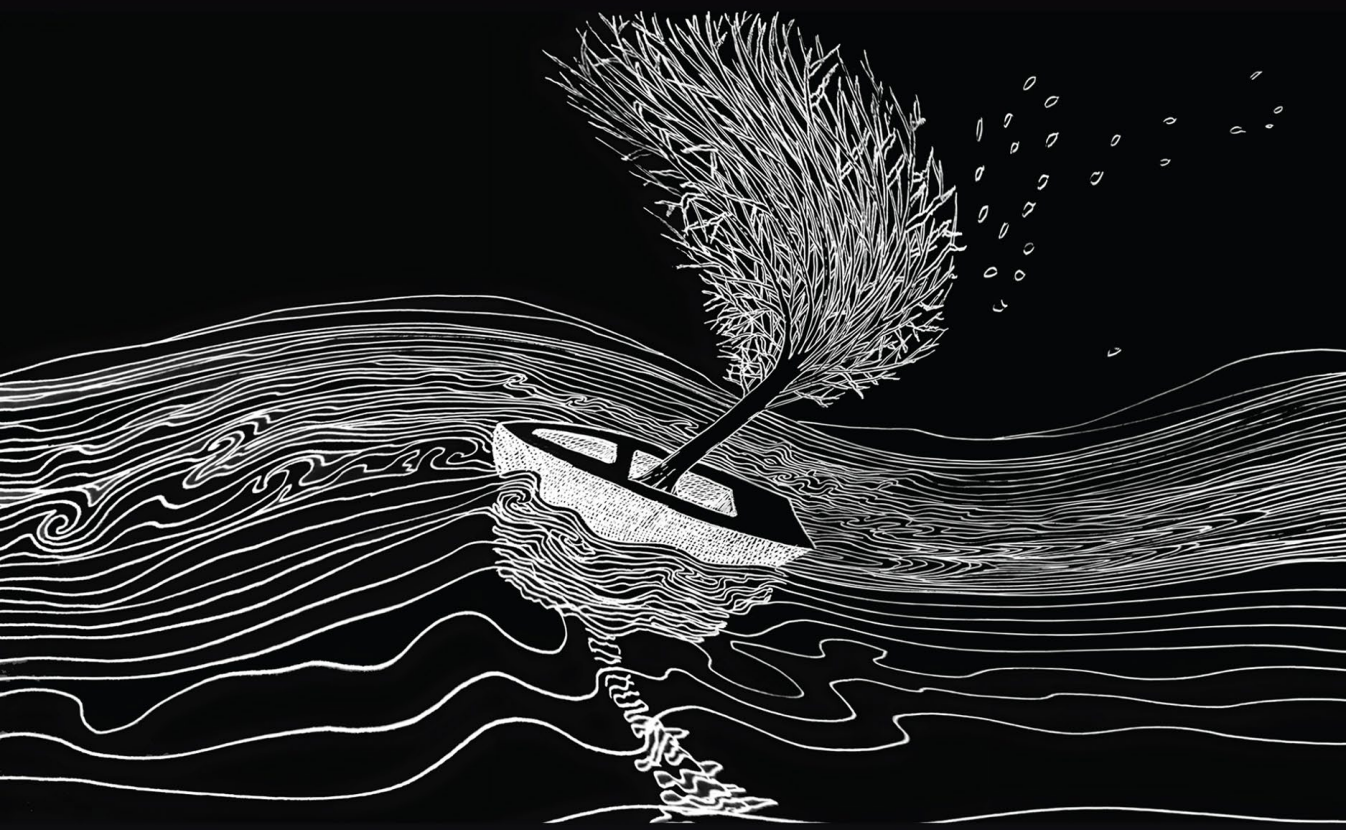
Higher Education for Good

Teaching and Learning Futures



Edited by
Laura Czerniewicz and Catherine Cronin

https://www.openbookpublishers.com

Laura Czerniewicz and Catherine Cronin (eds), *Higher Education for Good: Teaching and Learning Futures*. Cambridge, UK: Open Book Publishers, 2023, https://doi.org/10.11647/OBP.0363

Digital material and resources associated with this volume are available at https://doi.org/10.11647/OBP.0363#resources

ISBN Paperback: 978-1-80511-127-6
ISBN Hardback: 978-1-80511-128-3
ISBN Digital (PDF): 978-1-80511-129-0
ISBN Digital ebook (EPUB): 978-1-80511-130-6
ISBN XML: 978-1-80511-132-0
ISBN HTML: 978-1-80511-133-7

DOI: 10.11647/OBP.0363

Cover image: George Sfougaras, *Hope*, CC BY-NC-ND
Cover design: Jeevanjot Kaur Nagpal

18. Advancing 'openness' as a strategy against platformisation in education

Tel Amiel and Janaina do Rozário Diniz

> I am hopeful, not out of mere stubbornness, but out of an existential, concrete imperative.
>
> Paulo Freire (2014)

This chapter is a reflective, practice-based narrative on the experiences of emancipatory teaching to future educators regarding the platformisation of education. Drawing on experiences from teaching in Brazil, it aims to provide insight into the strategies and ideas created over time as we, two Brazilian educators, navigated the complex landscape of teaching in a novel, collaborative format during the pandemic. We believe that technocritique emerging from the field of education often fails (future) educators by only providing them with "critical perspectives", but no clear insight into strategies or tactics of resistance and collective action. Resisting the ever-growing techno-corporate mammoth in education and extractive surveillance demands: (1) having a critical consciousness, (2) learning to engage collectively, and importantly, (3) identifying possible alternatives and strategies to deploy when working as an educator. We believe that such resistance also can be enacted by students, and that the methods and possibilities discussed here can be used in a variety of different scenarios in higher education.

Introduction

After the 2020 COVID-19 outbreak in Brazil, schools and universities suspended their activities as a measure to curb the contagion. As elsewhere, educational institutions resumed operations via emergency

 https://doi.org/10.11647/OBP.0363.18

remote teaching (ERT). This process took place at the institutions where we, the authors, teach — the State University of Minas Gerais (UEMG) and the University of Brasilia (UnB). Both are public, tuition-free, state-funded institutions that are widely respected in Brazilian higher education. At the respective ERT working groups, challenges were discussed, but surprisingly little attention was paid to identifying the services and tools that would best meet the emerging needs of students and teachers. Instead, we observed a proliferation of uncritical guides and suggestions of software, systems, and services particularly those identified as "free" that could "help" teaching in such uncertain times, and the de facto adoption of centralised educational services and platforms offered by large corporations.

The increased adoption of software platforms in education has led to the massive, top-down implementation of new services and software, with an unprecedented concentration of power in a handful of organisations offering "free" platforms to educational institutions around the world. For those countries and regions with reasonable internet access, cloud-based services in both school systems and higher education institutions have been advanced. Though this trend is not new, there is evidence of its increase during the COVID-19 pandemic (Amiel et al., 2021; Fiebig et al., 2023).

If platforms were once used in hybrid or distance education models, they had now become the mediators of access to formal education, in its broadest sense. We shared our critique of the adoption of these systems in ERT working groups in our respective universities but there was little response. Teachers and students did not participate in the needs analysis or choice of tools and platforms. In this context, we decided to develop projects with our students. As teachers in the field of education and technology, we felt an urgent need to clarify the importance of these decisions, particularly the risks and implications.

In keeping with the theme of this book, our goal is not simply to describe the projects we designed during our courses, spanning the COVID-19 pandemic. Rather, we aim to show the importance of moving beyond the rhetoric of technology as a tool at the service of education, and of simply adopting a "critical" stance to technology. Drawing on our own work with trainee teachers in the Brazilian higher education sector,

we aim to show how this process was filled with doubt, insecurity, and precariousness, but also with resistance and hope.

We have organised the chapter as follows. We begin with a presentation of the main concepts that underlie recent debates on the rise of software platforms in education. We present the specific pedagogical projects we developed with our students during the pandemic. Next, our chapter takes a conversational tone as we detail the rationale and methods we used. Finally, we conclude the chapter with our reflections.

Data, platforms, and society

For some time, there has been a concerted effort to bring critical perspectives into the field of educational technology (Macgilchrist, 2021). Discussions about how to foster a critical outlook have taken many forms and names, including media literacy, digital literacy, and technology fluency (Amiel & Amaral, 2013). In Latin America, there is a strong tradition, borne out of critical perspectives, of examining information and communication technologies (ICT) through the lenses of politics and power imbalances, particularly in the analysis of mass media. Martín-Barbero (2003) had suggested that technologies for communication must be tools of expression and not just consumption. The critique also extends to questioning the purported neutrality of digital devices such as computers. Despite decades of discussion on the non-neutrality of technology and its tools (Dagnino, 2008), teacher education and professional development are still influenced by a rhetoric of technology as "tool" — choices to be purchased or used — based on whatever is offered by the market. However, if we continue to see technologies as a menu of tools and systems that teachers must learn about, choose, and deploy, all important decisions about technology will have been made without their participation (Borgmann, 1993).

Due to the prevalence of this consumer-oriented approach to technology, it is often difficult for educators to sensitise students regarding how these problems might impact them as they engage with educational technologies. There has been a recent rise of criticism of businesses such as Facebook (Meta) and Google (Alphabet), and

punishments for violation of fair competition and privacy laws.[1] This, together with the massive move towards ERT provided fertile ground to renew our discussions of educational technologies not only in future lives of teachers but also current lives of students.

During the COVID-19 pandemic, we saw the growth of platform use in education through the widespread adoption of SaaS/PaaS[2] platforms, i.e. "(re-)programmable digital infrastructures that facilitate and shape personalised interactions among end-users and complementors, organised through the systematic collection, algorithmic processing, monetisation, and circulation of data" (Poell et al., 2019, p. 3). The platformisation of education is defined by Decuypere et al. (2021) as "how platforms take part in the assembling of education, connecting artefacts, actors, epistemologies, techniques and values into novel educational forms" (p. 2).

Surveillance capitalism, platform capitalism and data colonialism are concepts that shed light on understanding the role of big tech, platforms, and data in society and in education. Zuboff (2015) defined surveillance capitalism as a new economic order that has personal data as its main raw material. Human experience is raw material transformed into behavioural data that is processed, organised, and used to predict human behaviour (Zuboff, 2019). In a complementary vein, Srnicek (2017) defined platform capitalism as the new business model of 21st century capitalism where "the platform has data extraction built into its DNA" (Srnicek, 2017).

Two key points about the operation of platforms highlight their contribution to global inequality. First, the free flow of data mainly benefits platforms in the United States, since most of the data goes towards the databases of businesses that have headquarters in the US. Second, the offering of free or cheap services by platforms to countries in the Global South in exchange for the data provided by the populations of these countries can be considered "a modern system of forced underdevelopment in relation to data" (Srnicek, 2019), or data

1 See, for example: https://www.nytimes.com/2019/03/20/business/google-fine-advertising.html and https://techhq.com/2021/08/amazon-slapped-with-biggest-gdpr-data-privacy-fine-ever/

2 Software and Platform as a Service.

colonialism (Couldry, 2020). Data colonialism has commonalities with historical colonialism, including resource appropriation, ideology, capital accumulation, and most importantly, broad changes in social relations (Couldry & Mejias, 2019a). Populations from across the globe, in both richer and poorer nations, become sources of data extraction, but the consequences of data colonialism are not symmetrical: the flow of data and profits almost always occurs from the Global South to the Global North (Cassino, 2021; Silveira, 2021). Furthermore, Cassino (2021) highlights the invisibility of subjects from the Global South who have historically had no voice. As in historical colonialism, what matters fundamentally are the extracted resources.

Based on these reflections, we observe the technological fragility of countries from the Global South, specifically Brazil. The transfer of data from Brazilian citizens to data centres operated by big tech, and the massive adoption of platforms from these corporations by public educational institutions in Brazil exacerbate the technological vulnerability of the country. Given the degree of dependence these platforms create, there is a concern that their adoption may also lead to a decrease in innovation and development of local technologies, and/or those that are in accordance with the needs, demands and perspectives of local users. It also compromises the training of skilled labour to develop their own solutions,[3] the freedom of citizens, and the sovereignty of the nation (Toledo, 2020).

Platformisation and pedagogy

As educators who study and teach about the intersection of education and technology, we are attuned to the emerging challenges of platformisation. Though we have discussed these topics as part of our courses, we believed that the pandemic made platformisation cardinal to the lives of students. Moreover, we felt that there was a general lack of understanding of these issues by educators in schools and in universities. We began tackling this issue through the Open Education Initiative (IEA; Iniciativa Educação Aberta), an initiative established in

3 One interesting development is the increasing value of platform and business-specific skills in traditional curricula (see for example, Foster et al., 2018).

2017, and co-led by one of us (Tel). Though the initiative's primary focus is on the broad topic of open education (OE), it positions digital rights as a central theme. In 2019, IEA began collecting and publishing data on the "partnerships" between public educational institutions in Brazil and GAFAM,[4] under the Education Under Surveillance Observatory (Observatório Educação Vigiada[5]). It is in the context of this group, that the authors of this chapter met online for the first time in August 2020, when Janaina shared a lesson plan on a course she was going to teach focused on issues of platformisation in education.

After connecting and finding common interests, we taught together, conducted three cross-disciplinary projects over three semesters, resulting in open educational resources (OER), and connecting students from both institutions. The first outcome of these projects was a "manifesto" focused on surveillance in education written collaboratively by students for students. The second, a series of online tutorials aimed at introducing FLOSS (Free/Libre and Open Source Software) that could be used by educators and students, and the third, a series of lesson plans on issues related to surveillance in education. In alignment with the principles we wanted students to learn about, we made use of FLOSS for communication and development of the projects, as detailed in Table 1 below.

4 Common acronym for some of the biggest information technology companies in the world: Google (Alphabet), Apple, Facebook (Meta), Amazon, and Microsoft.

5 https://educacaovigiada.org.br

Table 1

Project details

		Project 1: Manifesto Surveillance in Education	**Project 2**: Tutorials FLOSS platforms and software services	**Project 3**: Lesson plans digital rights in basic education
UEMG	Class	Society, Education and Technology; Mass Surveillance and Fake News	Society, Education and Technology	Society, Education and Technology
	Students	17	17[6]	28
UnB	Class	Introduction to Research (levels 1,2,3)	Education, Technology, and Communication	Education, Technology, and Communication
	Students	14	30	27
Period		Nov – Dec 2020	Feb – Mar 2021	Jul – Aug 2021
Software		Wikiversity; Etherpad; Telegram; Conferência Web (BigBlueButton fork)	Etherpad; Telegram; Conferência Web (BigBlueButton fork)	Wikiversity; Etherpad; Element; Conferência Web (BigBlueButton fork)
Output		aberta.org.br/portfolio/manifesto-sobre-a-vigilancia-na-educacao	escolhalivre.org.br/tutoriais	pilaresdofuturo.org.br/praticas

Our goal was to provide students with the opportunity to experiment with a variety of tools, and to understand the risks and implications of platformisation in education. We also aimed to build upon previous student work. Once the collective "manifesto" was published, we used it to demonstrate the potential of engaging with the principles and practical use of FLOSS to challenge the effects of platformisation.

6 Same students from the manifesto project.

We worked within the principles of open educational practices (OEP). There was also an emphasis on making the results of the work open and publicly available, both as future educational resources but also as assignments that could be revisited by future students for improvement (what some term "reusable assignments") (Clinton-Lisell, 2021). To foster collaboration, we connected students from different regions, experience levels and age, initially online in large groups (for discussions) and then small inter-institutional groups (for activities). Collaborative learning enables those involved working together, bringing in different perspectives, and thus understanding and solving problems and achieving goals collectively (Amiel, 2012). It also imposes challenges in that each participant must understand each other's limits and potentials. This was particularly strategic during the pandemic, as challenges to participation were exacerbated and unique to each student. In small groups, we believed, it would be easier for negotiations to take place that would provide opportunities of engagement for all, and effective participation (Bali et al., 2020). The use of messaging systems allowed students to look to each other and teachers as a source of support, in a horizontal fashion. Finally, regular feedback and group meetings were conducted as opportunities to check on well-being and to provide guidance on project development and group dynamics.

Project 1: Manifesto

A Manifesto on Surveillance in Education was collaboratively created by 31 students. We began by providing students with resources exploring platformisation, identifying themes which could be addressed in a student-led manifesto aimed at trainee teachers in education, i.e. data/metadata collection and analysis, behaviour prediction and fake news, user loyalty, technological autonomy, buying and selling of data and "big data", censorship and control, and concentration of power in a few companies (GAFAM). Students selected their topic of interest and formed groups. Synchronous meetings were held between the students and teachers in which texts prepared by the groups were shared and

further reference materials were provided by the teachers. Students published their final drafts on Wikiversity.[7]

Students found drafting the manifesto to be very challenging. Educational platformisation was — and still is — a new subject, little discussed in the academic community, and in society at large. Even with the suggestion of materials for study and debates in class, students found it difficult to synthesise, through writing, their analyses and reflections. The use of FLOSS tools, most of which students had never experienced before, also provided a challenge. Accustomed to using proprietary software, students were surprised (and sometimes frustrated) with using something different. However, we believed that this was a safe space for experimentation that could lead to bringing forward insecurities and difficulties in ways that supported wider learning outcomes. Substantial text review was required by teachers. We aimed to limit our intervention on the text to preserve student voices. The final text of the manifesto was published in Wikiversity in October 2021.

Project 2: Tutorials

After developing a theoretical framework, the manifesto, and noticing the level of difficulty students had had with the use of FLOSS tools, we proposed the creation of tutorials about FLOSS for education. Students analysed closed/proprietary software and platforms used in education,[8] then researched free and open software and platforms that could substitute (or be used in tandem with) proprietary ones and presented comparisons to the larger group. Over a month-long period, 47 students created nine tutorials and a collaborative reflection. The tutorials were made available on the Escolha Livre (Free Choice) site.[9] This project occurred with greater fluidity than the development of the manifesto. Through dialogue between the authors and students, we noticed greater engagement. This was a more practical activity, beginning with an investigation of platforms with which students were familiar. Moreover,

7 https://pt.wikiversity.org/wiki/Educação_Aberta/A_vigilância_na_educação

8 A list of platforms were suggested, based on work done by previous students in 2019, which included WhatsApp, Netflix, Facebook, Instagram, among others. See: https://pt.wikiversity.org/wiki/Educação_Aberta

9 A website (escolhalivre.org.br) created in partnership with UNESCO Brazil and the Open Education Initiative.

students from UEMG had already participated in the design of the manifesto and had some familiarity with the collaborative methodology, themes, and tools.

Project 3: Lesson plans

In the third project, we sought a greater articulation of the theory of educational platformisation with teaching practice. We designed an activity that could serve as inspiration for other undergraduate students and teachers in basic education. The guiding questions were: how can we engage the school community with the issues you have studied regarding surveillance, privacy, and the platformisation of education? How can we contribute to the awareness of students, parents and/or teachers about digital citizenship? In a one-month period, 55 students developed or remixed lesson plans, resulting in eight lesson plans. To develop this activity, we relied in partnership with Pilares do Futuro (Pillars of the Future), a project that provides practice focused on digital citizenship developed by teachers of basic education.[10] The partnership provided the opportunity for students to engage in a workshop with the manager of the Pilares project. The lesson plans were subjected to the standard evaluation done by the Pilares curatorial team, and then made available on the platform,[11] providing meaningful visibility to student work.

The elaboration of lesson plans was challenging for many students, who had no prior experience with teaching or producing lesson plans. Some initial ideas proposed by students were broad, overly ambitious or misaligned with the context of Brazilian basic education. We had productive dialogues with students and noticed great efforts to reduce the scope to build feasible practices. Students presented to the larger group, providing possibilities for pointing out strengths, and providing encouragement for students to learn from and support one other. Our intervention, conversations with colleagues from other groups, and

10 The project is financed by NIC.br (The Brazilian Network Information Center) and has support from UNESCO Brazil. See: https://pilaresdofuturo.org.br

11 See, for example: https://pilaresdofuturo.org.br/praticas/buscando-alternativas-a-aplicativos-de-mensagens-proprietarios-reduzindo-o-impacto-da-vigilancia-na-educacao

discussions held during the workshop all contributed to the development of the work, and consequently to the learning and development of the students.

Autobiographical investigation: Our methodology

As teachers during the pandemic, we were dealing with a high level of daily uncertainty and shifting priorities — as was everyone, including our students. There was little time to document and reflect on the designs we created and how they were molded by contingencies and daily demands. At the end of this trajectory, we believed something unique had happened and felt the need to analyse this experience. To make sense of the paths taken, we engaged an autobiographical stance, enabling us as researchers to investigate our points of view and contribute to a process of professional development (Oliveira & Satriano, 2017). In an autobiographical methodology, it is accepted that there is no perfect recollection of events, and no amount of data and analysis would faithfully unearth what happened, was thought, and was devised. What one has is always a partial, evolving account based on recollection and selective memories. Thus, we aimed to provide an account of how we enacted a specific perspective on teaching about educational technology with our students, hoping to change how future basic education teachers might understand and think about education in pandemic and post-pandemic times.

We began by engaging in a text-based dialogue. One of us recollected salient aspects of our trajectory; the other wrote back. Based on these initial drafts, we met (online and then face-to-face) and made use of our records from the period (documents, text-based exchanges between teachers and student-teacher groups, outputs of projects) to "refine" these memories, but more importantly, to critically reanalyse the issues that emerged from this practice. The result of these conversations is systematised below, in the form of a dialogue.

Educating for autonomy: Dialogues on education, technology, and freedom

Tel: In our initial conversation, it was clear that the role of large software corporations in education was something that has disquieted each of us for some time. We have found that this is not something seen as problematic and urgent by university teachers in our schools of education. During the pandemic, bringing this topic up in discussions seemed even more fringe, as everyone seemed to be in a fast, problem-solving mode. It made me think about a sort of "Silicon Valley" narrative that education is "broken" (in this case, it wasn't ready to respond to pandemic demands) and needed to be fixed by market models (Weller, 2015). I got the sense we agreed that this only made the issues related to technology in education more imperative. Everyone was grappling with a host of concerns and emergencies. But it was amazing to me how little issues relating to technology were part of the discussion, and adoption of almost any software or platform was seen as positive. How did you begin your incursion into this topic?

Janaina: Since 2017, I had been researching mass surveillance with trainee teachers at my university (UEMG). The advancement of GAFAM in education during the pandemic brought me great concerns as a teacher, as I was aware of the risks and implications of adopting the educational platforms of large information technology corporations in the academic environment. Distress and frustration were recurring feelings for me. In order to alert those involved — management, professors, and students — I problematised the issue with co-workers and did some outreach directed to management and students. These activities were not enough to mobilise, even slightly, the academic community at my university. The reduced amount of resources and lack of preparedness to deal with the COVID-19 pandemic, in terms of technical infrastructure, provided the conditions for the adoption of Microsoft's platform. At that time, I intensified my studies about mass surveillance, surveillance in education and free software, and I had contact with the Education Under Surveillance Observatory.

Tel: I had a similar experience. I was already aware of general concerns with data collection, privacy, etc., and considered myself an activist for

FLOSS. My interest in surveillance in education became central for me when I learned that my university at the time, the University of Campinas (Unicamp), would be a pioneer in Brazil in the adoption of Google's services for education in 2016. This decision encouraged me and a small group of colleagues[12] to try and find out how this process was taking place, given that there was no publicity of this partnership. This led to the emergence of a small network of researchers and students who clustered around understanding this issue — interviewing researchers, professors, and staff at Unicamp, investigating university documents, watching recorded videos of meetings, and finally publicising these facts. When I arrived at my new institution in 2018 (University of Brasilia), I was faced with the same scenario: the university was in the process of adopting Microsoft's platform. Both, therefore, had already adopted the platforms before the onset of the COVID-19 pandemic. From the beginning, I was startled by the lack of criticism and awareness by those involved in moving the process forward, and the enthusiasm with which public institutions with great technical competence sought out (and were not co-opted by) these businesses to adopt their services. This became clear when I reviewed the recordings of meetings of the university's Council on Information and Communication Technology (Conselho de Tecnologia da Informação e Comunicação[13]). The adoption was not, as I had thought, only been the product of strong marketing action by the private sector — but an active search by the university for solutions to concrete problems (e.g. limited available storage for self-hosted e-mail), but also assumed problems (e.g. the perception that "everyone" was already using services such as Gmail, so no real issues were at stake) (Oddone, 2021; Parra et al., 2018). It scared me how easily issues associated with privacy, data collection, or the business model of these companies could be overlooked. Over time, this small cluster of researchers began engaging in systematic data collection to determine the scope of these partnerships, resulting in the Education Under Surveillance Observatory.

12 I was a researcher at NIED (https://www.nied.unicamp.br), and joined colleagues associated with LAVITS (https://lavits.org) in this initial investigation.

13 https://www.citic.unicamp.br/contic

Platforms, surveillance, and education

Janaina: When I first got in touch with the Observatory, I thought: "there are other people studying and worrying about this? I couldn't quite believe it! There is a light at the end of the tunnel." How did the Observatory begin?

Tel: The Education Under Surveillance Observatory began by providing a georeferenced system aimed at showing, on a map, the platformisation of public education in Brazil (Cruz et al., 2019). It expanded to include all countries in South America in 2021.[14] Current data shows that nearly 80% of higher education institutions in the continent make use of Microsoft and Google services. These corporations offer "free" access to Software and Platform as a Service (PaaS/SaaS) including e-mail, cloud file storage, videoconferencing, and teaching systems to tens of thousands of students and teachers in educational institutions across the country. However, what is touted as "free" has enormous costs (Amiel et al., 2021). The development of internal platforms by education systems or public higher education institutions requires considerable and sustained financial investment. In recent years, state investment in public education has dramatically decreased (Cruz & Venturini, 2020; Parra et al., 2018). These two factors were crucial in directing institutions to adopt platforms from large software corporations, which became de facto platforms that enabled remote learning, during the COVID-19 pandemic. As my colleagues Leonardo Cruz and Jamila Venturini (2020) have observed: "one cannot ignore the role of the neoliberal reforms undertaken in the last 30 years in the deterioration of the public technological and educational infrastructure" (p. 21).

Janaina: In education, I'm surprised by how big corporations occupy a space that, to me, should be the responsibility of the state. The education of millions of students in a country is in the hands of very few large corporations. The idea that surveillance capitalism thrives on people's ignorance of this phenomenon (Zuboff, 2019) was quite important for me, and it is something that we have mentioned as being evident to us at our institutions.

14 https://educacaovigiada.org.br

Tel: I think the platformisation of education as a phenomenon is qualitatively distinct from the large-scale adoption of proprietary software in education, which has happened for decades. The heavy use of data, centralisation/aggregation of multiple services, and network effects, make it possible for small players to participate in the market (collecting and aggregating data from multiple sources, including through APIs). But platformisation most definitely rewards a small number of very large players that have emphatically affected the effective governance of education.

Janaina: We are talking about the platformisation of education, but if we look around, we see that the issue is broader than that. We are living the platformisation of society, or of the most essential sectors of society, of the economy... when we discuss this topic with teachers, I find that it's important to contextualise this beyond the walls of school and the university.

Tel: Yes, it's important to expand beyond the realm of education to connect the issues that are sometimes known by the students and have been raised by popular media, such as fake news, social network addiction, and the like. I think we have an obligation to point out how platformisation also enhances and exacerbates traditional disparities, not only economic ones, but geopolitical.

Janaina: Poorer nations face great social inequalities and have basic issues such as food scarcity, lack of literacy, and limited housing. The extraction of data is yet another form of exploitation, deepening inequalities and increasing the concentration of wealth of these corporations and strengthening the governments of their parent countries. Examining the impact of data colonialism in poor countries, we can think of issues such as disinformation, for example, which has contributed to the rise of extreme right-wing governments in several countries around the world. In Brazil, the victory of a fascist government deepened social inequality in the country (Gennari, 2020). This is just one example of how the processing of data from populations in poorer nations — with limited technological autonomy — by companies that have profit as their ultimate goal, can contribute to the increase of the poverty of a nation. Technological

autonomy, one of the strategic issues for the development of a country, is compromised and even made unfeasible by the technological, economic, and political domination that a few northern countries exert over those in the Global South.

Critical (and urgent) perspectives on educational technology

Janaina: We were aware of the problem: we saw platforms advancing in education, we tried to mobilise our fellow teachers and managers long before the COVID-19 pandemic. All this also changed my teaching, mainly because I work with teacher professional development. I found it impossible to teach without bringing forth, debating, and clarifying the platformisation of public education with my students. In my opinion, not taking this issue to class would be irresponsible. Students could not be unaware of a subject that directly impacts their daily lives today as students, and in the future as teachers. I organised the subjects I teach about technology and education in such a way that platformisation was the central subject. Having Paulo Freire as the canonical example of a teacher, I think that the educator, by choosing to be progressive, must contribute to overcoming the naive curiosity of the student towards a critical, epistemological curiosity; that is, promotion from naivete to criticality (Freire, 2018). Even in light of our university's determination for teachers to adopt the (Microsoft) Teams platform, for me, using it generated a conflict. "Teaching requires the embodiment of words by example... those who think right are tired of knowing that words lacking the embodiment of example are worth little or almost nothing"[15] (Freire, 2018, p. 35). I decided to adopt only free and open source software (FLOSS) in my classes, e.g. Jitsi, ConferênciaWeb, OnlyOffice,[16] Nextcloud,[17] Moodle and Telegram. I created a podcast channel about technologies, surveillance and education, and students developed

15 In the original: "Ensinar exige a corporificação das palavras pelo exemplo" [...] "quem pensa certo está cansado de saber que as palavras a que falta a corporiedade do exemplo pouco ou quase nada vale."

16 A free and open source productivity online platform, similar to other office suites (https://onlyoffice.com).

17 A suite for collaboration largely based on file/folder sharing (https://nextcloud.com).

podcasts about these subjects.[18] I continued to research surveillance in society, in education, free software, and also resistance initiatives to the surveillance and technology dependence sharpened by the IT monopolies during the pandemic.

Tel: My engagement with this topic as an academic grew much stronger during the first months of the pandemic. I was an open advocate of open education and publicly critical of the partnerships between higher education institutions and these businesses. Pre-pandemic changes in legislation, focused on distance education, already opened up avenues for the implementation of hybrid teaching.[19] I began to notice how the pandemic expanded interest not only in the idea of remote teaching but also hybrid education in Brazil. I felt like post-pandemic, pre-service teachers were unlikely to face a school system without demands for hybrid modes of teaching. There was no more pressing challenge to their activities as future teachers than discussing how this was not going to be a "simple" shift in spaces but a seismic shift in schooling. For quite a while, I had been openly aggregating class materials on distance and open education on a Wikiversity site, and in mid-2019 I began a project where trainee teachers had to critically analyse platforms such as WhatsApp and Instagram in regards to their educational uses and threats to privacy.[20] It was based on this effort that I made a call for educators to connect, and immediately found a possibility of connection between our themes and interests through the Observatory's Telegram group.

Janaina: These moments of initial conversations in 2020 gave me more hope for dealing with the situation posed by remote education. I realised that the advancement of GAFAM in education was not just my concern. Being aware of this, knowing that there are activists, teachers, technical analysts, and other professionals who share the same concerns and who act to problematise and understand the technological domination that we are exposed to, and that was imposed on us, gave me more courage to continue with actions that contribute to expanding my students'

18 https://archive.org/details/@tecnouemg

19 Law 13.415, enacted February 16, 2017: https://www.planalto.gov.br/ccivil_03/_Ato2015-2018/2017/Lei/L13415.htm

20 https://pt.wikiversity.org/wiki/Educa%C3%A7%C3%A3o_Aberta

knowledge about these issues. I know these are only local actions, but with possibilities of expansion through other fronts and collaborative practices.

Tel: There is limited time and engagement with students to discuss educational technology. There is also a disquieting feeling: while we advocate strongly against the use of these tools in our daily lives, work, and study, we also are aware of how difficult it is to not make use of these platforms.[21] So, in our discussions, I have come to realise that while I can pontificate about how much I avoid these platforms, this comes from a position of privilege, and does not always apply to my students. This, of course, has fallen apart during the pandemic, because within the realm of work we are required to use Microsoft and Google. Within the realm of family we need to use WhatsApp, to make a doctor's appointment or connect to our children's schools for example, and make use of social networks to navigate cultural activities, business agendas, an even public services.[22] Knowing of this "failure" to disengage, I wonder how useful it is to discuss these issues with future educators. Is this an unattainable goal that will only lead to some level of "consciousness" about the problem and promote anxiety?

Janaina: We criticise proprietary software, but we use it in our daily lives. Is this an inconsistency? I don't think so. We are discussing platforms developed by monopolies, and the main characteristic of a monopoly is market control. I am obliged to use Teams by my institution. I am often disobedient, but I can't always be. We should problematise this contradiction with students. I make my position clear, but I don't deny that I use these platforms and I explain the reasons that compel me to use them, and we reflect about the great political and economic power that these IT corporations have. I feel that transparent dialogue contributes to understanding the problem and contradictions that exist in our society.

21 See, for example: https://www.nytimes.com/2020/07/31/technology/blocking-the-tech-giants.html

22 Many private businesses and government now make use of platforms such as Instagram as "official" channels of communication. Thus, participation in civic life is limited without access to these systems. The local energy company in one of our cities recently announced power outages in their Instagram "stories", for example.

Tel: This makes me think about something we often criticise within the realm of the free software movement, where the use of any proprietary software is frowned upon. Simply suggesting that someone stop using WhatsApp to use an open-source alternative[23] does not actually address many of the issues we raise, most clearly those due to the network effect (who will you talk to?) but also more central issues like technical autonomy (the service is still hosted by a third party; having your own server is possible, but quite unreasonable for most people, including educators). In fact, this might lead to inflating the worth of individual decision-making (to abandon a platform, individually) in contrast to what actually might make a difference: collective action.

Janaina: Many education secretariats (spheres responsible for education at municipal and state levels) made mandatory the use of WhatsApp, Facebook and YouTube by teachers and students to enable formal education during the pandemic. One of the justifications given by education managers when adopting these platforms is that "everyone uses them" and that most students don't consume their pre-paid internet packages by accessing them through zero rating: the offer of "free" access to services, most common in mobile phone plans as part of packages offered to users, such as unlimited use of WhatsApp or other platforms (Rossini & Moore, n.d.). So, the network effect was determinant in the choice of these platforms by managers, and students were forced to use these platforms for learning. In this scenario, how can I criticise students for using the technologies of GAFAM? To act this way is to be insensitive to the socioeconomic reality of a good part of our students, the most affected by the practice of zero rating are the poorest ones, and to blame the individual for surveillance and control that is imposed on them. It is difficult to make changes to this scenario by acting as an isolated individual. There are no quick and easy ways out of the domination imposed by these oligopolies. Still, I think it is important to reflect on the problem of surveillance and platformisation with students and also to show possible ways to mitigate these problems, ways that only work if we act collectively. When I teach about free software, for example, there are students who continue to use it at university, at work, and in their

23 Matrix is often touted as an option — an open protocol for communication adopted by many platforms, including Element (https://element.io).

personal lives. When students know the implications and risks in using platforms, many take these discussions to other spaces. Likewise, I am sure that after all our discussions, most students look at and deal with GAFAM more critically. This is an important step, after all, it is necessary to know the problem in order to intervene. Our actions are limited when compared to the power of these companies. However, great changes in society do not happen overnight, the most important ones took centuries to consolidate and occurred through collective action. So, we are not going to change the world now, but I think we are contributing.

Tel: In class, I often try to demonstrate the possibility of the empowerment of the individual. For a while, I intended to become a living example of how one does not have to have social network accounts or proprietary methods of communication. I thought this stance would provide impact and inspiration in students (it usually does, in the form of an astonished question: "you don't have WhatsApp?") and lead them to reconsider their use of these systems. But I can see how this quite individualistic stance might send the wrong message. Individual emancipation is not only impractical, but impossible. It might lead one to think that sanitising your technical landscape might provide a higher moral ground, when it does very little to instil consciousness for collective action. Your perspective shows how even we, as public advocates against these systems, and university professors with a large level of operational autonomy also end up caught in this web. Demonstrating this vulnerability, and how we navigate this minefield collectively, might actually provide a more attractive and reasonable demonstration of a way forward. As teachers and future administrators, particularly in the public school system, forms of collective decision making already exist and can be leveraged, there is a real possibility that these future teachers might make this a realm for discussions.

Conclusion

Facing the advance of large software corporations in education, especially in the context of the pandemic, it is urgent to reflect in teacher professional development on the process, risks, and implications of the platformisation of education. Sensing a general lack of urgency around this issue, when we believed it would be seen as one of the most critical

of our time, led us to enact teaching that was not only critical, but also joined theory and practice towards collective consciousness and action. We theorised about the problems together with students and framed strategies and practical possibilities for resistance, with concrete outputs that can be shared, modified, and improved as open resources. As we moved through this process, we found and discarded strategies that turned out to be radical and simplistic, such as promoting FLOSS as an alternative — ultimately reinforcing the rhetoric of technology as tool, and of tool "choice". Our realisation grew that the most useful strategies were slow and collective. There was frustration in dealing with this topic with our students, not only as we saw how the oligopolies grew, but also in realising how difficult it was to promote a sense of urgency on this topic.

However, we realised that these projects did indeed promote change, as when, for example, students informed us that they have continued to use FLOSS in academia and in their professional lives, or that they had discussed these issues in other spaces, such as work and with family members. We needed, as educators, to believe (and continually convince each other) that our teaching and our actions would, perhaps, contribute to mitigating the influence of these corporations in education. As we move forward, we will need to collectively maneuver to determine the future of educational technologies in our institutions and school systems. This cannot be done without the concerted effort of students and educators and continual reflection on an ever-changing landscape. We remain resolute.

References

Amiel, T. (2012). Educação aberta: Configurando ambientes, práticas e recursos educacionais. In B. Santana, C. Rossini, & N. D. L. Pretto (Eds), *Recursos Educacionais Abertos: Práticas colaborativas e políticas públicas* (pp. 17–34). Casa da Cultura Digital/Edufba.
http://www.aberta.org.br/livrorea/livro/home.html

Amiel, T., & Amaral, S. F. do. (2013). Nativos e imigrantes: Questionando a fluência tecnológica de alunos e professores. *Revista Brasileira de Informática Na Educação, 21*(3), 1–11.
http://dx.doi.org/10.5753/rbie.2013.21.03.1

Amiel, T., Pezzo, T. C., Cruz, L. R. da, & Oliveira, L. A. (2021). Os modos de adesão e a abrangência do capitalismo de vigilância na educação brasileira. *Perspectiva, 39*(3), 1–12. https://doi.org/10.5007/2175-795X.2021.e80582

Bali, M., Cronin, C., & Jhangiani, R. S. (2020). Framing open educational practices from a social justice perspective. *Journal of Interactive Media in Education, 2020*(1), 1–12. https://doi.org/10.5334/jime.565

Borgmann, A. (1993). *Crossing the post-modern divide*. University of Chicago Press.

Cassino, J. F. (2021). O sul global e os desafios pós-coloniais na era digital. In J. F. Cassino, J. Souza, & S. A. da Silveira (Eds), *Colonialismo de dados: Como opera a trincheira algorítmica na guerra neoliberal* (pp. 13–31). Autonomia Literária.

Clinton-Lisell, V. (2021). Open pedagogy: A systematic review of empirical findings. *Journal of Learning for Development, 8*(2), 255–68. https://doi.org/10.56059/jl4d.v8i2.511

Couldry, N. (2020). *Colonialismo de dados e esvaziamento da vida social antes e pós pandemia de covid-19*. http://www.ihu.unisinos.br/images/ihu/2020/eventos/simposio_homo_digitalis/conferencias_pdf/Nick_Couldry.pdf

Couldry, N., & Mejias, U. A. (2019a). Data colonialism: Rethinking big data's relation to the contemporary subject. *Television & New Media, 20*(4), 336–49. https://doi.org/10.1177/1527476418796632

Cruz, L. R. da, Saraiva, F. de O., & Amiel, T. (2019). *Coletando dados sobre o Capitalismo de Vigilância nas instituições públicas do ensino superior do Brasil*. LAVITS. https://repositorio.unb.br/handle/10482/36912

Cruz, L. R. da, & Venturini, J. R. (2020). Neoliberalismo e crise: O avanço silencioso do capitalismo de vigilância na educação brasileira durante a pandemia da Covid-19. *Revista Brasileira de Informática na Educação, 28*(0), 1060–85. https://doi.org/10.5753/rbie.2020.28.0.1060

Dagnino, R. (2008). *Neutralidade da ciência e determinismo tecnológico: Um debate sobre a tecnociência*. Unicamp.

Decuypere, M., Grimaldi, E., & Landri, P. (2021). Introduction: Critical studies of digital education platforms. *Critical Studies in Education, 62*(1), 1–16. https://doi.org/10.1080/17508487.2020.1866050

Fiebig, T., Gürses, S., Gañán, C. H., Kotkamp, E., Kuipers, F., Lindorfer, M., Prisse, M., & Sari, T. (2023). Heads in the clouds: Measuring the implications

of universities migrating to public clouds. Proceedings on privacy enhancing technologies symposium (pp. 117–50). Cornell University. https://doi.org/10.56553/popets-2023-0044

Foster, D., White, L., Adams, J., Erdil, D. C., Hyman, H., Kurkovsky, S., Sakr, M., & Stott, L. (2018). Cloud computing: Developing contemporary computer science curriculum for a cloud-first future. In G. Rößling, & B. Scharlau (Eds), *Proceedings of the 23rd annual ACM conference on innovation and technology in computer science education* (pp. 130–47). ACM Digital Library. https://doi.org/ttps://doi.org/10.1145/3293881.3295781

Freire, P. (2014). *Pedagogy of hope: Reliving pedagogy of the oppressed*. Bloomsbury.

Freire, P. (2018). *Pedagogia da autonomia: Saberes necessários à prática educativa*. Paz e Terra. (Original work published in 1996).

Gennari, A. M. (2020). Brasil: Crise estrutural, pandemias, políticas sociais e a dura realidade conjuntural. *Revista Fim do Mundo, 3*, 18–49. https://doi.org/10.36311/2675-3871.2020.v1n03.p18-49

Macgilchrist, F. (2021). What is 'critical' in critical studies of edtech? Three responses. *Learning, Media and Technology, 46*(3), 243–49. https://doi.org/10.1080/17439884.2021.1958843

Martín-Barbero, J. (2003). Cultural change: The perception of the media and the mediation of its images. *Television & New Media, 4*(1), 85–106. https://doi.org/10.1177/1527476402239435

Oddone, A. C. (2021). *Alternativas ao capitalismo de vigilância: Uma análise do uso de software livre em instituições públicas de ensino superior brasileiras*. UnB. https://bdm.unb.br/handle/10483/29010

Oliveira, V. M., & Satriano, C. R. (2017). Narrativa autobiográfica do próprio pesquisador como fonte e ferramenta de pesquisa. *Linhas Críticas, 23*(51), 369–86. https://doi.org/10.26512/lc.v23i51.8231

Parra, H., Cruz, L., Amiel, T., & Marchado, J. (2018). Infraestruturas, economia e política informacional: O caso do Google suite for education. *Mediações, 23*(1), 63–99. https://doi.org/10.5433/2176-6665.2018v23n1p63

Poell, T., Nieborg, D., & Dijck, J. van. (2019). Platformisation. *Internet Policy Review, 8*(4), 1–13. https://doi.org/10.14763/2019.4.1425

Rossini, C., & Moore, T. (n.d.). *Exploring zero-rating challenges: Views from five countries*. Public Knowledge. https://web.archive.org/web/20190610203439/https://www.publicknowledge.org/assets/uploads/blog/ZeroRatingCombinedCR.pdf

Srnicek, N. (2019). Imaginar plataformas alternativas: Entrevista com Nick Srnicek [Interview]. https://digilabour.com.br/srnicek-capitalismo-de-plataforma-mudancas/

Silveira, S. A. da (2021). A hipótese do colconialismo de dados e o neoliberalismo. In J. F. Cassino, J. Souza, & S. A. da Silveira (Eds), *Colonialismo de dados: Como opera a trincheira algorítmica na guerra neoliberal* (pp. 32–50). Autonomia Literária.

Srnicek, N. (2017). *Platform capitalism*. John Wiley & Sons.

Toledo, D. G. C. de. (2020). Dependência e autonomia nas políticas externa e tecnológica do Brasil, 1951–79. *Monções: Revista de Relações Internacionais da UFGD*, *9*(17), 476–505. https://doi.org/10.30612/rmufgd.v9i17.10066

Weller, M. (2015). MOOCs and the Silicon Valley narrative. *Journal of Interactive Media in Education, 2015*(1), 1–7. http://jime.open.ac.uk/articles/10.5334/jime.am

Zuboff, S. (2019). *The age of surveillance capitalism: The fight for a human future at the new frontier of power*. Public Affairs.