EdTech Mindset

your must-have educational guide to the future

Dec 2014 | MindCet.org

Privacy fears

will not hold back the buildup of student-data-base services

Microsoft acquires Minecraft

a pedagogical phenomenon

Google

new target market

KIDS

Looking for the

Next EdTech Trend?

Stop looking under the streetlamp

MindCet
Changing Education Mindset

CET • THE CENTER FOR EDUCATIONAL TECHNOLOGY

The Editorial

The fast-emerging EdTech ecosystem finds itself at the intersection of several domains which define and enrich it, while at the same time enlarging its focus of attention. As a result, an exciting tsunami of novelties invades our screens every day, requiring from us sharp, still not well-developed, selection criteria. Coming to the rescue (especially for the lazy-busy-overloaded reader), at the end of the year, is the publication of an endless number of lists of "The…best of….."

EdTech Mindset selected eleven 2014 technology-related events that we believe can impact education. Some of them received central attention from the media, and others, a more discrete mention. We believe they are all significant enough to bring to the attention of all EdTech players (entrepreneurs, investors, educators, students, teachers, publishers, …).

We hope EdTech Mindset can delight and, hopefully, surprise you!

Dr. L. Cecilia Waismann, Editor

Photo: **Image Bank Israel/ Getty Images**

On the cover:
Inventor Hugo Gernsback with TV Glasses

Editor in Chief	Cecilia Waismann (ceciliaw@cet.ac.il)
Writers	Cecilia Waismann, Avi Warshavsky, Gilad Nass
Art Director	Danny Zavaro
Graphic Design	Ruthy Betinger, Jamil Jadon
Photographer	Sefi Shlevin (p.11)
Publishing Director	Mati Garji
Image Rights	Dvora Gruda
Contributing editors	Hadara Steinberg, Ilan Ben Yaakov, Ran Magen
English Editing	Nechama Unterman
Translation Heb-Eng	Perry Zamek
Images	p. 16, 18: Image Bank Israel / Getty Images, p. 21: from "Minecraft", p. 23 and back cover: Andrew Rich / istockphoto.com, Other images: shutterstock.com
General Enquiries	mindcet@cet.ac.il

Content

Oculus Rift

brings a new technological promise: living a fantasy

Guy tries Oculus headset at Games Week 2014, event dedicated to video games and electronic entertainment on OCTOBER 24, 2014 in Milan.
(Stefano Tinti/shutterstock.com)

Taking VR to a new dimension

Palmer Luckey, the creator of Oculus Rift (a VR wearable), amazed his audience by offering the possibility to experience our most fantastic dreams. After a demonstration of its prototype in a games conference, his company raised 2.5 million US dollars (he expected 250,000) on crowdfunding (Kickstarter). Two years later, on March 25, 2014, Mark Zuckerberg, after buying it for 2 billion US dollars, posted on FB: *"I'm excited to announce that we've agreed to acquire Oculus VR, the leader in virtual reality technology… Oculus's mission is to enable you to experience the impossible. Their technology opens up the possibility of completely new kinds of experiences… One day, we believe this kind of immersive, augmented reality will become a part of daily life for billions of people… Virtual reality was once the dream of science fiction. But the internet was also once a dream, and so were computers and smartphones. The future is coming and we have a chance to build it together. I can't wait to start working with the whole team at Oculus to bring this future to the world, and to unlock new worlds for all of us."*

VR-related technologies (in particular Oculus Rift) have dominated the technology innovation forums in 2014. The possibility of providing to the user the experience of "entering" and interacting with a virtual world opens new markets to many different industries/fields, including real estate, psychological treatment, medical training, education, gaming, Nasa research and training, car design, exploring new human understanding and experiences, and many more.

These technologies allow for a personal journey through mimicking the world as we know it (e.g. entering a human body, walking on the moon), as well as a personal journey through imaginary worlds (e.g. entering a digital game, having an elephant trunk). The added value of Oculus VR, compared to previous VR technologies, is what is being called "the sense of presence" and "immersive experience" it provides. The technology prompts the user to get immersed in the given virtual context and feel he/she is present in this virtual context.

VR wearables: Ready for the consumer?

The power of wearables comes from providing a more "natural" interaction with digital devices. All the latest VR wearables have only recently begun to be offered to the general public and most of them only to developers. The reasons are many. The devices themselves are far from fitting naturally to our bodies and they provide a "weird" image to the users. Many users complain of "nausea" produced by the brain struggle to differentiate between what the user is seeing and feeling (the user can be sitting on a chair at home and feel as if he is on a rollercoaster).

Oculus is still PC-based. To allow for a mobile VR experience, Oculus has joined forces with Samsung and, in December, released to the general market a wireless VR headset that rather than having its own screen uses smartphones directly. This is not the first VR headset using smartphones – Google cardboard project is a "cheap" and quite interesting option. There are other strong products still in development such as Durovis Dive.

It happened on March 25, 2014

"I'm excited to announce that we've agreed to acquire Oculus VR"

Mark Zuckerberg FB post.

There is no doubt the industry is strongly betting on VR wearables and showing a rapid growth on "promising" products to the general public. 2015 will be the stage to test such promises!

VR wearable added value to Education:

There are many concepts that are challenging to educators, who struggle to help students understand them. Imagine if a student could play with a ball on the moon, and experiment with different physical laws. Wouldn't that enable a more intuitive learning approach? Virtual reality can mimic reality and allow for experiences that manipulate the environment, in order to help understand abstract or complex concepts.

What about education's effort to enhance human values and promote a more harmonious co-existence among all living beings? Virtual reality can allow the user to experience through the other's perspective, and enable understanding of diversity. The student can realistically feel like the other and have a chance to empathize with that other, whoever it may be, whether an animal or a different person.

VR-related technologies can enable educators to provide a learning environment where students can use their intuition to explore their ecosystem. By interacting with the environment, the student can naturally inquiry towards reaching a personal insight, a real understanding.

2014 EdTech FUNDING RECORD

The year 2014 was very interesting for EdTech financing. According to CBInsights, a venture capital database and angel investment database, a total of $1.2b was invested in EdTech ventures in 2013, and in the first half of 2014 the total investment was $649m.

Data from CBInsights further shows that the rise in EdTech investments that started in 2009 has kept growing since then – from $385m in 82 deals in 2009 to $1.2b in 334 deals in 2013. 2014's numbers shattered that record. What is interesting to note, however, is that the figures of the last few quarters were influenced by large deals, causing the total money raised to grow at a much faster rate than the number of deals. These investments are being injected to mature companies, usually for the purpose of acquisitions or expansion to new markets.

It happened on **Apr 05, 2014**

"Global Ed Tech Financing Hits Record in Q1 2014"
cbinsights

The first quarter of 2014 saw $432m being funneled in 95 deals, making it the largest funding quarter in EdTech ever.

Within that quarter, one deal – in which TutorGroup raised $100m – accounted for about 23% of the total money raised. If we add the $47m Kaltura raised in that quarter, we see that two companies took home about a third of the total money raised in Q1. The second quarter showed a drop in funding, as total investments amounted to only $216m. This again shows how quarterly comparisons can be misleading, as some companies announce their funding round a few weeks and maybe months after finalizing them, thus resulting in them being considered as money raised in quarter X and not quarter Y. We believe it is best to compare on a year-by-year basis rather than a quarter-by-quarter basis, thus getting a better perspective on funding (and M&A) trends.

"Smart VCs are getting bearish on EdTech" (September 2014). CBInsights reached that conclusion after witnessing that most of what it calls "Smart VCs" – which are 20 venture capital firms the company flagged as investors with multiple investments resulting in +$1b exits – decreased the number of deals in the EdTech vertical. However, there was no decrease in investments by VCs which had previously declared themselves EdTech-oriented and had become attached to EdTech via their actual investments. Therefore we believe that the EdTech investment phase is going from a flavor-of-the-year status to a vertical in which a more dedicated approach is needed by would-be investors. Thus, VCs like 500 Startups, NewSchools Venture fund and more are maintaining the pace of investments.

The opening of more and more EdTech accelerators worldwide, and the continued infusion of actual money into companies going through these accelerators, proves that EdTech is now a field in which dedicated investors are set to lead the way.

Privacy Online

Privacy online scandals will not hold back Big Data rise in educational settings

The story of the short-lived inBloom, a non-profit student data warehouse and management company, has opened the door to a public debate about the buildup of cloud-hosted student-databases. A company that could have brought the promise of personalized learning, especially to overcrowded, underfunded schools, was closed on April 23, 2014. With important backing, funded by the Bill & Melinda Gates Foundation and the Carnegie Corporation of NY (around 100 million US dollars), and a cloud database run by Amazon, inBloom's pitch was about making student data accessible and seamless to teachers, districts and parents in order to significantly improve learning. Moreover, inBloom's setup was geared to providing a model solution for safe and secure use and sharing of student data, replacing the current mishmash of products. However, at the beginning of 2013, a major protest arose against inBloom, turning into a legal suit, when inBloom declared its plans to share the data with vendors (with state and district consent). inBloom revealed its new sustainability business model, from an initial generous funding to help the buildup of the company (primarily oriented towards public and universal interests), towards a more autonomous revenue-oriented business model (in need of paying customers), as explained by Michael Horn, a member of its Board of Directors. The reaction was immediate and escalated dramatically to the different layers of the educational world. "Parents, teachers, advocacy groups and privacy experts throughout the country have protested this unprecedented plan to share children's sensitive information with private corporations … a breach of this highly sensitive information, or its inappropriate use, could put children's safety at risk" (WNYC, July 2013). The inBloom database included more than 400 different data fields about students, including family relationships ("foster parent" or "father's significant other"), reasons for enrollment changes ("withdrawn due to illness" or "leaving school as a victim of a serious violent incident") – to which parents objected, saying that they did not want that kind of information about their children transferred to a third-party vendor.

It happened on **April 21, 2014**

"Privacy Fears Over Student Data Tracking Lead to InBloom's Shutdown"
Business Week.

Educational data is a sensitive issue that should be carefully handled, but cannot be permanently "disinfected" from the dangers blended with the benefits brought by sharing digital data.

Is privacy dead?

This episode showcases the turmoil around online privacy concerns, and the use and trade of individual information without consent, that have lately proliferated in major media channels. "Privacy is dead" (Wired, 31.3.14); "Hackers found a file with Sony usernames and passwords" (TechCrunch, 16.12.14); "Google goes to court over Gmail scanning" (The Telegraph, Sept. 2013); "Facebook sued for scanning 'private' messages for profit" (Wired, Jan. 2014); "LinkedIn is breaking into user emails, spamming contacts – lawsuit" (GigaOm, Sept. 2013); "We have sensors that track us everywhere we go. Think about what this means for the privacy of the average person" (Edward Snowden, 2013); "Did you know that your 'likes' in Facebook could expose intimate details about you as well as personality traits you might not want to share with anyone?" No less dramatic were the headlines affecting the educational world such as the massive 2013 cyber-attack in California involving its universities, or the acknowledgment by Google that it does mine students' emails for advertisement purposes in its Google Apps for Education.

Educational data – a sensitive issue

The media scare, together with the increase in investments and products (a massive flood of educational apps becoming a major learning resource) based on Big Data systems, raised a red alert to the entire educational community. Teachers and parents are worried about the use and misuse of students' data. "Student Data is the New Oil" is a statement gaining popularity among the educational media. Data offered by MindCET shows that teachers and students are especially concerned about the use by the educational system of students' data even if it is to improve learning.

The undeniable opportunities Big Data brings to the development of relevant, accessible and efficient learning environments, makes the inBloom case an important debate for all education stakeholders. The building of data-sharing structures is necessary and, despite fears, it is on its way to becoming a significant service. An example is Carnegie Mellon's "LearnSphere" project that has recently received almost 5 million US dollars and the backup of the main US universities.

2014 significant, yet not-really-known, EdTech product developers

STARTUP Breeding Spaces

The birth and quick rise of spaces for the germination and accelerated development of education technology startups is increasing all over the globe.

They receive different names (accelerators, incubators, challenges, hackathons), and different definitions, programs and objectives, since their differentiation and functions are still being determined. They all, though, aim to bridge the gap between the educational and other industries in terms of technological innovation. More and more young companies look for support to understand and compete in the still-traditional educational technology ecosystem.

The Economist (2014) suggests that these spaces are becoming the new business schools, however with a much more agile, personalized and close to the market model of service. "I'd rather get $100,000 and be a case study than pay $100,000 to read case studies," says Dave McClure, the founder of 500 Startups, an accelerator based in Silicon Valley.

> It happened on **July 23, 2014**
>
> "Pearson announces EdTech Partnership with Chicago incubator 1871"
>
> edwire.

Accelerators & Incubators

- Entrepreneurs' destinations that provide them with the necessary resources to take an idea into a (minimum) valuable product -

There is no clear differentiation between accelerators and incubators, more than the historical move of the 1st accelerator, Y-Combinator (2005), trying to speed up the process of the existing incubators. "The idea was to give startups a home and offer them technical, legal and other services. Yet many of the fledglings did not fly. The incubators often felt too cozy, and their operators had no interest in pushing out their tenants as long as they were paying rent".

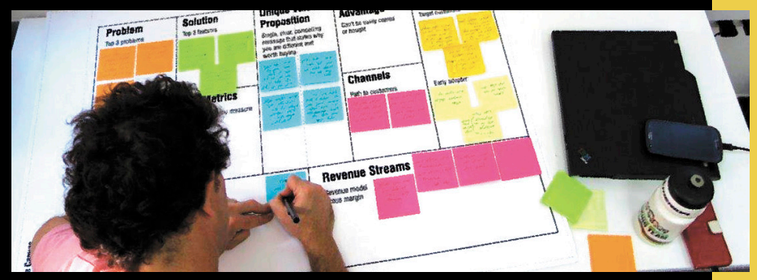
Today, these spaces offer different operational and business models. Time frames can extend from intense weekends to 6-month programs. The selection criteria range from accepting "promising ideas" from "promising entrepreneurs" to different stages of development of the startup. The infrastructure is what varies the most: from professional training to business-oriented support, access to networks of contacts, guidance from experts/mentors, and a "stamp of approval" especially if it is from a renowned accelerator. The startups' "graduation" is a Demo-Day when they pitch (present their product in 3-5 minutes) to an audience of potential investors.

These spaces are definitely performing a central function in the startup life cycle by selecting teams and ideas that are most likely to succeed and showcasing to investors and potential customers.

Accelerating the EdTech Ecosystem

Education is a peculiar industry, where profit and non-profit ventures have to co-exist, as well as public and private markets, creating a unique ecosystem to startups. Most spaces dedicated to EdTech facilitate the contact with the school/educational system, essential for understanding this market. The current big players of this market (textbook publishers) have understood the power of startups as the innovation channel for their industry, and are either opening their own spaces (like, for example, Kaplan EdTech accelerator or MindCET), or partnering (as Pearson with Chicago Incubator 1871).

The first space exclusive to EdTech startups, Imagine k-12 (California, US), was opened in 2011, followed by Socratic Labs (New York, US) and MindCET (Yeruham, Israel). Today there are more than 20 worldwide and the number is growing.



HackAthon

- Hackers + marathon -

Hackathons are speedily rising in popularity as an event to "detect" or "germinate" potential startup ideas. In the course of around 48 consecutive hours, fresh ideas are "pitched", multi-disciplinary teams assembled (programmers, graphic designers, UX and UI experts, etc.), MVP (minimum value product) developed. The final act is "the pitch" (3-5 minutes presentation) in front of a panel that will decide on the most promising products.

Hackathons are providing a new model for innovation to most industries. The atmosphere elicited by these events drives individuals in different areas of expertise to efficiently collaborate towards developing new solutions to given challenges.

These exciting creative spaces attract all EdTech significant players. For the first time ever, the real users, teachers and students, are given a central role in the ideation and development of education's products and services.

Google New Target Market: KIDS!

Google has recently announced its plans to offer accounts to users **under** 13 years of age, for the first time.

This move will take the world's largest internet search provider into a controversial and operationally complex new market and, at the same time, will provide it with a direct access to this new, and very tempting, target market!

Internet accessibility has turned kids into a significant customer segment of internet goods and services, opening new market possibilities. Even though social networks, e-mailing and digital games have suggested age limits, kids have significantly used all these services from an "underground" position (disguising their identity), making it more difficult to correctly (or efficiently) serve this audience.

"Google has been working to overhaul its Web services so it can legally allow children to use them, as it becomes more willing to tolerate hairy legal requirements in exchange for growth. The contemplated features include a dashboard for parents to oversee their kids' activities, a child-safe version of YouTube and requiring people who sign up for a Google account on devices powered by Google's Android software to share their age."

It happened on **August 18, 2014**

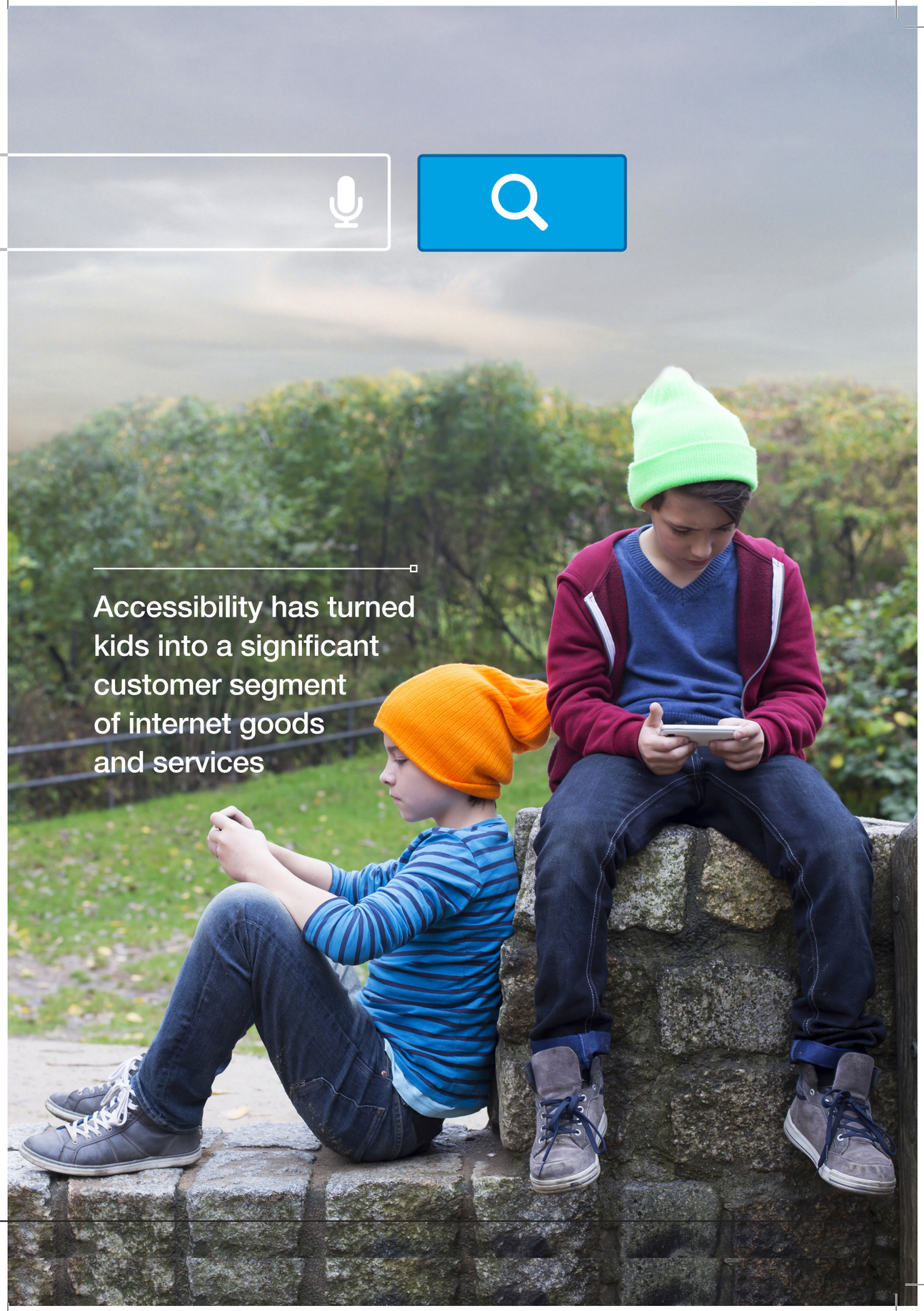
"Google moves to target kids under 13"
Wall Street Journal.

YouTube: Kids' haven

Today, the power of Google video service, YouTube, on young users is immeasurable; literally, due to the "dissimulated" use, and metaphorically, due to its place as the most popular internet site for this age group. Kids do not only passively watch videos, but are becoming active users, with a huge growth in home-made videos. According to the New Yorker (Dec. 15, 2014), the most popular videos in 2014 are filmed by teenagers. YouTube has become a main digital channel for kids to learn, share and create.

"Coming soon to a kindergarten near you: Google"

This headline describes Google's latest exhaustive educational package: "Google is providing any school, from kindergarten through college, with a hub for online learning and classroom management that wraps in Google's suite of Web products, including Gmail, documents and spreadsheets, presentation tools and cloud storage… And get this – it's all free." Google is building a strong and very promising offensive in the educational software+hardware race against Microsoft and Apple, with well-wrapped familiar products. However, Google's intention goes beyond the educational market. "The whole world may use Google products today, but kids will dictate tomorrow's market… They're the future. They'll be going into business someday," in the words of Zach Yeskel, who is responsible for Google's Classroom Project.



Ride the trend, Don't force it

Apple went through a rollercoaster of scandals, after the second-largest US district cancelled the deal to offer iPads with educational content produced by Pearson. FBI investigations followed, adding drama to the conflict. This is yet another story of high-cost deals, involving major educational and technological companies, which end up in frustrated attempts to bring the digital world into the classroom.

Implementation is still a significant factor preventing the education system from "riding the trends" of the digital revolution. There is no shortage of ideas, products, services and will from the different education stakeholders. Accessibility is less and less an impediment, not only due to the boom in mobile devices but also because of the avalanche of free-of-charge offers. Thus, why do we still read about major setbacks/failures of large-scale projects?

Most analysts point to the decision makers' "device fetishism" in believing that tangible solutions can resolve implementation problems. "If there's blame to be placed, it starts at the top. Deployments are only as good as the vision set forth before a Wi-Fi system or even a type of device is selected" (B. Chambers).

It happened on **Aug 25, 2014**

"L.A. unified halts contract for iPads"
LA Times.

LOOKING FOR THE NEXT EdTech trend? STAY AWAY FROM THE streetlamp

The science fiction literature of the 19th and 20thcenturies produced works that played an important role in leading up to the technologies that developed in those centuries. From submarines to satellites, from cell phones to the internet – all of these developments appeared in the works of leading writers in the years that preceded their appearance. The magnitude of the contribution made by writers such as Jules Verne, H.G. Wells, Erich Kästner, Isaac Asimov, or Arthur C. Clarke is not always appreciated. These works may be viewed as reflecting outstanding predictive ability, but they may also be seen (and this does not contradict the previous point) as self-fulfilling prophecies. These gifted authors were able to identify technological potentialities, and tell the story of their deployment in our culture, in a way that created a road map for inventions later developed. This act is very important, among other things, because of the thinking and discourse that they engender – critical thinking and discussion that assist us in formulating "taste," defining ethical discourse, and being a part in the process of shaping the future. Within our own generation, as with many other fields, this art of describing the technological-cultural future has undergone processes that might be referred to as "privatization and contraction." Privatization – because those involved in this activity are not necessarily outstanding authors, but rather technology writers, bloggers, marketing people and directors of technology companies. Contraction – because the future that they are looking at is actually the near future – five or one year from now, or perhaps as soon as three months into the future. This contraction has, of course, been aided greatly by those organizations that have interest in bringing new consumer products into the market, and creating a habit of rapid turnover of products due to their being "outdated". It was Steve Jobs, in particular, who turned this into an art form. At Apple's launches of new products, since the 1980s, Jobs was able to combine two radically different personas: the genius inventor and the high priest of fashion. It was Jobs' approach that made it the norm to treat the release of each new model of a cellphone as though it were a new collection of fashionable shoes, or the addition of half an inch of screen size as though it were the latest pronouncement on skirt lengths that designers and customers would eagerly adopt.

Privatization and contraction have not necessarily contributed to the quality of the texts, which occasionally suffer from the use of clichés, self-interest, or charlatanism to some extent or another. However, notwithstanding their shortcomings, these texts play an important cultural role in the present generation's discourse on its dreams for the future.

What does a successful list of new trends look like?

What do we expect of a good list of new trends? It is probably a combination of a spectacular, inspiring vision of the future and the ability to predict the chance of changing our day to day behaviors. In order to properly assess a list of trends using such an indicator, we would need to wait some years and see if substantial changes have indeed taken place in our lifestyles. Within the internet age, a perspective of only a few years may be sufficient. If we look, for example, seven years back, it is easy to identify the rise of a number of start-ups which now have enormous influence on the daily lives of millions of people. Waze was formally established in 2008, and now has a major effect on our driving habits. That same year saw the founding of Dropbox, which changed the way in which we store and back up data on the web. About a year later came WhatsApp, which has transformed the world of communications. A number of common characteristics are shared by these companies: (1)At its outset, no one would have dreamed of paying for and now, many people are dependent and would be prepared to pay for them (each of them also seriously considered, at some stage, charging a fee to end users of the service); (2)Many of us use each of these services more than once a day; (3)They disrupted their respective industry – Waze dealt a death-blow to the GPS and digital map market, WhatsApp redefined the balance of power between social networks, instant messaging and e-mail, while Dropbox redefined the market for online data storage backup.

It happened on **Sept 10, 2014**

"First direct brain-to-brain communication between human subjects"

Kurzweil Acc Int News.

What does a successful list of new EdTech trends look like?

What are the corresponding changes in the field of EdTech? Can we point to some startup or trend that appeared six years ago, and which has brought about a similar change in our educational practices?

We might look at lists of trends formulated in 2008, for example. The entry of mobile devices, Learning Management Systems (LMS), personalization, user-generated video, flipped classroom, BYOD, smartboards, digital texts, podcasts, ubiquitous learning. Some of these have been realized and obtained financial backing (as LMS and digital textbooks); others, were discussed widely, but did not have much effect on the ground. Flipped classroom, BYOD, and personalization continue to appear on trend lists for 2015, but have not been widely adopted on the ground, while others did not find practical acceptance. What is common to the trends in this list is that they have not really led to significant changes in the education system. Undoubtedly there is an extensive use of LMSs and digital texts, but have they had, over the 6-7 years in which they have been a part of educational discourse, an effect in education as powerful as that of Waze in navegation systems? Apparently not. The problem, of course, is not in the way we formulate the list of trends but in the actual encounter between technology and education.
The way in which we articulate our vision plays a significant role in creating a roadmap for such effect. It seems that we are failing, time and again, to structure our vision of how technology could change education.

We are still looking for the answers under a streetlamp, within a limited framework that takes for granted the existing structure of the education system, and looks for technology that reinforces existing structures, rather than with potential to disrupt or redefine them.

What would a list of EdTech trends include that could meet this challenge? It is not trivial to make predictions, but we recommend that attention be given to two widely differing areas –that of technologies that might be called "invisible tools," while the other might be referred to as "off-screen technology."

Invisible Tools

Invisible tools are technological tools that are relevant to the routine of learning and of schools, but which are used by "ordinary" people – Dropbox, Facebook, Tumbler, Google Drive, BOX and YouTube. Such tools are relevant to discourse, to self-expression, to the storage and retrieval of content, to the management and organization of information, and to research. None of them is formally an "educational technology." The fact that teachers and students encounter these technologies in their daily lives, as independent users, means that they will also naturally filter down into the routine of teaching and learning.The use of these tools, and the innovative leverage that they may generate, sounds almost trivial within any other industry, yet in education – time after time – we see tools built on the assumption that users behave in one way when they are private individuals, and in another when they are in an educational framework. Based on this assumption, we have seen education oriented end user devices – computers, tablets, and sensors designed for use in education, as well as specifically education-oriented devices such as clickers and smartboards. As part of the same trend, we encounter user experiences (UI/UX) that appear to have been designed in the 50's for rather sad little bureaucrats, or games whose only motivation for playing them is the fact that the alternative is a frontal lesson in a classroom with dozens of students. The common denominator in all of these is the mistaken assumption that EdTech involves a totally different characterization of users – these differences appear in the design phase and the stimuli used to generate curiosity. This trend has repeatedly proven wrong; where there are competing models, it has been totally sidelined. A successful trend list has to be influenced by agile adoption of tools, and by prompt feedback of success or failure. For example, in the gaming world, we have seen a downturn in the use of gestures, with a growing tendency to create "worlds" that allow free movement. We must ask ourselves how such trends could influence the EdTech world, and whether gesture-based human-computer interfaces will bypass the educational field. In the same way, we might look at the world of social networks – can the growing trend toward image-based, such as Instagram or Pinterest, have an influence on what is happening in school communications?

Google Classroom is an example of an attempt to function in the area of invisible tools. In effect, it offers existing tools by Google, such as Drive, with minimal adaptation to fit the teaching routine in schools. Google's success in deploying the system so rapidly and so extensively within educational institutions can teach us a great deal about the potential inherent in invisible tools.

Off- Screen technology

"Off- Screen" is a very inexact title for a world of developments in everyday technology that have matured over the past two years: virtual reality glasses, 3D printers, Maker culture, drones, 360-degree photography, the internet of things, and so on. On the surface, this is an eclectic list whose only common feature is that they are often the subject of technology blogs. However, there is a strong connection between these technologies- they redefine our encounter with reality, along ambits such as virtual/real, physical/cognitive, sensory/intellectual, real/imagined, and playful/utilitarian. For the most part, these technologies also redefine the concept of "communication" and our interaction with the concepts of space and time. The learning potential from these trends is enormous. The communities that have arisen in connection with drones are excellent incubators for learning programming, physics or ecology. The Maker culture suggests being active, and brings back hands-on crafts in a modern praxis. And virtual reality tools open up broad, exciting horizons for experimentation and simulation. In spite of their enormous potential, it is hard for us to imagine these technologies in the educational domain, particularly since they do not fit into the existing educational structure– from its architecture, through its reliance on specific subject disciplines, to aspects of privacy and culture. This profound gap is exactly what makes them relevant to a challenging future vision of education. Indeed, a vision that removes schools from their comfort zone may have the potential for a paradigm shift within the system.

Back to the Future

Good lists of future trends tend to generate mixed feelings. They play on our fear of becoming irrelevant – that we might somehow "miss the bus," or not move forward at the pace dictated by the spirit of the times. They challenge us to think about changing things that we take for granted, yet they show us a route (real or imagined) from the present to the future.

A picture of the future that combines "invisible" and "off-screen" technological developments, is one that maintains this fine balance, integrating trends with the potential for rapid adoption with those having an ambitious, revolutionary perspective. No one promises that such a picture of the future will ultimately be realized, but it can certainly serve to assemble a respectable list of future trends.

Minecraft
a game-changer

Today it is clear that gaming is not only an entertainment activity but also an efficient alternative learning space kids are turning to

On November 6, 2014, Microsoft concluded the acquisition of Swedish game company Mojang, developer of Minecraft, in a deal worth 2.5 billion US dollars. Not really a surprise, since Minecraft is considered a phenomenon within the gaming and EdTech worlds. With more than 100 million registered users worldwide, it has become the number one digital game for kids, being accessible on most available devices (PCs, consoles, mobiles, wearable-VR, etc.) and at kids' main daily environments (home, school, clubs). References such as "The Minecraft Generation" highlight its significant impact across borders, ages and gender.

The game has been engaging players for the last 4 years, attracting a wide range of customers, including groups who were previously not interested in, or even disapproving of the gaming world. Minecraft has changed the way many perceive digital gaming, making it more appealing to different users, as girls, young kids, parents, educators, researchers and the whole tech industry.

It happened on **Sept 12, 2014**

"Microsoft needs Minecraft to boost mobile ambitions"

Reuters.

Minecraft Generation

Minecraft has enabled the onset of a "culture". Kids share common interests and social spaces where they meet to learn, play, create and feel they belong to a common and at the same time personal world. Moreover, the fact that it is a sandbox game, kids are taken from a purely consuming mode to becoming active users. Kids say this is one of their favorite features, the fact that they can modify and create new worlds according to their will, and they can do it together with their friends – a real collaborative action. Minecraft has lit up the way to the positive aspects of the digital gaming world, turning critics into advocates.

The game that changed Education Mindset

Minecraft has been acclaimed as a game with unique pedagogical potential and has changed the way gaming is viewed by the educational community. For many years, a significant number of educational digital games tried to enter the educational market with no success. Minecraft, a "non- educational" game, has attracted both kids and educators to explore this digital space and develop basic 21st-century skills.

Many misconceptions about gaming and its effects on kids are being debunked. Not only is the entrance of digital games into school settings on the rise (according to a recent study, nearly three-quarters of K-8 teachers in the US say they use digital games for classroom instruction), but also research results are increasingly demonstrating the beneficial aspects of gaming for the development of kids' cognitive as well as motor skills.

Gaming is today a main stream digital activity not only for kids – 2014 studies show that the majority of teachers say they play digital games for pleasure. This trend is certainly narrowing the cultural gap between kids and their educators, which could help build a much more relevant educational language!

GESAwards

the first ever **G**lobal **E**dTech **S**tartup **A**wards competition

GESAwards 2015 launch: Jan, 26

Launched in January 2014, the "Global EdTech Startup Awards" created a space to identify and showcase young companies trying to introduce innovative ideas to the education market. The first ever international online competition devoted exclusively to EdTech displayed a unique approach of being "global" from every aspect of the process: the organization, selection procedure as well as response from candidates. More than 360 applicants from all the five continents sent their product-videos and descriptions! Initiated by MindCET from Yeruham, the organization partners included EdTech Incubator from London, Socratic Labs from New York, P.A.U. Education from Barcelona, Inncubated from Bogota and the European Union's Open Education Challenge. A very noteworthy selection procedure included regional events (at different cities around the world) and an expert-crowd-based call to help the selection process.

On September 15, 2014 in Tel Aviv, Israel, 10 companies reached the final and pitched their products online to a team of judges from different parts of the world.

Today, startup competitions are emerging everywhere, as spaces to promote, exchange and identify interesting new products that can make a change!!!

Winner of the Global EdTech Startup Awards 2014

BrightBytes (United States) – BrightBytes' team of researchers and data scientists uses in-depth analysis to enables fast and efficient decisions. Its award-winning platform, Clarity for Schools, provides evidence based actions, to help educators take decisions and help students' learning.

Runner-ups

SpongeLab (Canada) – Spongelab's STITCH is a gamified data-driven learning platform. It's a cloud-based learning system designed to supply "learning as a service," following SaaS and enterprise models of software delivery – a unique approach among traditional EdTech initiatives.

EdPuzzle (Spain/USA) – EdPuzzle helps students learn by doing, by enabling them to edit any video they find appropriate. This way the student does not spend time on producing new content but rather on discovering, analyzing, and customizing as well as producing a new way of delivering it.

Popularity Award

Nittio Learn (India) – With Nittio Learn's unique interlaced learning apps (instructional materials, videos, images and periodic questions in different formats are used to constantly engage the learner in a dialogue).

Finalists

EducaTablet (Venezuela) – EducaTablet provides constant access to academic books at any time and wherever you are.

Gibbon (Netherlands) – Gibbon makes it easy for everyone to create and follow simple paths of resources available on the web to learn anything.

Infantium (Spain) – Infantium uses brain-inspired computing to build a tutor for kids (0-7), using Brain Science, and Big Data – a cognitive platform that personalizes learning by serving a syllabus to individual needs, learning style, speed and level.

Lingua.ly (Israel) – Lingua.ly takes language learning out of the classroom into the daily life of anyone who wants to learn another language. You add and learn new words from any web page you visit, and Lingua.ly personalizes your practices according to what is right and relevant to you.

Makers Empire (Australia) – Makers Empire makes 3D design and printing accessible to everyone by providing fun and easy-to-use tablet-based (iPad/Android/Win) software designed specifically for 3D printing.

Mejorando.la (Colombia) – With Mejorando.la you can learn how to create the future of the web, and access courses with industry professionals.

It happened on **Sept 16, 2014**

"BrightBytes finishes first in global edTech startups awards"
edSurge.

EdTech in the classroom
The solution at your fingertips

Mobiles enter the educational system by the hands of students (and teachers)

It happened on **Oct 29, 2014**

"N.Y.C. Schools to Open Doors to Student Cellphones" edweek.

Last October, the largest US school district, New York, announced that it was ending its ban on student cellphones in schools, following in the footsteps of a growing number of school systems. They claim that the device can be an enabler tool for both academic learning as well as communication, rather than a classroom distraction.

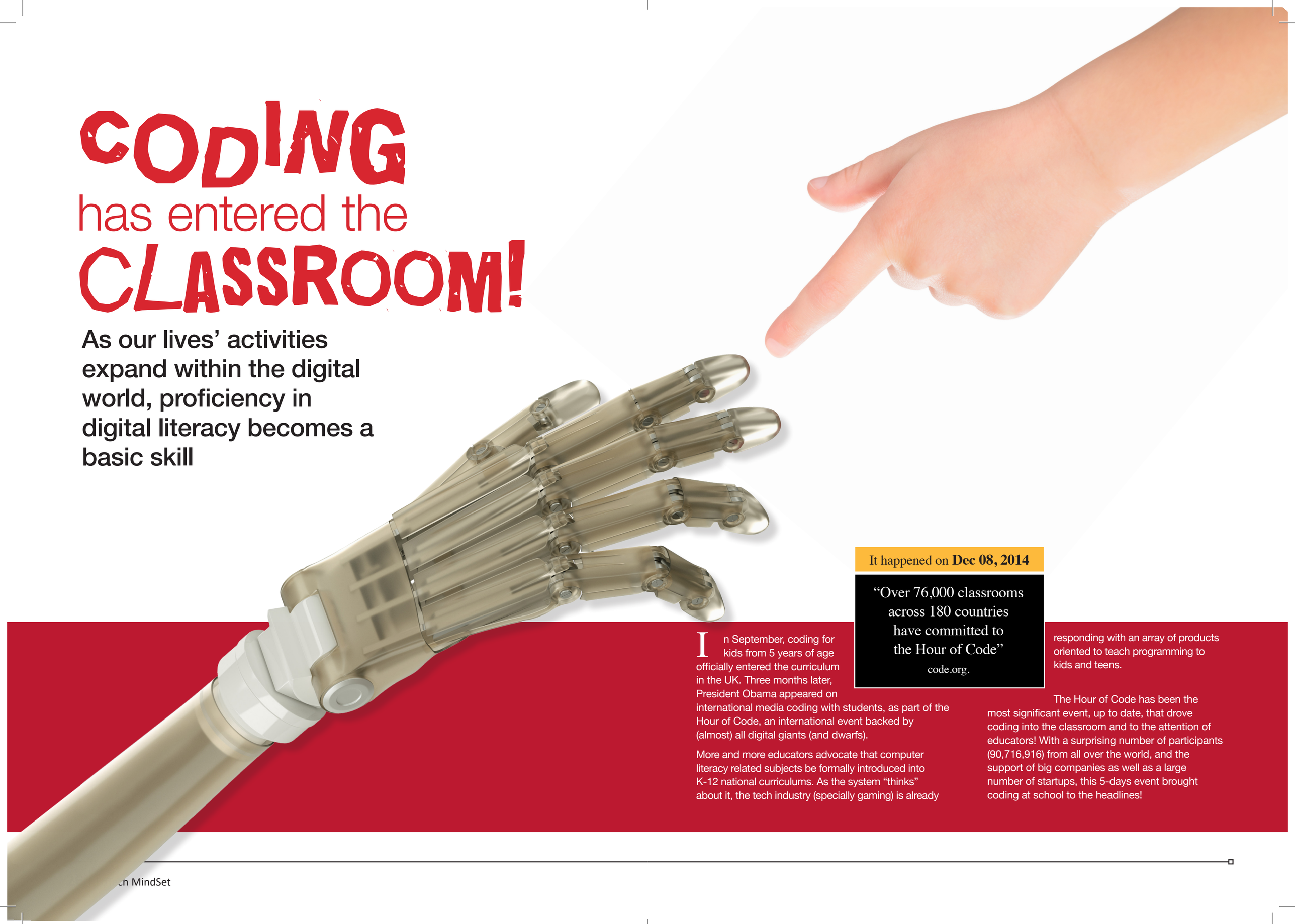
This is one example of a clear shift in attitude towards students' use of mobiles in school settings, a shift that is also reflected in the use of social networks and internet for a variety of educational activities.

The mobile revolution has settled and the mobile phone is today the main global channel for communication and information exchange. While society was discussing its educational implications, and trying to formulate a plan of controlled educational use, students (and teachers) were living life as usual, and using their mobiles anywhere and at any time (including the classroom!!!).

The big giants, such as Google and Microsoft, have been quick to respond, offering mobile products, and helping establish the mobile as a necessary device for education. "The beauty of mobile technology is that it frees knowledge, information and education from the constraints of classrooms, libraries, and expensive urban areas. What's more, it adds new dimensions to learning, making it a more engaging, interactive experience. By developing mobile educational products …, we are enabling millions of people to access a world that was previously closed to them" (Microsoft Mobile Homepage).

CODING has entered the CLASSROOM!

As our lives' activities expand within the digital world, proficiency in digital literacy becomes a basic skill



It happened on **Dec 08, 2014**

> "Over 76,000 classrooms across 180 countries have committed to the Hour of Code"
>
> code.org.

In September, coding for kids from 5 years of age officially entered the curriculum in the UK. Three months later, President Obama appeared on international media coding with students, as part of the Hour of Code, an international event backed by (almost) all digital giants (and dwarfs).

More and more educators advocate that computer literacy related subjects be formally introduced into K-12 national curriculums. As the system "thinks" about it, the tech industry (specially gaming) is already responding with an array of products oriented to teach programming to kids and teens.

The Hour of Code has been the most significant event, up to date, that drove coding into the classroom and to the attention of educators! With a surprising number of participants (90,716,916) from all over the world, and the support of big companies as well as a large number of startups, this 5-days event brought coding at school to the headlines!

CodeMonkey is an engaging online game that teaches real computer programming to kids.

FILTR8 offers content curation to enhance learning materials with up-to-date information.

Ligilo is a platform for communities to discuss and share based on their specific content.

Compoze is an app for, socially and intuitively, creating music on touch screens.

Hubitus provides to any writer a social and virtual framework.

Simplisico is an automated personal math tutor for students.

Dadaviz offers curated and visual representation of data and easy sharing.

MindCet
Changing Education Mindset