



Technology is the Answer: What was the Question?

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Preamble ..

- Technology .. described as **tools, processes, material resources** together with **creative human intelligence** that is applied to the **solution of a problem**.
- The term technology refers to advancements in the **methods and tools** we use to **solve problems** or achieve a goal.
- **How can I solve your educational plans, issues or problems.**

He should know ...

Technology is just a tool.
In terms of getting the kids
working together & motivating them,
the teacher is the most important.
-Bill Gates

ODL ..

- The Open University (UK)
- Distance learning studies
- Correspondence study
- Postal study
- Off-campus studies
- Study by distance
- Home study
- Gaya Pos Adabi (Malaysia)



ODL evolving ..

- E-Learning study
- Online courses
- OER University
- mymobileuniversity
- iTunes U
- Online distance learning
- Virtual universities
- University of the air



Quickly ..

- In the 'classroom', technology can encompass all kinds of tools from low-tech pencil, paper, and chalkboard, to the use of presentation software, or high-tech tablets, online collaboration and conferencing tools, and more.
- **T**he newest technologies allow us to try things in physical and virtual configurations that were not possible before.

Nonetheless, how you use technology depends fundamentally on what you are trying to solve and accomplish.

Tool or chef ..?

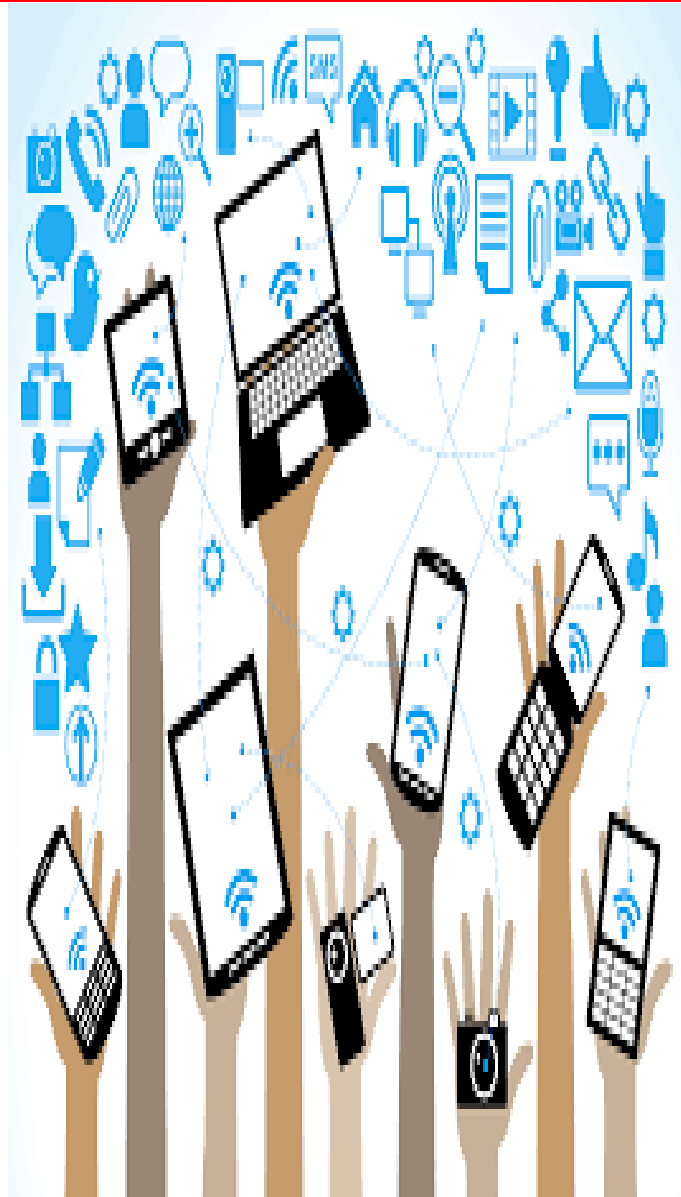


In the 21st century ..

- The realities of learning are now; technology **‘enhanced’** in a **‘connected’** world, where the learning is always in **‘motion’**
- e-Learning’ is 17 years old (1990s)



21st Century Learners



Their characteristics are very different from the last century .. and now the

- **learner,**
- **teacher,**
- **environment and the**
- **content**
- **qualification**

has a different orientation.



21st century environment

- Now we have no idea about their studies;

Who .. classmates ? Facebook ?

What .. Books? Video? ppt ? OER?

When .. Classroom? am ? pm ?

Why .. degree ? knowledge ? CPD

Where .. university ? Facebook ?

How .. alone ? Facebook ? video ?

Evolution ..

Learning OnDemand
Anytime, Anywhere



Technology outreach ..



Deaf people



Maternity



Rural dwellers



Agriculture



Farmers



Aquaculture



**Physically
handicapped**



Adult education

Learning facilitation ..

	Same time	Different time
Same place	Classroom teaching, face-to-face tutorials and seminars, workshops and residential schools	Learning resource centres, which learners visit at their leisure.
	Blended Learning	
Different place	Audio conferences and video conferences; television with one-way video, two-way audio; radio with listener- response capability; and telephone tutorials	Home study, computer conferencing, tutorial support by e-mail and fax communication.

Traversing the education continuum ..



FACE-TO-FACE
CLASSROOM



CLASSROOM
AIDS



MIXED-MODE:
CLASSROOM
AND ONLINE



FULLY ONLINE



PRINT
AUDIOTAPES
TV, VIDEO-
CONFERENCING

E-LEARNING

DISTANCE EDUCATION

BLENDED LEARNING

New landscape ..



Assistive roles of technology

Learning tasks that are authentic, challenging, and multidisciplinary

Assessments that are performance-based, generative, seamless and ongoing, and equitable

Instructional models that are interactive and generative

Learning contexts that are collaborative, knowledge building

Grouping strategies that are flexible, equitable, and heterogeneous

Teacher roles as facilitators, guides, co-learners, and co-investigators

Student roles as explorers, cognitive apprentices, teachers, and producers

(Knuth, et al, 1996)

Food for thought ..

- Anurag Behar notes:
- **“At its best, the fascination with ICT as a solution distracts from the real issues.**
- At its worst, ICT is suggested as substitute to solving the real problems, for example, ‘why bother about teachers, when ICT can be the teacher’.
- **This perspective is lethal.”**
- He concludes with a paraphrasing of what he learned from education leaders in **Finland** and **Canada** (two countries who consistently do well on PISA): **“not a dollar will we invest in ICT, every dollar that we have will go to teacher and school leader capacity building.”**
- (<https://edutechdebate.org/ict-in-schools/there-are-no-technology-shortcuts-to-good-education/>)

OLPC...

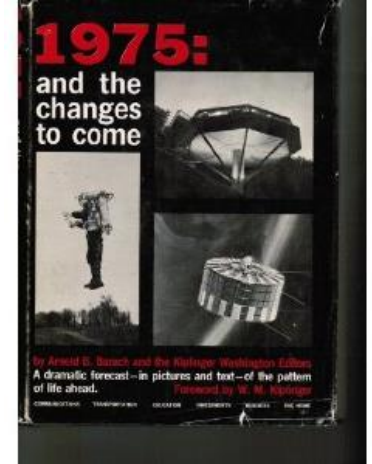
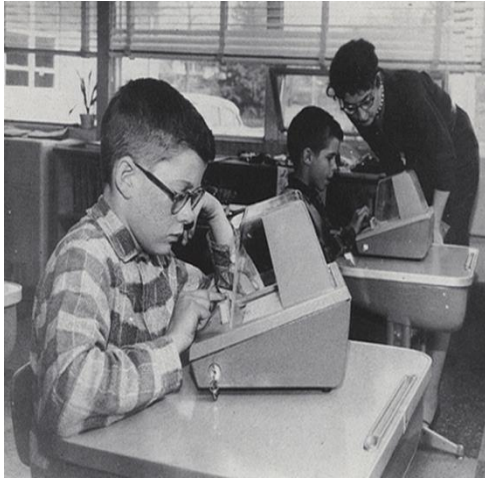


Results show that the laptops didn't make students spend more time devoted to schoolwork or reading. Why the poor results? The IDB concludes that OLPC doesn't provide enough guidance to teachers to tell them how to effectively use the computers ([and tablets](#)) in their courses - computers alone can't enhance a learning experience — they need to be carefully integrated to best suit a learning environment.

Past to present ..



Past to present ..



Arnold Barach (1962) - '1975: And the Changes to Come', written by Arnold B. Barach and the Kiplinger Washington Editors, predicting how technology would change our lives in **1975**.

Transition ...

Each major transition in communication media, from speech to print to video to electronic forms has resulted in changes

To ...	Technology
Create	
Record	
Store	
Distribute	
Access	
Transfer	
Retrieve	

21st Century tools ..

21ST CENTURY TOOLS

One can easily become overwhelmed by the variety of Web 2.0 tools that are available online today. In order to effectively choose the appropriate tool, being aware of your intended instructional outcomes is key. To assist you in this search, educationally relevant Web 2.0 tools have been grouped into categories below, which are reflective of 21st century skills.



COLLABORATION



COMMUNICATION



CREATIVITY



**CRITICAL
THINKING**



FEEDBACK



INNOVATION



PRESENTATION



**PROBLEM
SOLVING**



PRODUCTIVITY



REFLECTION



**SOCIAL
NETWORKING**

Configurations...

Public Learning Sites - A wide range of informational and educational sites for general reference, how-to guides, wikis, how-to videos

Instructional Tools - Tools for creating, delivering, managing and/or tracking learning and/or providing a formal social learning environment

Social and Collaboration Spaces - These platforms include public social networks, tools to create private collaborative spaces for groups or communities

Twitter apps - These tools include a range of useful Twitter applications

Web meeting, conferencing and virtual world tools - Tools for delivering live meetings, screen sharing and virtual worlds

Blogging, Web and Wiki Tools - Tools to create blogs, web pages/sites and wikis as well as provide interactivity on those sites

Image, Audio & Video Tools - Tools to create, edit and/or host images, avatars, audio files, podcasts, screencasts and videos

Communication Tools - Tools for a range of synchronous and asynchronous communication activities

Other Collaboration & Sharing Tools - These are further tools for collaboration and sharing with others

Personal Productivity Tools - These tools are for an individual's personal working, learning and/or productivity purposes.

Browsers, Players & Readers - These tools are useful for browsing the web and accessing, viewing and reading web content



Educational Technology resources..

http://www.educatorstechnology.com/p/blog-page_7.html



In the pipeline ..

- **Cloud computing**
- **Telepresence**
- **Mobile Learning**
- **eBooks; iBooks**
- **Augmented Reality**
- **Gesture based Learning**
- **Wearable technologies**
- **Visual data analysis**
- **Student Response system**
- **Learning Record Stores**
- **Game based Learning**
- **Multidisciplinary Incident based Learning**
- **Resource Architecture in Virtual Design (RAVD)**

50 ways to lecture/teach ...

- ☐ Conduct an interview
- ☐ Guest speaker
- ☐ Student lead discussion
- ☐ Student summaries
- ☐ Pop a quiz
- ☐ Direct an observation
- ☐ Brainstorming
- ☐ Build consensus
- ☐ Buzz groups
- ☐ Case Histories
- ☐ Chain story, poem, article
- ☐ Chain math or science problem
- ☐ Charts
- ☐ Chalkboards/Whiteboards
- ☐ Class created annotated bibliography
- ☐ Conduct a survey
- ☐ Debate
- ☐ Demonstration
- ☐ Discussion
- ☐ Field Trips
- ☐ Film/Video
- ☐ Group activity
- ☐ Keep a journal
- ☐ Simulations
- ☐ Games

- ☐ Interviews
- ☐ Laboratory
- ☐ Learning Teams
- ☐ Maps
- ☐ Memorizations
- ☐ Models
- ☐ News Articles
- ☐ Object/Object Lessons
- ☐ Panels
- ☐ Paradox
- ☐ Peer Review
- ☐ Picture Studies
- ☐ Problem Solving
- ☐ Projects
- ☐ Puzzles
- ☐ Quiz or self-test
- ☐ Questions and Answers
- ☐ Report
- ☐ Review
- ☐ Role Playing
- ☐ Skits
- ☐ Storytelling
- ☐ Symposium
- ☐ Take a poll
- ☐ Testimonies

Technology Enhanced 1

- Agent-Generated Content
- Animations
- Assessments
- Audio
- Brain-Based Learning
- Business-Based Learning
- Collaborative Content
- Competency-Based Learning
- Conferences and Workshops
- Cybercartography

Technology Enhanced 2

- E-Portfolios
- Exhibits: Galleries, Museums, and Science Centers
- Experiential Learning
- Games and Puzzles
- Immersive Environments
- Inquiry-Based Learning
- Interactive Activities
- Journals, Magazines, Newsletters, and Newspapers
- Laboratories
- Language Learning

Technology Enhanced 3

- E-Books
- Learning Objects
- Libraries
- Live Presentations and Webinars
- Meta cognitive Learning
- Metaphorical Learning
- Narrative Learning
- Open and Free Content
- Podcasting
- Polls, Questionnaires, and Surveys
- Problem-Based Learning
- Project-Based Learning

Technology Enhanced 4

- E-Drama
- Scenario-Based Learning
- Simulations
- Situated Learning
- Social Networking
- Tours
- Tutoring and Mentoring
- Video-Enhanced Learning
- Visualization
- WebQuests
- Wikis
- Remote sensing

Technology enhanced learning...

Technology Enhanced Learning aims to improve the quality of formal and informal learning, and to make accessible forms of knowledge that were simply inaccessible before via the transformative use of technology



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Evolution ..

Technology ..

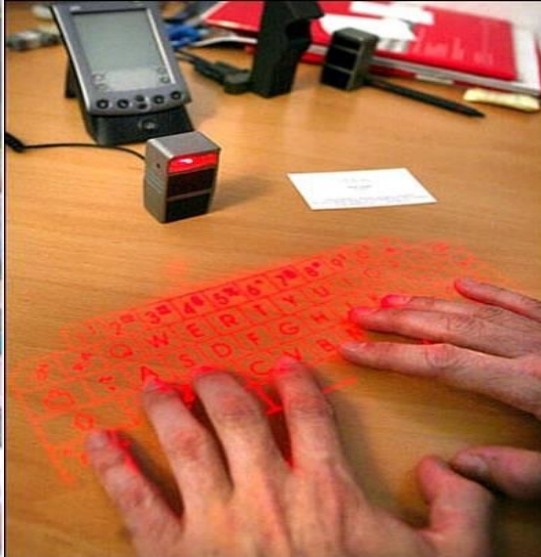
evolved ..



What has been ..

- Enhanced?
- Facilitated?
- made captivating, motivating, stimulating?
- Interactive
- Collaborative
- Engaging
- prepared in multiple perspectives
- etc, etc, etc ...
- **Pedagogy b4 Technology**

Technology and education ...



Media tools ...

PRESENTATION

study guide



readings



audio-
tapes



video-
tapes



cd rom

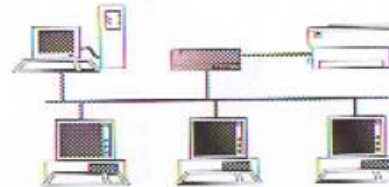


radio/TV
broadcasts

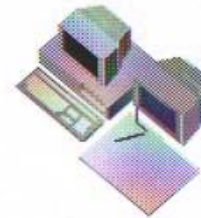


COURSE MEDIA

INTERACTION



computer-
conference



audio-
graphic
conference



audio-
conference

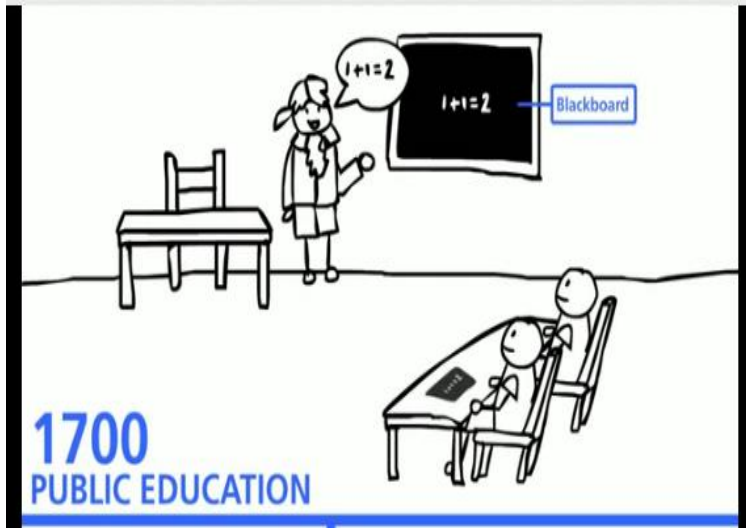


video-
conference

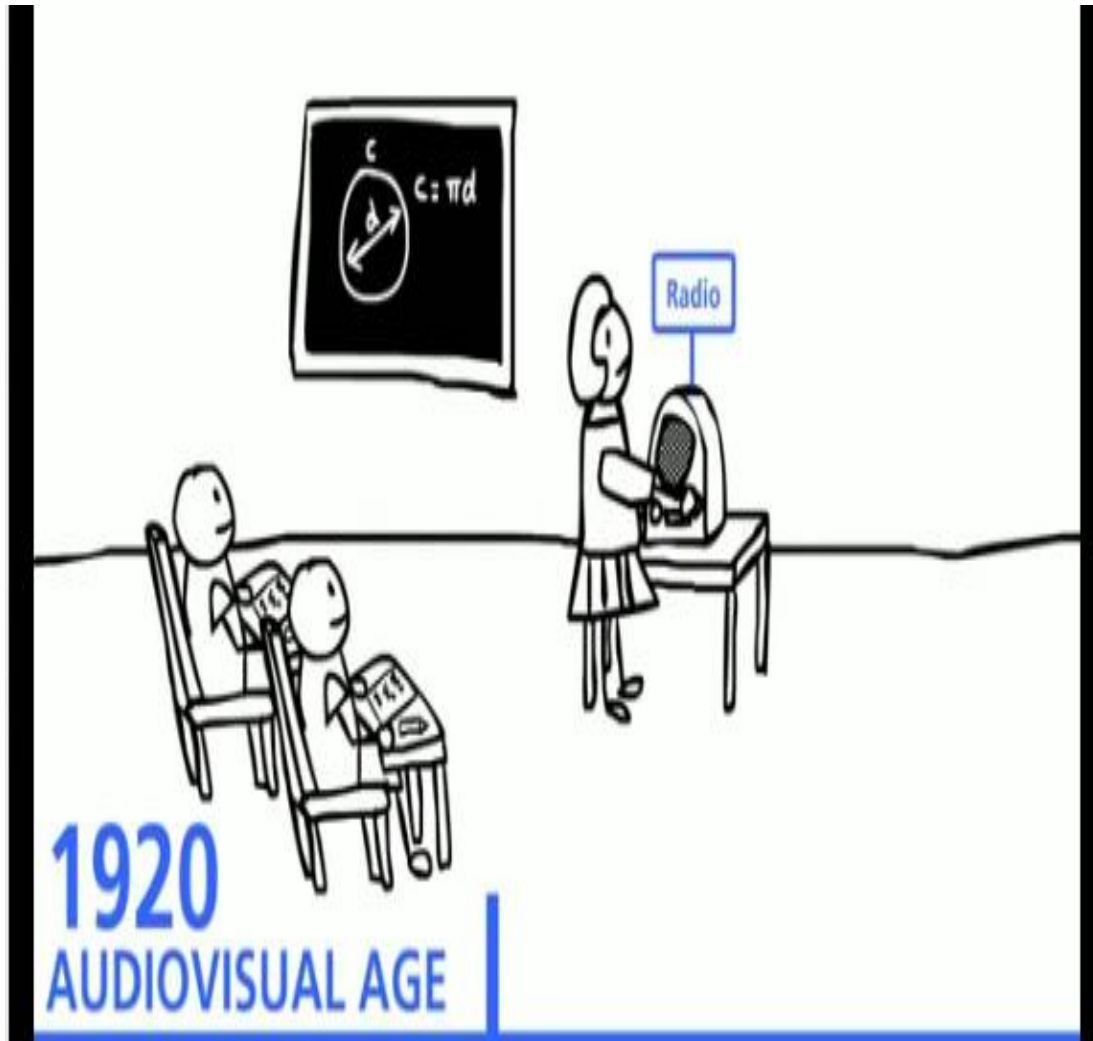
Hmmm ...



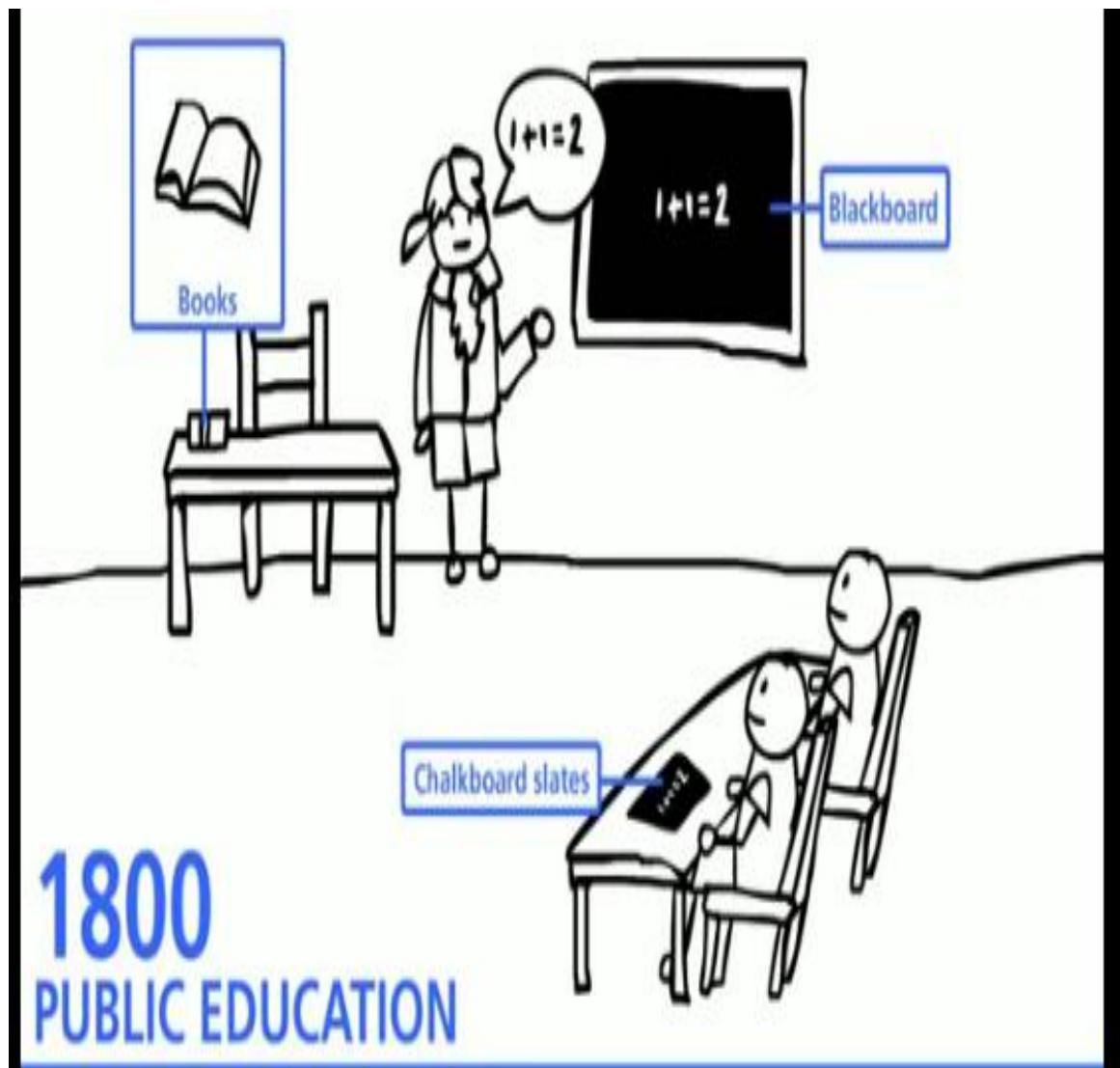
What ... ?



old media ..new media...



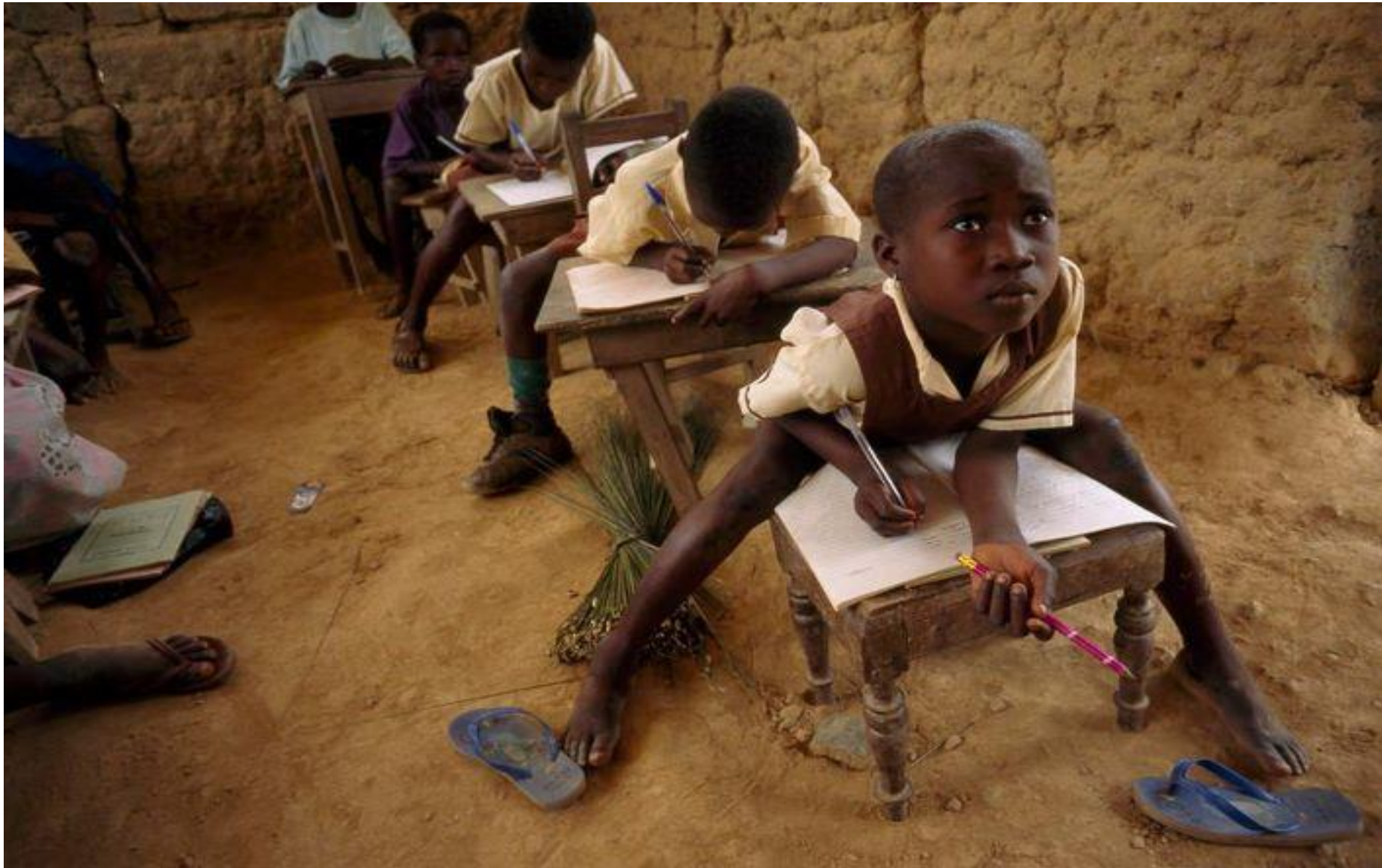
Book revisited ...



Basic Technology .. Enhanced Pedagogy



basic application ...

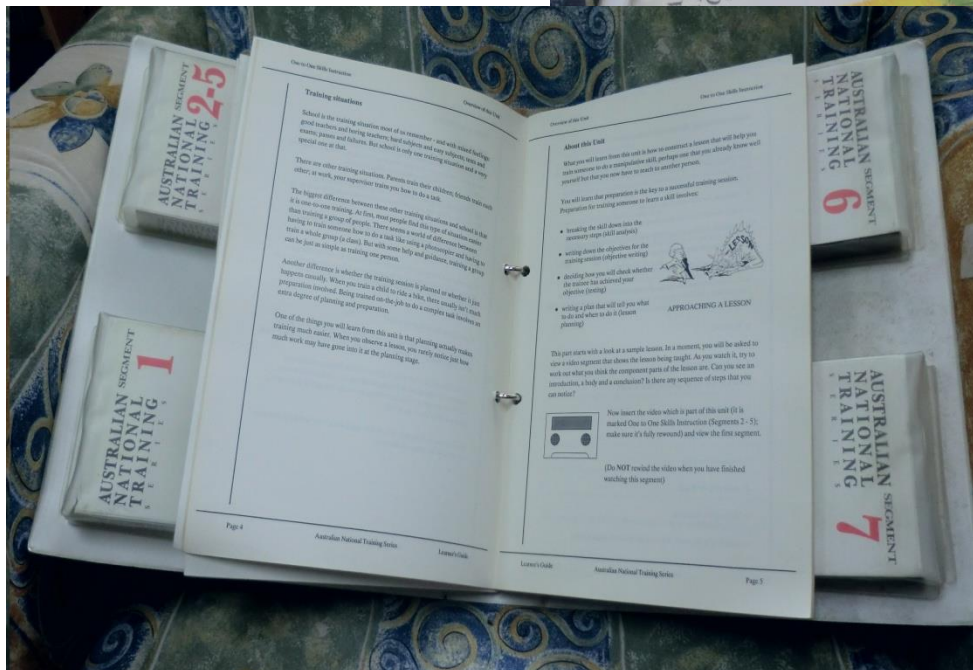


H ...



23.04.2006

Audio-video graphics ..



Classroom ...



New tools...



Mix of old and new tools...



To use or not to use ... ?



Computer Conferencing ..



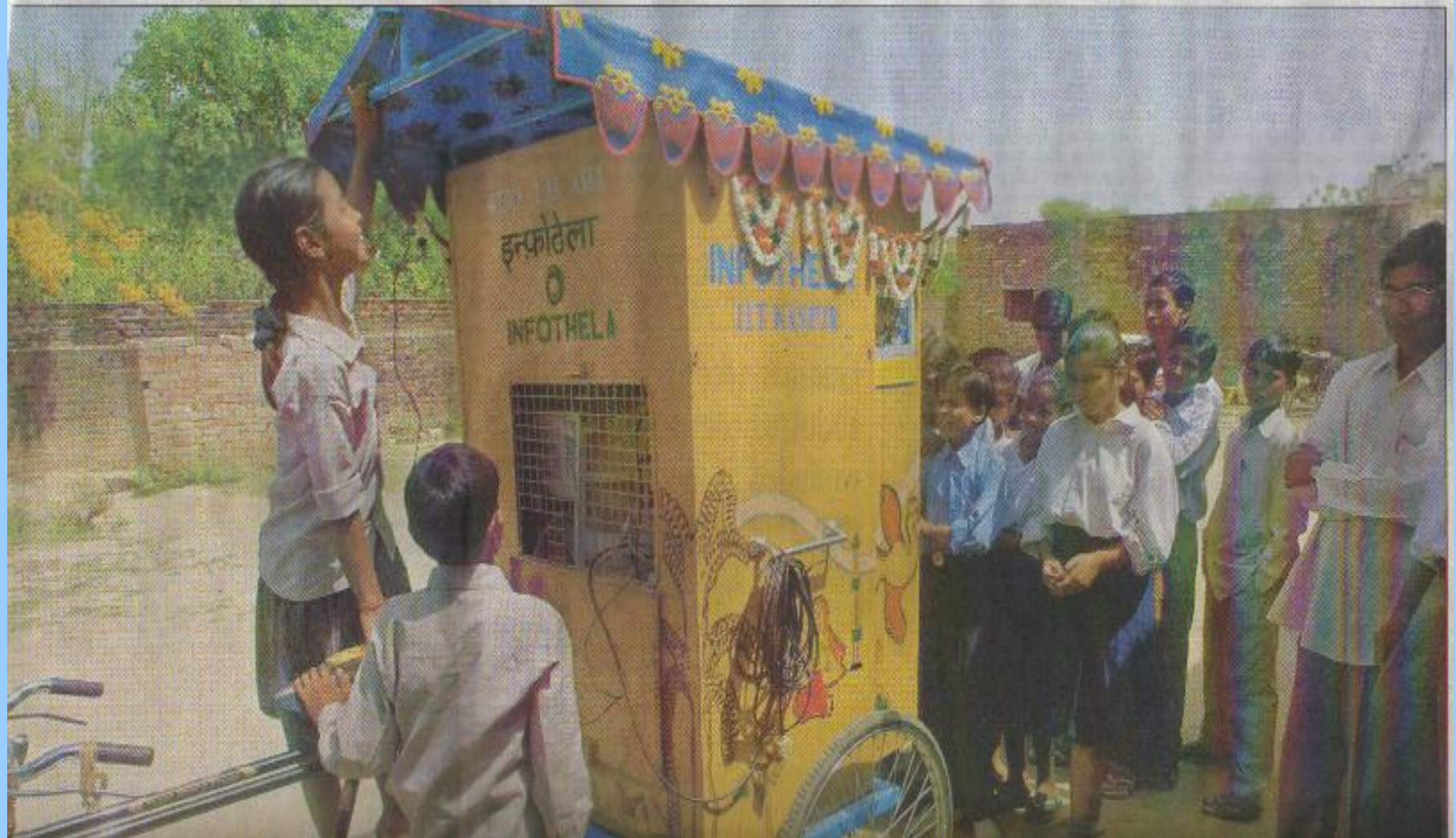
Board to bored ..



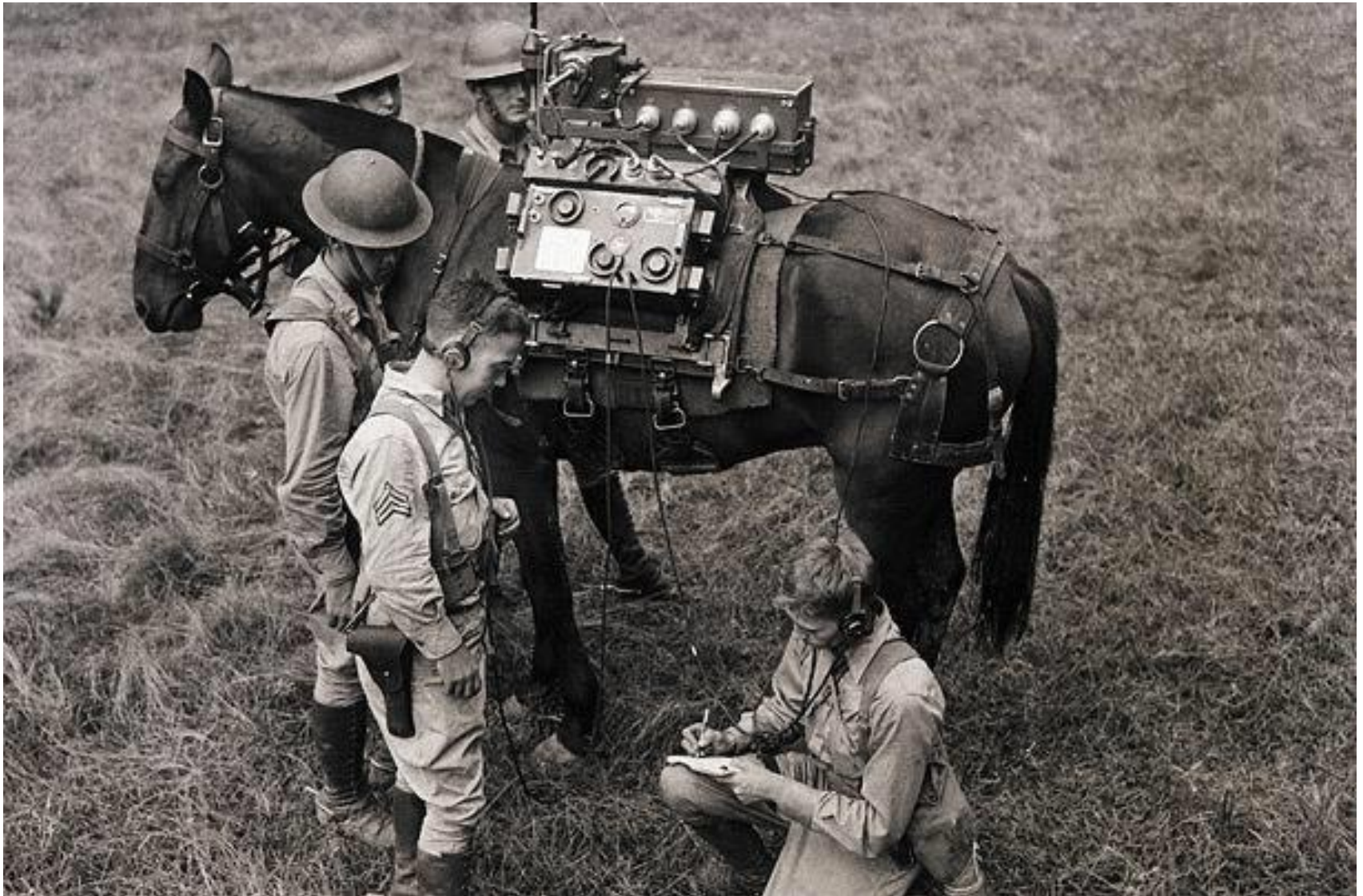
Wireless...



Mobile Internet...



Mobile is not new ..



mobile ...

Anytime... Anywhere... Any size



Mobile devices has become part of the person/learner and
by all intend and purpose **demolishes the notion of
distance;**

it demolishes boundaries and now it will
even demolish the very concept of
what it means to be here or there.

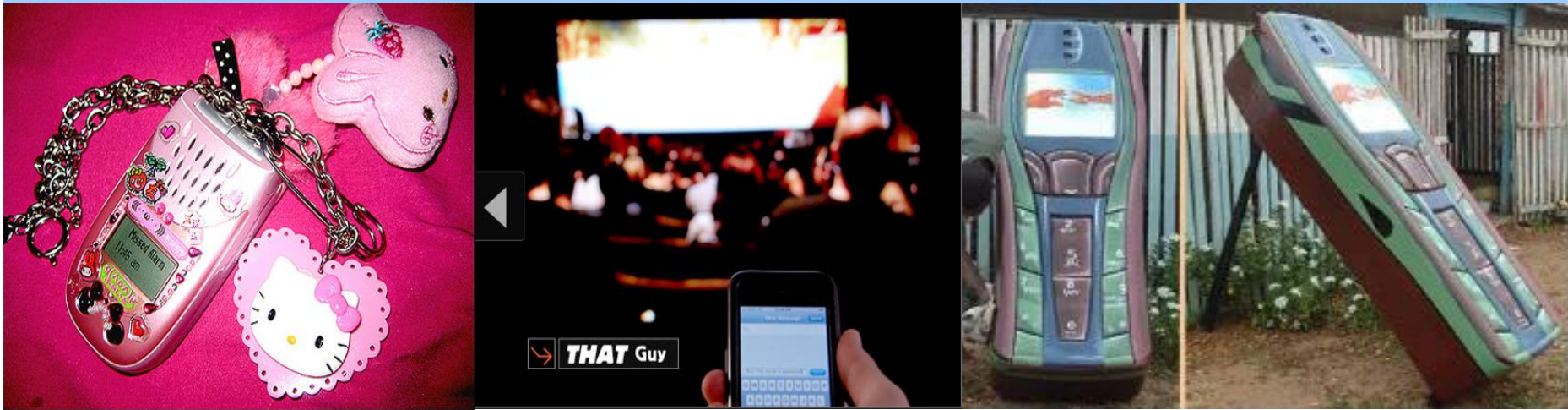
mobile now ...



Mobile phone in your life ...



Anytime, Anywhere ..



Mobile phone ...



mobile devices ...



SAMR Model

Substitution Augmentation Modification Redefinition

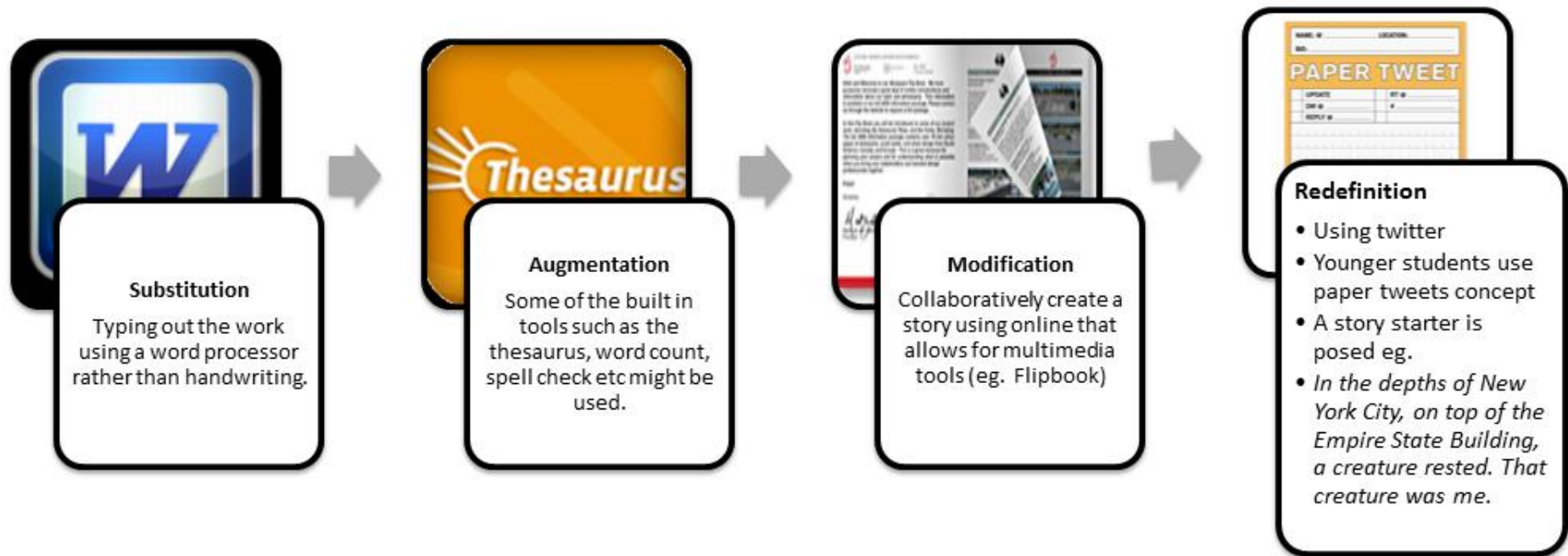
Substitution – “Tech acts as a direct tool substitute, with no functional change”

Augmentation – “Tech acts as a direct substitute tool, with functional improvement”

Modification – “Tech allows for significant task redesign”

Redefinition – Tech allows for creation of new tasks that were previously inconceivable

Story writing ..



The Mobile Teacher ..



- K12**
- 48% email
 - 16% texting



Game based Learning..

21 Smart Games For Game-Based Learning



Where's My Water?

Where's My Water? is a challenging physics-based puzzler complete with vibrant graphics, intuitive controls, and a sensational soundtrack. To be successful,



NineGaps

Math puzzle game where the goal is to place numbers from 1 to 9 in the missing gaps, while matching the operations presented in the puzzle. The need to



DragonBox+

Learn Algebra by playing this addictive puzzle game. Gets progressively more difficult as you move through each world.



Monster Physics

Build intricate, working contraptions with over 68 different parts including wheels, rockets, propellers, cannons, magnets, claws, wings and more. Once your



Civilization Revolution

Lead your civilization from the dawn of man to the modern age and beyond. Go head to head with history's greatest leaders as you wage war, conduct



Scribblenauts Remix

Kids can learn logical thinking, exercise their creativity, and boost their spelling skills as they brainstorm innovative solutions in this puzzle game app.




TeachThought.com

Video based Teaching and Learning..



Research based Learning..



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Research-based Learning

Research-based learning (RBL) has always been at the core of our programmes. Fundamental to the aims of the Leeds Curriculum is the intention to ensure that all students gain maximum benefit from a shared understanding of the rationale for and benefit of a clear focus on research-based learning, culminating in a **final year project**.

University of Leeds ▶

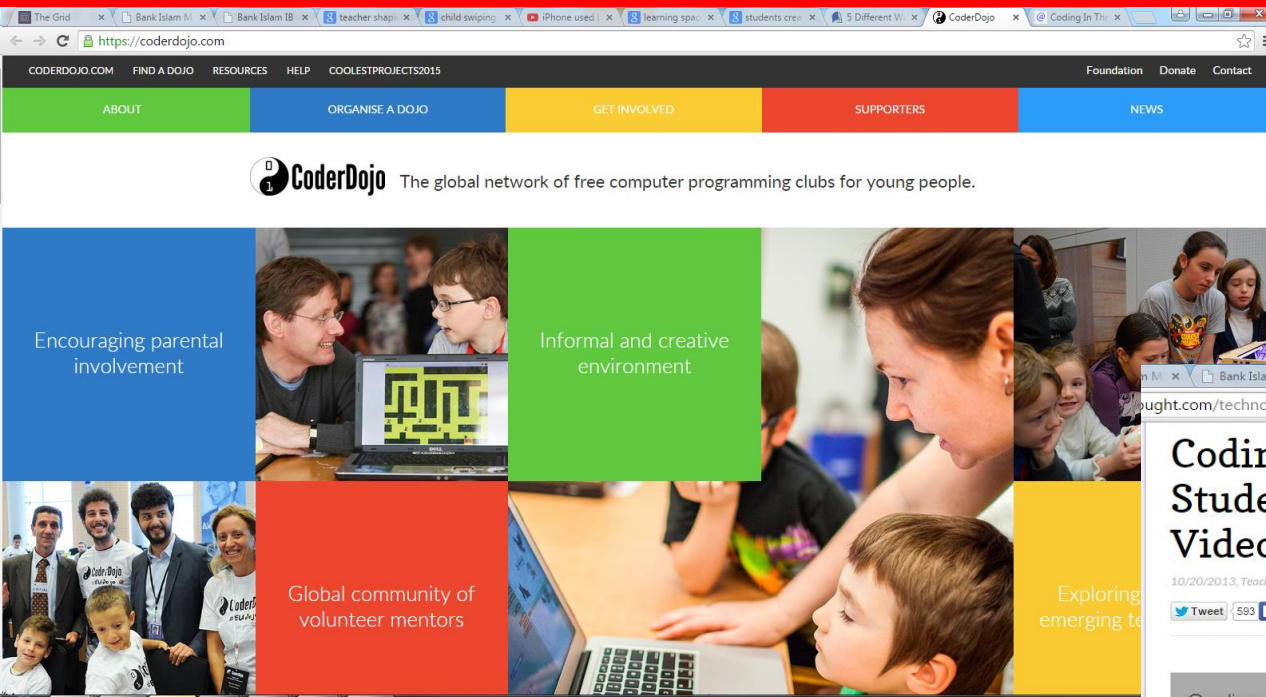
Student Opportunity & Enhancement ▶

Participatory knowledge construction..



**Create content ..iBook ..
eBook ..Authentic
learning .. Experiential
learning**

Apps based Learning..

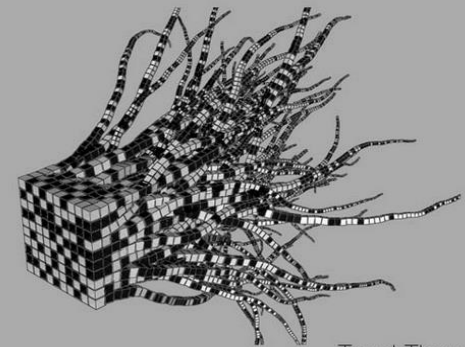


Coding In The Classroom: 10 Tools Students Can Use To Design Apps & Video Games

10/20/2013, TeachThought Staff, 7 Comments

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Coding In The Classroom:
10 Tools Students Can Use To Design Apps & Video Games



TeachThought.com

[https://coderdojo.com/;](https://coderdojo.com/)

<http://www.teachthought.com/technology/coding-classroom-10-tools-students-can-use-design-apps-video-games/>

COL High Level Roundtable, 17-18 March 2016, Hotel Bangi –Putrajaya, Malaysia




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ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA

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TWM's [Learning Guide to Selma](#): six ideas to maximize the movie's

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Khan El Khalili central
Khan El Khalili shop
Cairo Citadel
Cairo Citadel terrace
Cairo Citadel square
Cairo Citadel Mohammed Ali Mosque
Cairo Citadel Mohammed Ali Mosque arena



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end of page 

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 EUROPE	 AUSTRALASIA OCEANIA

Examples ..

<http://youtu.be/P9KPJIA5yds> - BMW

<http://vimeo.com/6866296> - VAT

<http://youtu.be/jbkSRLYSojo> - HR

<https://youtu.be/D7o7BrlbaDs?list=RD2NENIXsW4pM> - EW

The future of learning is now

Social
Connection
Communication
Collaboration
Creation
Tribal
Personal (ised)
Personal technologies

Listening
Augmented
Visual
Mobile
Sharing
Tagging
Ubiquitous

We need the teachers...

Technology will never replace teachers.

However, teachers who know how to use technology effectively to help their students connect and collaborate together online will replace those who do not.

Sheryl Nitzsche-Bach

21st Century Pedagogy



Our Role now ..

- **Leverage on technology**
- **Design the digital learning environment - tools**
- **Design multiple perspectives – rich pedagogy**
- **Personalisation – learner preferences**
- **Student centred –**
- **Facilitate .. resource rich environment**
- **Innovation in teaching/learning**
- **Assess and evaluate ... Improve impact**
- **Publish/share findings**

**Thank you for your kind
attention..**

rozhan@usim.edu.my

<http://www.rozhanmidrusprof.com>