Platform Capitalism Colonizes Education

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Abstract

More than ever, platforms are imposing themselves in our everyday lives: in our relationships, in our workplaces, and importantly, in the classroom. But few people pay critical attention to the way platforms are beginning to influence teaching and learning. The primary goal of this paper, then, is to lay bare the ways in which platform capitalism is "colonizing" education. Based on Nick Srnicek's analysis of platforms in the book *Platform Capitalism,* I will offer an overview of the ways in which the five biggest platforms—Google, Microsoft, Apple, Amazon, and Facebook —are making forays into education. I will also show some of the privacy concerns, especially pertaining to student data, that have arisen from these platforms' entrance into the education field. Finally, I will gesture to how we might regulate these platforms' influence in the future.

Keywords: platform capitalism, education technology, platform regulation

1. Introduction

None of us escape the platforms that dominate our twenty-first century lives—whether as shoppers, travellers, consumers, or in our day-to-day communications. Most of us pay little critical attention to the underlying structure of the technology platforms that are integrated into many of our activities. A "platform," in the technology field, refers to the digital structure upon which software and the range of available services therein are built. We tend to pay attention to the particular services we are using, but not the underlying structure of the platforms that facilitate those services. A critical view of the increasing role of technology platforms in education receives even less attention. Information about these platforms is primarily published in education industry trade reports, not the everyday reading of even the committed education

technologist. This article takes a critical look at how platforms have increasingly become the tools and providers of education content—and the privacy concerns that this phenomenon causes.

2. What is "platform capitalism"?

My analysis of the way this new form of capitalism is impacting education is based on the concepts in Nick Srnicek's book *Platform Capitalism*. He outlines monopolist winning features—the characteristics that allow the creation and maintenance of monopoly—as follows: be the first to enter a particular niche; rapidly build a user base, worrying about monetizing after the base is built; utilize the data from users as the prime monetizing feature; build the capacity for extensive and robust data storage; develop the analytic tools that use the data for artificial intelligence applications; control operating systems; protect their position by buying potential competitors; buy companies that allow for service areas to be expanded; cross-subsidize the development of new services that produce more data. The "network effect," which is produced by accumulating users, is a also key element in a monopoly. The more users a platform has, the more data it has, and the more data it has, the more valuable that data becomes.

> Since platforms are grounded upon the extraction of data and the generation of network effects, certain tendencies emerge from the competitive dynamics of these large platforms: expansion of extraction, positioning as a gatekeeper, convergence of markets, and enclosure of ecosystems. These tendencies then go on to be installed in our economic systems. (Srnicek, 98)

The largest platforms have built up significant cash gluts and frequently use tax havens, which, Srnicek says, "has enabled these companies to build and expand an infrastructure of data extraction." These cash gluts also allow for the development of new areas of data capture and use, such as self-driving cars—and education.

3. Platforms can capture education data that can be monetized

Education is a data-rich area. Every action of a student and interaction between student, teacher and other students is a potential data point. The challenge for corporations, then, is to collect the data and determine how to monetize it. But the effort to accomplish this collection and monetization faces a challenge in education: concerns about student privacy. InBloom, for example, was a hundred-million-dollar project funded by the Gates Foundation that attempted to collect data on students across the US. The data provided was to be used by school districts and by software developers who did not have access to mass data collections. InBloom was launched in 2013 and cancelled in 2014 because of public backlash and concern about student privacy. A case study by Data and Society contends that:

> InBloom's public failure to achieve its ambitions catalyzed discussions of student data privacy across the education ecosystem, resulting in student data privacy legislation, an industry pledge, and improved analysis of the risks and opportunities of student data use. (Bulger, et.al, 2017)

Concerns about privacy have not stopped development of education features by the dominant platforms. They have, however, shaped the way in which the dominant platforms have promoted their projects as a public service, not as a data-collection project.

4. The corporations that are "colonizing" education

The largest platforms, in value of stocks, are focused on expanding in education: Google, Microsoft, Apple, Amazon and, in some aspects, Facebook. There is also an extensive venture capital market of startups that hope to become an education platform themselves—or be acquired by one of the big platforms at great benefit to investors. The bulk of this paper will examine how the "big five" platforms are entering education, finishing with one project—Class Dojo—that is attempting to create a platform specific to education.

4.1 Apple

Apple should be the leading platform in education since it was by far the first into the field. Moreover, Apple has been a leader in the tendency to create products that funnel data extraction into what Srnicek calls a siloed platform "as it makes it services and devices all highly interdependent and closed off to alternatives"—so it follows that they should have been able to capture a niche in education technology. In the nineteen-eighties, the Apple II was the main computer being used in classrooms that had computers at all. This was, of course, pre-Internet and programs and content were moved using the big floppy disks that were indeed floppy and that disappeared long ago. Apple sponsored "Apple classrooms of the future," which explored the use of the computer in the classroom.

When the Mac became its main project, Apple abandoned the education computer, and the costs of its product increased beyond what most schools were able to pay. The iPad brought Apple back into the education market, with some districts buying class sets that could easily moved between classes on carts. In particular, iPads have been adopted to provide a means of communication for students with communicative limitations, who can use visual symbols to express themselves.

Apple lost its way with a high-profile project with the Los Angeles school district. The deal was valued at a reported $1.3 billion and was promoted as a model for Apple's potential as an education platform. It was a joint project with Pearson, a major textbook publisher, who produced curriculum content for the iPads. The project was a disaster and a symbol of what could go wrong. It was expensive and brought suspicions of corruption that ended the career of the district superintendent who made the deal, though no criminal charges were laid. It also depended on content from the old dominant education platform—the textbook. The iPad presented problems for students in standardized tests, a mainstay of US education: the keyboard covered part of the screen so students would see less of the content than students taking the same test on a computer with a separate keyboard.

4.2 Google

Other than the InBloom and Apple disasters, the first time mainstream attention was paid to platforms' ventures in education was when the *New York Times* published an article in 2017, headlined "How Google took over the classroom." It took notice of the multi-level move by Google into education. Unsurprisingly, Google's existing free tools were being offered to schools, starting with Gmail and including Google docs, Google Drive, Google Calendar, Google Hangouts, and more.

Google ran into privacy issues when it became known that it was scanning student emails and using the data to place ads, the firm's main source of income. Google then made a commitment not to scan education services for advertising purposes. This would apply to Gmail and other services signed up for through a school, but would not cover the use of other services. For example, if a teacher uses Google translate in order to translate a report being sent to a parent, the data is used the same way it is for general public use of the tool.

Google initially packaged its education services into Google Apps for Education, then shifted the name to Google Suite for Education. It then developed tools specific to education, including *Classroom*, a learning management system that allows teachers to keep track of student attendance, assignments, assessments and marks—an expanding set of data points. The Suite can be used on any of the major operating systems—IOS, Windows and Android, as well as Chrome. Roughly 80 million people are using Google Suite for Education (Petrone, 2018).

Google's move into hardware and operating systems is an example of the way in which platform capitalism works most effectively by occupying all the key positions in the ecosystem. The Chromebook, licensed to a range of manufacturers, is the biggest selling computer for education in the US and Canada. A Google representative claimed that 25 million students worldwide use Chromebooks (Petrone, 2018). It is less expensive than other computers because it is not a full computer—its software and data are held in the cloud and accessed through the Internet. The software and data storage are free. A simple and easily replaced machine and maintenance of software and data by Google substantially reduces the cost to schools of all these features necessary to integrate technology into the classroom.

While Google does not provide education content, its users do. It encourages its teacher users to develop and share resources. Google also encourages "evangelists" who promote its services and provide training on particular educational uses of the tools. For example, a website called "Shake up Education" provides many examples of the use of Google tools and offers online training in using them, all offered by teachers independent from Google. The platform use of "free" labour is a source of significant value to the platform.

What does Google have to gain from its education services? At least some of its data is used in its AI development, such as the constant improvement in Google Translate. If it becomes the primary set of tools used in most classrooms, it will be less dependent on what the user base thinks is the appropriate and accepted use of the data. Like all the platforms, they are investing in the future, hoping that students who are comfortable with the platform will continue to use it in their adult and working life.

4.3 Microsoft

Microsoft is playing catch-up in education with Microsoft Education 365. Students and teachers are eligible for Office 365 Education, which includes Word, Excel, PowerPoint, OneNote, and now Microsoft Teams, plus additional classroom tools. All one needs to get

started is a valid school email address.[1] The basic services are free, but there are services that a district would pay for: intelligent security management, advanced compliance, and analytics systems. While Google is focused on grass-roots teachers encouraging colleagues to adopt their platform tools, Microsoft is more focused on pitching purchasable services beyond the free minimum to management. These digital services are tools for the administration of a school district and are marketed to the managers responsible for ensuring the operation of the district technology. Educators may impose Microsoft as a platform based on decisions about the system's ease of use rather than the claimed educational value. For example, having software and storage in the cloud allows management to outsource software updates, device management and data storage—all of which are typically a pain for management.

Microsoft is also interested in engaging students as future users of its products. Its pitch, in particular, is that students will be comfortable in using the Microsoft tools when they move into jobs since Office is the most broadly used business software. Microsoft, like Google, has produced new hardware aimed at education that uses Windows and is more in the price range of the Chromebook. While Google promotes Hangout as an audio-visual networking tool, Microsoft has Skype, which it promotes as a way for students to engage with experts or classroom exchanges. Microsoft also owns Minecraft and promotes the education edition to "explore STEM with Minecraft."

Teachers can become a "Microsoft Innovative Educator" by taking a number of online courses for which the teacher takes tests to earn badges, points and certificates. They can then become MIE Experts and Skype Master Teachers after submitting a CV and a description of how they use Microsoft Education and Skype and what students have learned that they could not learn using a textbook. The next step is to become a trainer, making a commitment to:

> Train/educate 100 educators per year (or educators at your school) on using technology in teaching and learning, record each session in the Microsoft Training Tracker, and continue to explore Microsoft products and new Microsoft services and technologies.
> (https://education.microsoft.com/microsoft-innovative-educator-programs/mie-trainer)

The website also has a section to "find, create and share a lesson," where the reward is the recognition by colleagues—the number of downloads and number of hearts indicate the value to other teachers.

All of these elements are meant to funnel users into a "siloed platform" as defined by Srnicek. Social connections, genuine services, and flattery act as motivators for teachers to stay within the platform. For education managers, pressure to stay within the silo is created by the difficulty in transferring to another silo with different hardware, software, device management structures and data storage.

4.4 Amazon

Amazon certainly employs the silo strategy. It bundles free delivery with a wide range of other services through its Prime service. It streams movies and music, and offers an unlimited range of books and most anything else that one could want to buy. Amazon Prime Student gives

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[1] See https://www.microsoft.com/en-us/education/products/office/default.aspx.

free shipping of items, unlimited photo storage, unlimited streaming of movies, TV, and music as well as discounts on video games—all for free for six months and half the price of regular Prime after that. What more could a student want than to live in the Amazon silo? It also offers digital teaching resources:

> Amazon Inspire is a service for the search, discovery and distribution of digital educational resources. Supporting the company's commitment to making the connected classroom a reality, Amazon Inspire provides educators—regardless of funding or location—access to digital teaching resources with rich features such as search, discovery and peer reviews.
> (https://www.amazon.com/gp/feature.html/?&docId=1000412651)

"Inspire" is still described as beta, a reflection that the day after it introduced Inspire in 2016, it was pointed out that some of the resources listed were copyrighted. One of the copyrighted lessons was sent as a screen shot in the media release sent out by Amazon.

Amazon, like Microsoft, depends on teachers to create the value in the lesson exchange by having teachers voluntarily upload the resources they develop for their own classrooms. One of the teacher Inspire users quoted on the website says "I love using Inspire because it is a repository for educational materials that is easy to use, in a format that most are familiar with…Amazon!" This familiarity makes it easy to switch to the commercial elements of Amazon. The teacher can easily order felt pens, teaching supplies or anything else that they might want for the classroom, all with free delivery using Prime. Amazon Education's LMS integrated store allows faculty to "build course material lists from Amazon's selection, then students shop for a format that fits their budget and study preference—print or digital, rent or buy." The most profitable part of Amazon is its cloud service, which hosts a significant share of all the cloud services globally. Amazon claims to have five thousand educational institutions using its AWS cloud that helps "facilitate teaching and learning, launch student analytics initiatives, and manage IT operations." AWS Education offers free content, training and collaboration portals for students to develop skills for cloud employees.

4.5 Facebook

Facebook itself is not a platform for education, though some teachers use its closed groups to communicate with students (of course, teacher disciplinary boards warn against teachers being "friends" of students lest the professional boundary between them blur). The significance of Facebook's foray into education lies more in the Chan Zuckerberg Initiative (CZI) and its education division, which has billions of dollars in Facebook stock for causes in "education, science and justice." As Education Week reports:

> The Chan Zuckerberg Initiative is structured as a limited liability corporation, rather than a traditional philanthropic foundation. That gives the organization the flexibility to make donations, invest in for-profit companies, lobby for favoured policies and legislation and directly support candidates for elected office—all with minimal public-reporting requirements.
> (http://blogs.edweek.org/edweek/DigitalEducation/2018/07/jim_shelton_CZI_step_down.html?cmp=SOC-SHR-FB)

One of the key projects of the CZI is Summit Public Schools. Summit Public Schools is a charter network backed by the Summit Learning Platform, a personalized-learning software that is planned for wide distribution. The tremendous resources of CZI and the Gates Foundation mean that they have a significant potential influence on the direction of public education.

Zuckerberg's belief about the nature of education and expectations for future influence is reflected in these quotes from the annual 2017 letter about the CZI:

> [W]e need an education system where all students receive the equivalent of an expert one-on-one tutor. That is what we mean when we refer to "personalized learning." …Research shows students will perform better if they can learn at their own pace, based on their own interests, and in a style that fits them.
>
> But delivering this experience is only the first step. Scaling this approach to every classroom is an important challenge as well. There are multiple dimensions to this problem, but we believe any scalable approach will involve giving teachers and students better tools.
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> An example is the personalized learning tool for teachers I mentioned above that we've built with Summit Public Schools. We're going to build tools that include other schools' approaches too. There are 25,000 middle and high schools in the US, and our goal is to help many of them use these tools over the next decade.
> (https://www.facebook.com/notes/mark-zuckerberg/lessons-in-philanthropy-2017/10155543109576634/)

Although Facebook is not seen as the silo for education, the resources of Facebook are intended by Zuckerberg and Chan to be used to create a silo of a particular view of education "personalization."

4.6 Education-specific Platform : ClassDojo

The platforms operating in education dealt with so far are the major platforms for whom education is only a small part of its operation and dealt with only after the has been built for other purposes. Some specific aspects of education are the primary work of other corporations. These are primarily financed by venture capital and, in some cases, by providing specific data services paid for by school districts. Given the pattern of monopoly, one might expect that they will eventually be bought out or merged with the major platforms.

EdWeek Market Brief, which follows the education technology market, quotes a BMO Capital Market spokesperson saying, "private equity loves this sector." The love affair is based on total education expenditures of $5 to $6 billion globally, and only a small part of that is digital (Molnar, 2018). Venture capital is particularly active in some significant education niches. Administrative activities and testing and assessment are key areas. Pearson, for example, has moved away from the textbook business, in which it formerly held a dominant role. It now focuses its business on services such as digital testing and assessment, rather than products that are vulnerable to platform competition.

Zuckerberg is not the only tech figure interested in bringing whole-student, personalized, "social-emotional learning" into the technology ambit. The Organization for Economic Co-Operation and Development (OECD) education program is developing a 2019 assessment as

part of its PISA program. ClassDojo already has a leading position, claiming to have more than 3 million teachers and 30 million students in 180 countries already using it for "character development" and "growth mindsets."

ClassDojo, one of the largest education-specific networked software projects, has grown from a behaviour-tracking app to an education platform, according to Ben Williamson (2017):

> The world's most successful educational technology is ClassDojo. Originally developed as a smartphone app for teachers to reward 'positive behaviour' in classrooms, it has recently extended significantly to become a communication channel between teachers and parents, a school-wide reporting and communication platform, an educational video channel, and a platform for schoolchildren to collect and present digital portfolios of their class work. (https://codeactsineducation.wordpress.com/2016/09/02/assembling-classdojo/)

The rapid increase in users, on a "free" basis, has created what is becoming a part of the infrastructure of public education, without serious critical examination of the impact. ClassDojo plans to monetize itself by selling premium software and materials to schools and parents. It could deliver these products either on the basis of purchases or subscription, like Netflix. The chief technology officer has described it as "a huge distribution platform to reach parents…to, in the long term, enable parents to be consumers for their child's education." Williamson identifies the very real dangers: "teachers are using ClassDojo content, guidance and shared resources to shape what they teach and say in the classroom and reproducing the particular educational vision of its Silicon Valley operators and investors."

5. Conclusion: How do we protect the public interest in regards to education platforms?

It is first necessary to create a widespread public understanding of the nature of the power that is vested in these platforms. Uncritical use of the platforms produces a form of privatization that is unexamined and that places pedagogy in the hands of those who design said platforms. These are issues that seldom are raised in education conferences, and certainly not in the product booths that provide sponsorships. [2] The information about the use of Facebook data by Cambridge Analytica has given the public some insight into how data can be used to manipulate and distort. General awareness of platforms' interests in education specifically, however, is still limited. It is essential that organizations with a role in promoting the public interest devote resources to research and publicizing of the the growing power of platforms to affect society, education, and economy.

Even if we had a wide understanding of the issues, it is unlikely that government would provide the resources to develop alternative platforms. A more plausible approach is a form of public regulation. The European Union's General Data Protection Regulation shows that regulation of at least some aspects of platform use is possible. Srnicek suggests that these platforms should be seen as utilities, much like the phone, electricity, and water are. Utilities should be open to all, not just to those who own them. Even the *Economist* has suggested a few types of possible regulation, namely, trustbusting when the titans move to buy smaller potential

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[2] One exception is the Education International We the Educators project (https://wetheeducators.com/).

competitors and a "new set of laws to govern the ownership and exchange of data, with the aim of giving solid rights to individuals" (2018). The impetus for regulation, however, depends wide understanding of the reality and the dangers of platform capitalism.

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