History of Educational Technology

Individual Student Chalkboards
10 Oct 1801

Before the wall chalkboard, each student had an individual slate board. Used throughout the 19th century in nearly all classrooms, a Boston school superintendent in 1870 described the slate as being "if the result of the work should, at any time, be found infelicitous, a sponge will readily banish from the slate all disheartening recollections, and leave it free for new attempts.'

Magic Lantern
10 Oct 1870

The precursor to a slide projector, the 'magic lantern' projected images printed on glass plates and showed them in darkened rooms to students. By the end of World War I, Chicago's public school system had roughly 8,000 lantern slides.

Wall Chalkboard
10 Oct 1890

Perhaps the most durable instrument in American education, it would remain the standard tool from the era of the one-room schoolhouse to the computer age.

Pencil and Paper
10 Oct 1890

Just like the chalkboard, the pencil is also found in basically all classrooms in the U.S. In the late 19th century, mass-produced paper and pencils became more readily available and pencils eventually replaced the school slate.

Stereoscope
10 Oct 1905

At the turn of the century, the Keystone View Company began to market stereoscopes which are basically three-dimensional viewing tools that were popular in homes as a source of entertainment. Keystone View Company marketed these stereoscopes to schools and created hundreds of images that were meant to be used to illustrate points made during lectures.

Radio
10 Oct 1925

New York City's Board of Education was actually the first organization to send lessons to schools through a radio station. Over the next couple of decades, "schools of the air" began broadcasting programs to millions of American students.

Overhead Projector
5 Jan 1926

Initially used by the U.S. military for training purposes in World War II, overhead projectors quickly spread to schools and other organizations around the country.

Mimeograph
5 Jan 1940

Surviving into the Xerox age, the mimeograph produced copies through a hand-crank mechanism.

Language Lab
5 Jan 1950

The language lab Is created. Schools across the country install rooms full of cubicles where students don headsets and listen to audio tapes to learn foreign languages.

Skinner Teaching Machine
5 Jan 1957

B. F. Skinner, a behavioral scientist, developed a series of devices that allowed a student to proceed at his or her own pace through a regimented program of instruction.

Educational Television
5 Jan 1958

By the early 1960's there were more than 50 channels that included educational programming on the air across the country.

Liquid Paper
5 Jan 1960

What is commonly known as "white out" now. A secretary made the white liquid in her kitchen and sold her company to Gillette for nearly $50 million.

Slide Projector
5 Jan 1962

Kodak introduces the carousel slide projector. In addition to entertaining family guests, slide projectors were used widely in classrooms for the next few decades.

Filmstrip Viewer
5 Jan 1965

The filmstrip viewer is a simple way to allow individual students watch filmstrips at their own pace.

ARPANet for US Defense Dept.
1 Aug 1969

The Internet, popularly called the Net, was created in 1969 for the U.S. defense department. Funding from the Advanced Research Projects Agency (ARPA) allowed researchers to experiment with methods for computers to communicate with each other. Their creation, the Advanced Research Projects Agency Network (ARPANET), originally linked only four separate computer sites at U.S. universities and research institutes, where it was used primarily by scientists.

Hand-held Calculator
5 Jan 1970

The predecessor of the much-loved and much-used [Texas Instrument] TI-83, this calculator paved the way for the calculators used today. There were initial concerns however as teachers were slow to adopt them for fear they would undermine the learning of basic skills.

ARPANet - Other Countries Join
1 Aug 1970

In the early 1970s, other countries began to join ARPANET, and within a decade it was widely accessible to researchers, administrators, and students throughout the world. The National Science Foundation (NSF) assumed responsibility for linking these users of ARPANET, which was dismantled in 1990. The NSF Network (NSFNET) now serves as the technical backbone for all Internet communications in the United States.

Scantron Machine
5 Jan 1972

The Scantron Corporation eliminated the hassle of grading multiple choice exams. The scantron forms made as much money as the machines over the years.

Laser Disc
5 Aug 1972

Sony and Phillips launched VLP or the 'LaserDisc' which first became popular mainly in Japan and the USA among movie enthusiasts and - especially in Japan - lovers of Karaoke. But in Europe there was not so much interest.

Launched in 1972 as VLP, the 'LaserDisc' became popular mainly in Japan and the USA among movie enthusiasts and - especially in Japan - lovers of Karaoke. But in Europe there was not so much interest. To make optical discs into a video medium, the joint license holders Philips en Sony announced the development of a CD with a video capability in 1987, under the name 'CD Video'. Three discs sizes - 12, 20 and 30 cm - were developed. The 12 cm 'CD with video' was referred to as 'CDV'. It contained up to 5 minutes of (analogue) video (like LaserDisc) plus up to 20 minutes of CD digital audio, which could be played on any CD player. The 12 cm discs were yellow; to distinguish them from the silver audio CDs. Philips intended these discs to be an ideal carrier for video clips. 20 and 30 cm CD Video discs were also introduced, with playing times of 40 to 120 minutes. By 2000 the roles of CD Video and LaserDisc were taken over by DVD.

Plato Computer
5 Jan 1980

PLATO was a computer-based educational system developed at the University of Illinois at Urbana-Champaign beginning in the 1960's. It was a system for giving lessons and instruction in many fields. Public schools in the United States averaged one computer for every 92 students in 1984; in 2008 there was one computer for every 4 students.

PLATO was a computer-based educational system developed at the University of Illinois at Urbana-Champaign beginning in the 1960's and into the 70's and early 80's. It was a system for giving lessons and instruction in many fields and was successful enough that Control Data Corporation, then a major computer company, contracted to sell PLATO systems commercially and a number were installed all over the world.

We remember PLATO because it pioneered so many things we now take for granted as well as creating one of the very first online communities. It did this while the Internet was merely a tool for scientists at a few universities and government facilities, some twenty years before it took off among the general public.
More Information can be found at http://home.earthlink.net/~gosamgosamgo/plato1.htm

IBM Introduces PC
5 Aug 1981

IBM introduces the first personal computer. It was a very small machine that could not only process information faster than those ponderous mainframes of the 1960s but also hook up to the home TV set, process text and store more words than a huge cookbook -- all for a price tag of less than $1,600.

TCP/IP Protocols for Internet Introduced
1 Aug 1982

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Internet Commercialized
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Hand-held "GRAPHING" Calculator
5 Jan 1985

It was a milestone in the history of pocket calculators when Casio introduced with the fx-7000G the world's first Graphing calculator.

The display could be switched between the character mode offering 8 lines of 16 characters each, and a pure graphics mode with an array of 63*95 addressable dots. Even todays Graphing calculators like the TI-83 Plus kept this display format, main differences are the data and program memory sizes. Instead of limited 422 program steps todays calculators deal with megabyte instead the bytes.

CD-ROM (Read Only Memory)
5 Aug 1985

Digital audio is stored on a CD in almost the same way as computer data. Which is why the CD-ROM (Read Only Memory) was developed and launched around 1985. Like the audio CD the disc has a diameter of 12 cm and a storage capacity of 650 to 700 MB - equivalent to 450 floppy disks or more than 250,000 typed A4 pages. A CD-ROM allows fast data access and has a very high reliability. This is why it is now universally used to store computer software and data.
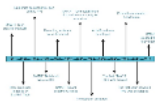
Interactive Whiteboard (SMART) Created
1 Oct 1991

The interactive whiteboard was originally envisioned by David Martin and Nancy Knowlton in 1987. Soon after, they co-founded the company SMART Technologies and introduced the world's first SMART Board in 1991.

While the original concept was to create a device that would function as a whiteboard and computer, by the time it was presented to the market the touch sensitive application had also been added (SMART Tech, 2012). The purpose of that key feature was to include the ability to control the board with the touch of a finger in a way that allowed the user to write over Microsoft Windows applications presented on the screen ("Interactive Whiteboards", 2010).

In addition to the first IWB, many other models and resources have been introduced over the past twenty years by SMART Technologies and other prevailing companies like Promethean World and Numonics. For instance, in 1992, SMART Technologies produced IWBs with rear projection and in 1994 Numonics added an interactive products division to their company, which established the first pen-centric interactive whiteboard. Then, in 1997, SMART Technologies created a collaborative software program called the SMART Notebook ("Interactive Whiteboards", 2010).

By 2001, recording software had been developed in addition to the basic features, so that now its users could play videos, audio files and record their own lessons or presentations (Radcliff, 2010). In 2009, Promethean designed ActivInspire software for the ActivBoard and PolyVision made ēno, the world's first environmentally certified and low cost interactive whiteboard. As a result of the increasing popularity of these developments, the sales of interactive whiteboards, in a global context, tripled from one quarter to three quarters of a million from 2005 to 2009 (Lee, 2010). One of the latest models released in 2012, is the four-touch interactive whiteboard designed by SMART Technologies (SMART Tech, 2012).

Internet Commercial Traffic Ban Lifted
1 Aug 1995

The Internet was commercialized in 1995 when NSFNET was decommissioned, removing the last restrictions on the use of the Internet to carry commercial traffic.

Since the mid-1990s, the Internet has had a revolutionary impact on culture and commerce, including the rise of near-instant communication by electronic mail, instant messaging, Voice over Internet Protocol (VoIP) "phone calls", two-way interactive video calls, and the World Wide Web with its discussion forums, blogs, social networking, and online shopping sites. The research and education community continues to develop and use advanced networks such as NSF's very high speed Backbone Network Service (vBNS), Internet2, and National LambdaRail. Increasing amounts of data are transmitted at higher and higher speeds over fiber

optic networks operating at 1-Gbit/s, 10-Gbit/s, or more. The Internet's takeover over the global communication landscape was almost instant in historical terms: it only communicated 1% of the information flowing through two-way telecommunications networks in the year 1993, already 51% by 2000, and more than 97% of the telecommunicated information by 2007.[1] Today the Internet continues to grow, driven by ever greater amounts of online information, commerce, entertainment, and social networking.

ECPA - Electronic Commications Privacy Act
1 Aug 1996

sudden growth of the Internet caught the legal system unprepared. Before 1996, Congress had passed little legislation on this form of telecommunication. In 1986, Congress passed the Electronic Communications Privacy Act (ECPA) (18 U.S.C.A. § 2701 et seq. [1996]), which made it illegal to read private e-mail.

The ECPA extended most of the protection already granted to conventional mail to electronic mail. Just as the post office may not read private letters, neither may the providers of private bulletin boards, on-line services, or Internet access. However, law enforcement agencies can subpoena e-mail in a criminal investigation. The ECPA also permits employers to read their workers' e-mail. This provision was intended to protect companies against industrial spying, but it has generated lawsuits from employees who objected to the invasion of their privacy. Federal courts, however, have allowed employers to secretly monitor an employee's e-mail on a company-owned computer system, concluding that employees have no reasonable expectation of privacy when they use company e-mail.

First Completely Online University
1 Aug 1999

JIU is the pioneer in online learning. Our founder, Glenn R. Jones, has devoted much of his life to his passionately held belief that education should be available to everyone, everywhere. A cable magnate, Jones in 1987 launched the cable television network Mind Extension University™ (ME/U™), which enabled 30,000 students to take courses from more than 30 colleges and universities via television. In the nascence of the Internet, Jones foresaw the potential and started JIU in 1993 – the first university anywhere to exist completely online. Despite the naysayers, Jones knew in his heart that this was the future of education. So it was with great pride that in 1999 JIU became the first fully online university in the U.S. to be accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools (www.ncahlc.org).

Social Networking Heightens
10 Jan 2002

Social Networking makes it easier for students, parents, and teachers to communicate but also adds more security and roadblock issues to education.

iPod (Click Wheel) Music Player
10 Oct 2004

Released with much fanfare in October 2004, the iPod (U2 Special Edition) was identical to the iPod (Click Wheel) from a hardware standpoint. It came with a 20 GB hard drive, and was housed in a special black case, with the signatures of the members of U2 laser-engraved on the back. It cost $349, $50 more than the 20 GB iPod (Click Wheel), but included a $50 towards the

purchase of the U2 Digital Box-set, which was available exclusively from the iTunes Music Store.

iClicker Class Response
1 Oct 2005

iClickers are a device that allows you to poll a group of students. An instructor asks a multiple choice and students use iClickers to select a Letter from A-E. The students responses are recorded and available to the instructor for grading or analyzing.

iPhone Introduced (Changing BYOD Forever)
1 Jan 2007

Announced in January 2007 and released the following June, the iPhone marked Apple's entry into the cellular phone marketplace. Described by Steve Jobs as "a wide-screen iPod with hand controls... a revolutionary mobile phone... [and] a breakthrough Internet communications device," the iPhone was the first Apple-branded consumer device to run on OS X. Based around a touch-based user interface with a single button, the iPhone was controlled using a variety of one- and two-finger gestured. It included a custom version of Safari that allowed full browsing of any web page, a revamped iPod interface with CoverFlow, integrated access to YouTube and Google Maps, an iChat-like SMS text-messaging interface (iChat itself was missing from the initial release), and a standard set of cellphone apps, such as a calendar, an address book and a calculator.

iPad
10 Jan 2010

The years of speculation ended in January 2010, when Apple announced the iPad. Based around a 9.7-inch LED-backlit multi-touch display, the iPad, finally, was more or less what the Rumor-mill had predicted: a giant iPhone. It used a new version of the same iPhone OS that the then-current iPhone 3GS and iPod touch (Late 2009) used, and could run nearly all existing third-party iPhone applications.

Apple positioned the iPad as the first device in an entirely new market segment, making the claim that it would be better at many tasks than either smartphones or traditional laptops. The iPad included specially redesigned versions of the standard suite of iPhone applications, rebuilt from scratch to take advantage of the increased processing power and screen real estate. Apple also ported several Mac-only iWork applications (Pages, Numbers and Keynote) to iPad. Third party developers could develop iPad-specific applications as well.

Most significant to the suite of included iPad applications was iBooks, an eBook reader application combined with a new iTunes-style digital storefront. In an aggressive bid for the eBook reader market, Apple negotiated deals with many of the major book publishers. This put the iPad in direct competition with Amazon's Kindle, which for several years had been the dominant player in the nascent eBook market. Apple was able to secure deals

with the large publishing houses by giving them a viable alternative eBook platform, and offering them a lever with which to increase the asking price for eBooks: Apple deals used the same "agency" model adopted for the App store, in which the book sellers set their own price for the book (about $15 for new hardcovers) and Apple took a 30% cut. Amazon had been selling most hardcover books for $9.99, and taking a loss on each book in order to expand their dominance eBook market. In the weeks following the iPad release, Publishers one by one renegotiated their contracts with Amazon to use the agency model.

Khan Academy Founded
1 Oct 2010

Khan Academy is a non-profit educational website created in 2006 by educator Salman Khan, a graduate of MIT and Harvard Business School and fully launched in 2010. The stated mission is to provide "a free world-class education for anyone anywhere".

In August 2004, Sal Khan began remotely tutoring his cousin, Nadia, who was struggling with "unit conversion". This "swiss-cheese" gap in her knowledge was not allowing her to be placed in the more advanced Math track. Since Nadia was in New Orleans and Sal was in Boston working at a hedge fund at that time, Sal started tutoring her via telephone and Yahoo Doodle after work. As Nadia improved in math class, Sal began tutoring her brothers Arman and Ali. Eventually, word got around and he was tutoring a handful of his cousins and family members. Scheduling became a real issue and Sal started recording videos and posting them on YouTube in 2006 so everyone could watch on their own. More and more people kept watching, and Sal has continued to make videos ever since.

The organization was incorporated as a 501c(3) non-profit in 2008. Sal continued to work on Khan Academy during his spare time until the fall of 2009, when he quit his hedge fund job and decided to pursue the endeavor full-time. He lived off of his savings for the first 9 months until he received his first significant donation from Ann Doerr. In September 2010, Khan Academy received large grants from Google ($2 million) and the Bill and Melinda Gates foundation ($1.5 million) and began to build out an organization. Sal called on Shantanu Sinha from McKinsey & Company to join as President & COO. They were former high-school math competitors in New Orleans, freshman-year roommates at MIT, and long-time friends. They immediately hired Ben Kamens and Jason Rosoff both from Fog Creek Software to head up software development and design. The small team moved into office space in October 2010.