

# Platform capitalism colonizes education

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None of us escape the platforms that dominate our 21st Century lives—whether as shoppers, travelers, consumers of most anything, and 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” when used in the technology field means a digital structure on which a range of services are built. We tend to pay attention to the particular services we are using, not the nature of the underlying structure that makes up the platform.

A critical view of the increasing role of technology platforms in education receives even less attention. Information about these are primarily published in “education industry” trade reports, not the every day reading of even the committed education technologist.

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1. British Columbia Teachers' Federation, Canada.

This article takes a critical look at the shape of “platform capitalism” and at how platforms have increasingly become the tools and providers of the content of education.

The largest of the platforms (in value of stocks) also happen to be focused on expanding in education: Google, Microsoft, Apple, Amazon and in some aspects, Facebook. There is also an extensive venture capital market of start-ups that hope to become an education platform themselves—or be acquired by one of the big platforms at great benefit to the tech entrepreneurs and investors.

## **What is “platform capitalism”?**

This 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 describes the shift in how capitalist firms operate that provide the hardware and software platforms on which activities take

place. He identifies the characteristics that define which firms will dominate an industry, creating monopolies.

Monopolist winning features—the characteristics that allow the creation and maintenance of monopoly—are outlined by Srnicek: 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 data storage for lots of data; develop the analysis 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 is a key element—the more data you have, the more value there is to the data.

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, p. 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 the autonomous, self-driving cars—and education.

### **Platforms can capture education data that can be monetized**

Education is an area rich in data. Every action of a student and interaction between student, teacher and other students is a potential data point, but the challenge is to collect the data and then how to monetize it.

One effort to accomplish this collection and monetizing illustrates a challenge in education—concerns about student privacy. InBloom was a project funded with \$100 million from the Gates Foundation aimed at

collecting data on students across the US. It was intended to provide data that would be used by school districts and by software developers who do 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, though, at least shaped the way in which the dominant platforms have promoted their projects as a public service, not as a data-collection project.

### **The corporations that are “colonizing” education**

Let’s look at how the big five platforms are entering education, finishing with one project, Class Dojo, that is attempting to create a platform specific to education.

#### **Apple**

Apple should be the leader in education since it was by far the first into the field. The Apple II in the 1980s was the main computer being used in classrooms that had computers at all. It 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” that explored the use of the computer in the classroom.

Apple abandoned the education computer when the Mac became its main project, and costs increased beyond what most schools were able to pay. The iPad brought them back into the education market with some districts buying class sets that could easily be moved between classes on carts. They were particularly adopted to provide a means of communication for students with

limitations on language expression who can use visual symbols to communicate.

Apple also lost its way with a high-profile project with the Los Angeles school district. It was a deal valued at a reported \$1.3 billion that was promoted as a model for what Apple could do in education. It was a joint project with Pearson, who produced curriculum content for the iPads.

It 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, even though no criminal charges were laid. It also depended on content from the old dominant education platform—the textbook. Pearson was a major textbook publisher that has since largely abandoned the hardcopy textbook for services like testing, including a contract with the OECD and the PISA exam. The iPad also 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.

Apple belatedly has produced an iPad specifically for education, at a lower price than the standard commercial product.

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 its services and devices all highly interdependent and closed off to alternatives.”

## Google

Other than the InBloom and Los Angeles disasters, the first mainstream attention to what is happening in platforms in education was when the New York Times in 2017 published an article headlined “How Google took over the classroom.” It took notice of the multi-level move by Google into education.

Not surprisingly, 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 for placing 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 does not cover the use of other services. For example, if Google Translate is being used 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 shifting the name to Google Suite for Education. It then developed tools specific to education, including Classroom, essentially 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.

A Google representative claimed that 25 million students worldwide use Chromebooks, while 80 million people are using G Suite for Education. (Petroni, 2018)

Google’s moves 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. It can be less expensive because it isn’t 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.

Google doesn’t provide education content, but 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 education 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 not employed by Google. The platform use of “free” labour is the 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.

### **Microsoft**

Microsoft is playing catchup 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 you need to get started is a valid school email address. (<https://bit.ly/3ujWOTF>)

The basic services are free, but there are services that a

district would pay for: intelligent security management, advanced compliance, and analytics systems. These are tools for administration of a school district digital services and are marketed to the managers responsible for ensuring the operation of the district technology. The educators may have Microsoft imposed as a platform based on the decisions about the management of the system rather than the claimed educational value.

While Google is focused on grass-roots teachers encouraging colleagues to adopt their platform tools, Microsoft is more focused on making a pitch to management on the services they can buy. Having software and storage in the cloud offers outsourcing the software updates, device management and data storage—all of which are generally inadequate and a pain for management.

Microsoft is interested in increasing demand for its services and payment for services beyond the free minimum. It is also interested in 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 Apple, 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 that it promotes as a way of students engaging 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 learning 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://bit.ly/39zTRVA>)

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 aimed at funneling into what Srnicek calls “a siloed platform.” It uses social connections, genuine services and flattery 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.

## **Amazon**

Amazon’s strategy is definitely as a silo. It bundles free delivery with a wide range of other services through its Prime service. It streams movies and music, as well as offers an unlimited range of books and most anything else that one could want to buy.

Amazon Prime Student gives 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?

One element of its offers is digital teaching resources:

Amazon Inspire is a service for the search, discovery and distribution of digital educational resources. Support 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, is depending on teachers to create the value in the lesson exchange by having teachers voluntarily uploading 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 5000 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.

## **Facebook**

Facebook is not so much a platform for education. Granted that its closed groups are used by some teachers to communicate with students. However, teacher disciplinary boards warn against teachers being “friends” of students and the ease of fluid boundaries in Facebook getting teachers in trouble.

The significance of Facebook is more in the Chan Zuckerberg Initiative 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 favored policies and legislation and directly support candidates for elected office—all with minimal public-reporting requirements. (<https://bit.ly/3EUnkYP>)

One of the key projects of the CZI is Summit Public Schools, a charter network behind the Summit Learning Platform, personalized-learning software that is planned for wide distribution. The tremendous resources of CZI and the Gates Foundation have significant influence on the direction of public education. The profits made from these platforms provide policy-shaping activities possible.

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.

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://bit.ly/3CPpabE>)

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.”

## **Education-specific Platforms-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 it 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 at some time be bought out or merged with the major platforms.

EdWeek Market Brief that follows the ed-tech 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 of the 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 has defined its business focus on digital testing and assessment, services rather than the type of products that are vulnerable to platform competition.

Zuckerberg isn't the only tech person interested in bringing whole-student “social-emotional learning” into the technology ambit. The 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 built from being a behavior-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 school-children 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.

The business plan for monetizing ClassDojo is to sell premium materials to schools and parents. It could deliver software and materials, 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 (2017) 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.”

## **How do we protect the public interest related to platforms used in education?**

The first necessity is creating a public understanding of the nature of the power that is vested in these platforms. The information about the use of Facebook data by Cambridge Analytica has given some insight into how data can be used to manipulate and distort. It is essential that organizations that have a particular role in promoting the public interest devote resources to research and publicizing of the nature and impact of the growing power of platforms to affect society and economy.

Having a public understanding is particularly important in relationship to education. Uncritical use of the platforms produces a form of privatization that is unexamined and that turns over to those who design the technology the implementation of an educational vision. These are issues that seldom are raised in education conferences, and certainly not in the product

booths that provide sponsorships. One exception is the Education International We the Educators project (<https://wetheeducators.com/>)

However, even if we had wide understanding of the issues, it is unlikely that government would put up the resources to develop alternative platforms. A more likely approach would be some form of public regulation. 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. Regulation is probably the only way this is possible. Regulation of at least some aspects is not impossible, as seen with the European Union's General Data Protection Regulation. Even the Economist has suggested a couple of types of possible regulation: trustbusting when the titans move to buy smaller potential competitors and a "new set of laws to govern the ownership and exchange of data, with the aim of giving solid rights to individuals." (Economist, 2018, p. 11)

To counter worries about government oversight, Sabeel Rahman points out that

our economy and politics are already governed and already regulated. They are governed by the opaque judgments of Amazon, Google, Facebook, and Twitter—judgements that are not subject to the mechanisms for representation, participation, or accountability that we would expect of similarly empowered governmental bodies. (Rahman, 2017)

Having the impetus for regulation, though, depends on wide understanding of the reality and the dangers of platform capitalism.

## Resources

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