitalized educational settings seem to be innovative and learner-friendly, but may be reduced in many respects – or even anti-pedagogical.

### **3. Analogizing educational settings**

What are the consequences of these assumed anti-pedagogical practices for teaching, learning and studying? What are ways to generate genuinely educational experiences in the challenging situation of increasing digitalization of social life? Our proposition, this does not come as a huge surprise, is the idea of ‘analogizing’ (what remains and/or becomes analog) which can be described as the act of asking which parts of the educational system should be not be digitalized, or only with great caution and after extensive deliberation, where it should be reversed, or where there are good reasons to at least approach it with doubts, or skepticism. As an example, Sweden reverted to books and handwriting instead of digital learning tools due to a decline in reading ability according to the latest PIRLS study.<sup>5</sup>

To this end, we need to establish categories to distinguish between what can be digitized safely and what requires further deliberation in the mode of discussion. As Buck (2020, p. 193) pointed out elsewhere, “the Greek phrase *ἀνά λογόν* (*aná logon*) [...] not only means similar, but also according to rationality”. Thus, analogization as we understand it, is an act of recovering reason beyond and against premature digitization for political, or neo-maniacal reasons. What would these categories be according to our examples and hitherto argumentation? What are the blind spots of proponents of digitalization the world over? Where do we fall into the trap of romanticization, a relapse into pre-theoretical times? Where do we let presentism and Silicon Valley-like optimism and rhetoric win over historically, theoretically based ways of thinking? What follows is a rough proposal of this, one might also call constitutive moments of a pedagogical thinking and acting *sui generis* – and what Heitger (1999) coined “pedagocity” (*Pädagogizität*).

1) What comes first is the recognition of *body and embodiment* as pre-verbal and pre-reflective moments in education. There are multiple experiences we ultimately can not or barely transform into reflection or wording. Recognizing embodied experiences

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<sup>5</sup> It is rare enough for such (education policy) decisions to be discussed in the general press, especially outside the countries concerned. It is therefore all the more remarkable that the Guardian did so in this case: <https://www.theguardian.com/world/2023/sep/11/sweden-says-back-to-basics-schooling-works-on-paper>.

seems to be much more fruitful than a vague idea of ‘wholeness’ which presupposes the existence of a whole. Embodied experience, on the other hand, reminds us of the contingency and withdrawnness of educational practice. Both progressive educational movements and modern transformations in the wake of digitalization seem to be largely ignorant of this. It is therefore imperative to ask if and in what way digitalized settings refer to students’ embodied experience. This argument does not reject the idea of human bodies generally being intertwined with technology (Merleau-Ponty provides us with a plentitude of examples from glasses and pens, hats and white canes to musical instruments), but still warns of the leap towards digital technologies that divert from ‘traditional’ technologies in different ways (ubiquity, material quality, opaqueness).

2) Secondly, the consideration of social customs and orders, that is: *sociality* in general is central for pedagogical action. With reference to the pedagogical triangle, we are reminded of the intricate nature of pedagogical action that cannot be reduced to psychological explanations. In other words, education is always a complex social situation, even in cases when there are just two people around. Progressive education is full of examples for ignorance of this fact. Nature, for instance, is often meant to be the ultimate educator (e.g. in Montessori’s theory, as well as in Key’s), nowadays it is algorithms and elaborated software that is supposed to replace the triangle of teacher–student–subject becoming a ‘new nature’. As we have shown at the example of studying online, there is a danger of the return to this way of thinking within digitalization efforts.

3) Thirdly, there is more to education, schools, teaching than learning – *Bildung!* While schools are tasked to ‘convey knowledge’ and prepare for exams, we argue that schools are also places of socialization and *Bildung* beyond and apart from the official assignment. Coming of age mostly happens in schools, with peers that often surround students more than their family. Recognizing this fact seems very vital for educational endeavors that aim to take their addressees serious. While some concepts from and in progressive education have taken this into account, it seems to be a vast blind spot within digitalization. While most of the communication within digitalized platforms seems to be directed toward the learning outcome, there is rarely space for self-formation, *Bildung* or the like. One might ask how (if at all) it is possible to properly recognize this while developing and using such platforms and software.

4) The core *practices of deliberation, objection, discussion, disagreement, and asking* are central for our understanding of an education that is truly democratic and thus political. Inherent to the social practice of teaching is the insight that a classroom discussion can only be moderated and guided to a certain extent. What initially appears to be a problem (with regard to output-orientation), however, turns out to be the practice of a highly democratic practice: debate. In the cultivation of these mostly verbal negotiations, what is essential for a democracy is practiced: the exchange of

arguments without prior knowledge of their correctness. Only which proves itself in the debate can be regarded as provisionally secure knowledge, but can in principle be changed. This (scientific!) insight is one that may have been realized in the supposedly democratic designs of so-called progressive education (in Summerhill, for example), but does not exist in digitalized environments.

5) Ultimately, we assert, there is a *pedagogical professionalism and judgment* that relies both on theoretical knowledge and practical experience, and that cannot be replaced by automatized programs or algorithms. In this feature, the aforementioned aspects converge. As an example, grading a paper is not only a judgment about what a specific student wrote (or crossed), but also a judgment against the background of his/her development in the past months, or even years, against the knowledge of his/her struggle in personal life or other school subjects, a recognition of what is happening apart from learning and memorization. This is a double-edged sword, as a glance at Steiner education proves, but it can be done thoroughly and comprehensively within a culture of openness and transparency. We have serious doubts that completely digitalized ‘learning management systems’ can operate in a way that allows for such a professional ethos. Instead, we suspect that many digitalized forms of education succumb to the idea of (discrete) competencies, both on students’ and teachers’ side.

As we have hopefully shown in this essay, the idea of *analogizing* educational acts, settings and so forth, is not a crude dismissal of the possibilities of digital tools within education in a technophobic sense. It is rather a reminder of the importance of theory, a consensual ideal of what education constitutes and a call for thorough reflection of seemingly innovative practices. Historical knowledge about previous ‘revolutions’ in education may teach us about the costs of hasty implementation of (technical) solutions for non-technical problems and may even turn out as the opposite of what we try to achieve in teaching. These anti-pedagogical measures (as we call them) are often well-meant general revisions of education for the sake of newness or innovation.

Both aspects, theory and history of education, may not be the most popular parts of studying education, but they allow us to make sense of technological and societal transformations and their implications for educational changes to begin with. In turn, this allows us to defend both our discipline and our professions in the face of an ambitious, but possibly not always objectively oriented educational policy that works according to different criteria and operators than the practice of pedagogy. Becoming aware of the political dimension of educational research as something inherent rather than separated from our day-to-day work is something that may be gained when dealing with the diverse positions and counter-positions on the digitalization of education.

To answer the lingering questions with “what do we do then with digital technologies in education?”: it depends. It depends of the area of implementation, the severity of change, the known and unknown implications for agreed-upon relations between

students and teachers, education and society, practice and research. The possibility of discussing change and sustaining it as a scientific practice are ultimate prerequisites for the functioning of society and we would be well advised to use our pedagogical expertise on a case-by-case basis to *deliberatively* arrive at decisions rather than deeming them a priori necessary. One possible reaction would be the substantiated analogization of something digital(ized) as we have shown here.

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