TUDOMÁNY ÜNNEPE   TUDÁS   ETIKA   FELELŐSSÉG
A MAGYAR

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a Gábor Dénes Főiskolán, 2014. november 13.

THE IMPACT OF ICT AND MULTIMEDIA IN EDUCATION

Dr. Beáta Jarosievitz Phd.

College professor

E-mail: jarosievitz@gdf.hu

1119 Budapest, Mérnök u. 39.

Hungary

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E-mail: jarosievitz@gdf.hu
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Introduction (ICT - definition)
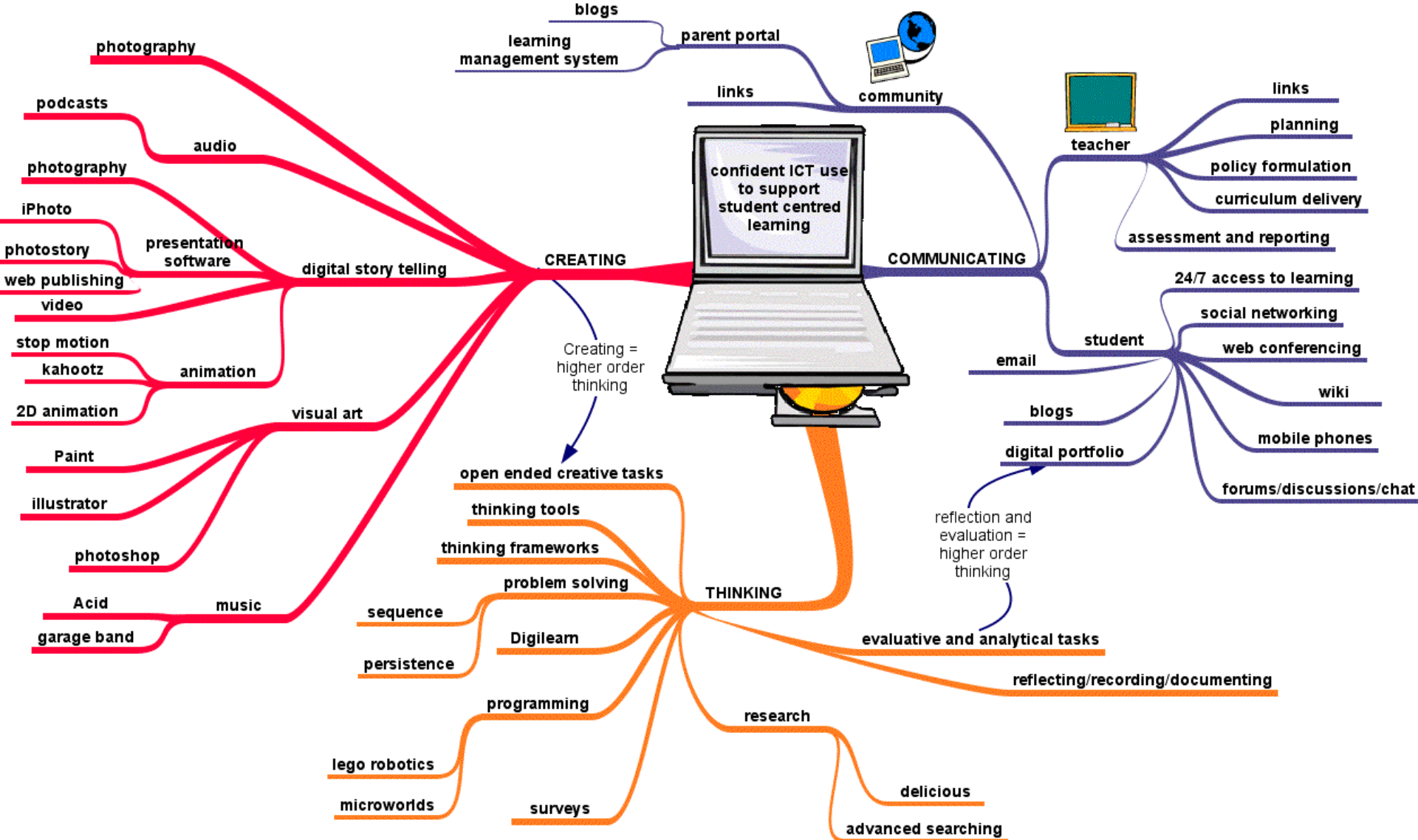
Information Communication Technology

unified communications

- integration of telecommunications

- computers

- necessary enterprise software

- storage

- audio-visual systems

focus to enable users to:

- access,

- store,

- transmit,

- manipulate information.

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blogs

learning management system

parent portal

links

community

photography

podcasts

audio

photography

iPhoto

photostory

presentation software

web publishing

video

stop motion

kahootz

animation

2D animation

digital story telling

visual art

Paint

illustrator

photoshop

Acid

music

garage band

CREATING

confident ICT use to support student centred learning

COMMUNICATING

teacher

links

planning

policy formulation

curriculum delivery

assessment and reporting

24/7 access to learning

social networking

web conferencing

wiki

mobile phones

forums/discussions/chat

student

email

blogs

digital portfolio

Creating = higher order thinking

open ended creative tasks

thinking tools

thinking frameworks

problem solving

sequence

Digilearn

persistence

programming

lego robotics

microworlds

surveys

THINKING

research

reflection and evaluation = higher order thinking

evaluative and analytical tasks

reflecting/recording/documenting

delicious

advanced searching

Concept Map of ICT (*Source*)

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Meaning of ICT in Education?

Research → Research → Research

- ICT can improve student's learning
- lecturers can use better methods

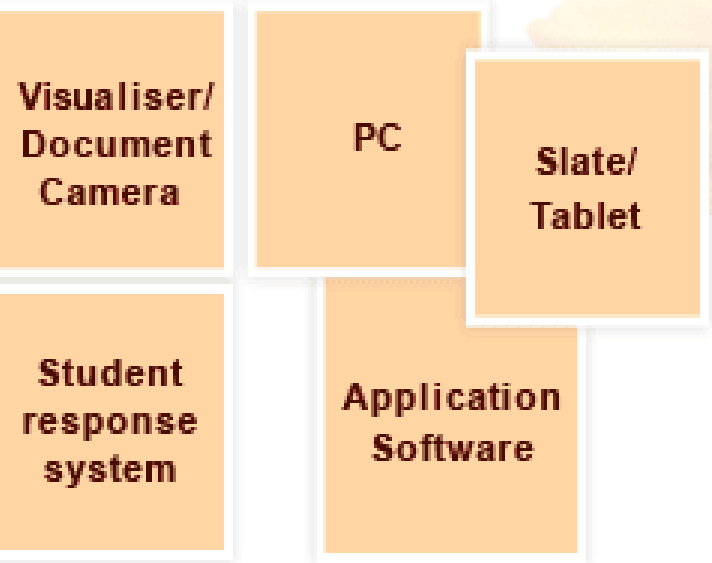**Knowledge Comprehension   Practical skill   Presentation skill**

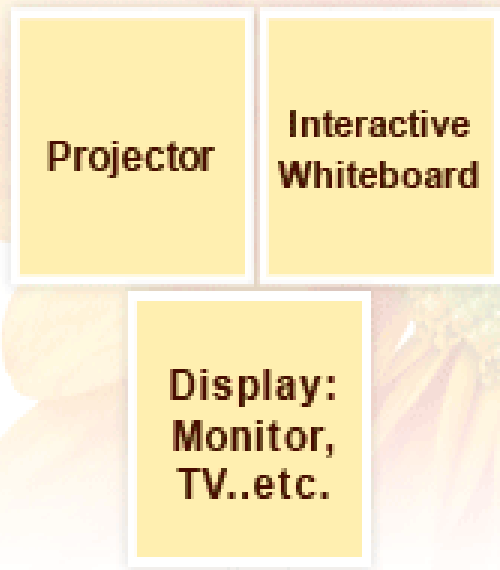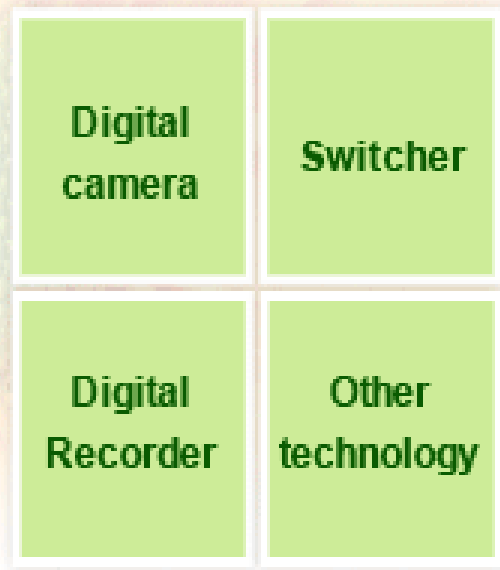Educational ICT tools can be divided into 3 categories

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INPUT SOURCE

Visualiser/
Document
Camera

PC

Slate/
Tablet

Student
response
system

Application
Software

OUTPUT SOURCE

Projector

Interactive
Whiteboard

Display:
Monitor,
TV..etc.

OTHERS

Digital
camera

Switcher

Digital
Recorder

Other
technology

(Source)

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Hypothesis

- to improve the memory of students (Inquiry-based learning)

- to improve their understanding *(Nicol, D. & Boyle, J. T. ; 2003)*

- to create interactive classes (use of the *simulation*)

- to make the lessons more enjoyable

- to improve student attendance

- to improve concentration of the students, to rise them up

- to evaluate students (*See more*)

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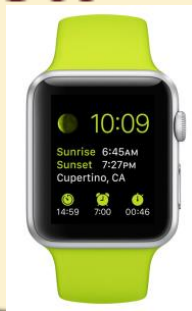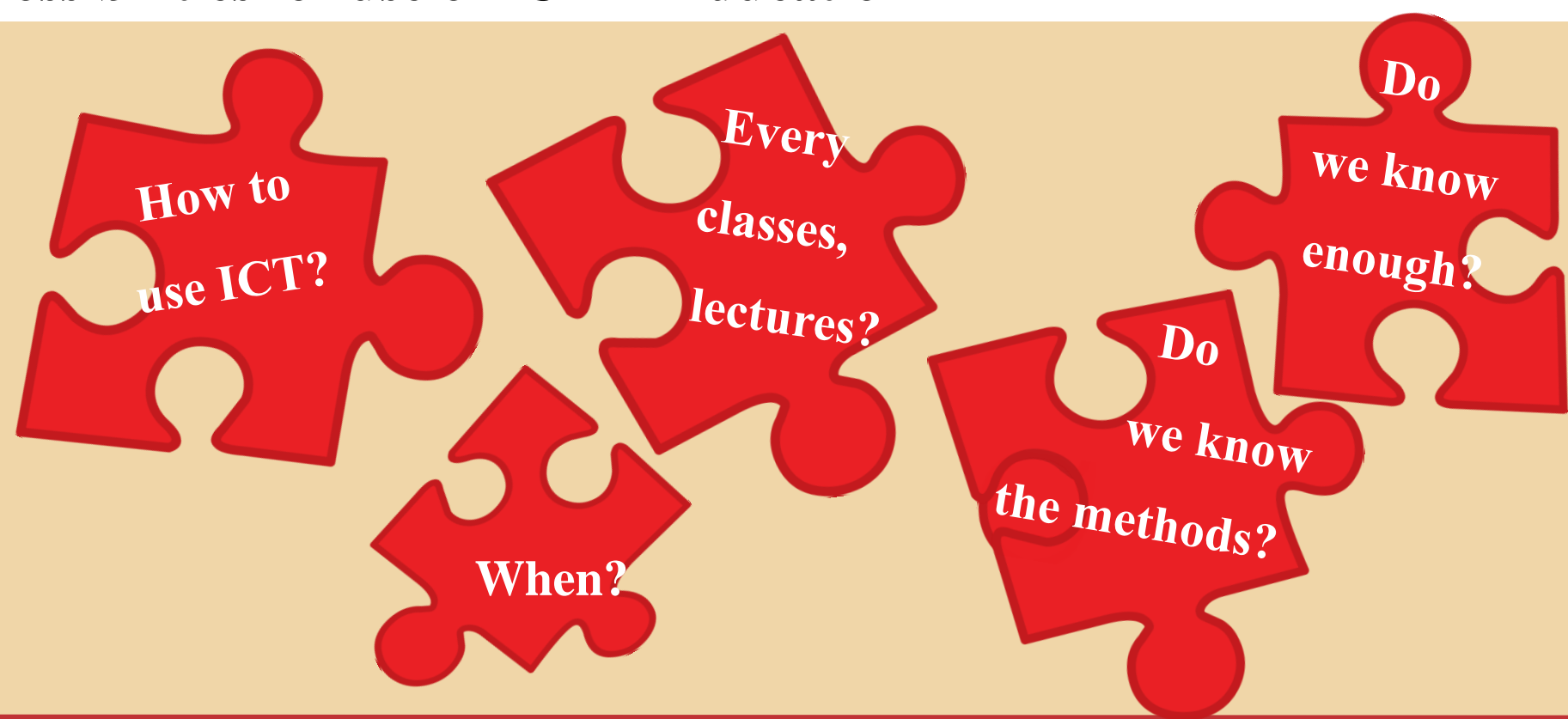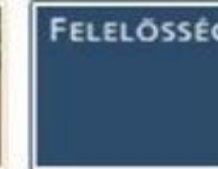a Gábor Dénes Főiskolán, 2014. november 13.

Formulated hypotheses are based by previously published papers like:

(*e-Skills EU Newsbrief, March 2010*)

ICT

- **increases** its importance **in strategic operational aspects of the economy and society**

- is a **key component** of the new skills requirements for new jobs

- **users are more competent to innovation and competitiveness**.

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How ICT should be use ?

learn with peer instructions

SCORM materials

wLearning

mLearning

eLearning

use smart phones (QR code)

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Possibilities for use of ICT in Education

How to use ICT?

Every classes, lectures?

Do we know enough?

When?

Do we know the methods?

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Key question: Are we teaching the right thing?

*Source: Understanding or memorization by **Eric Mazur**, in Conference on the Introductory Physics Course, Ed. Jack Wilson, pp. 113-124 (Wiley, New York, 1997). CRLF*
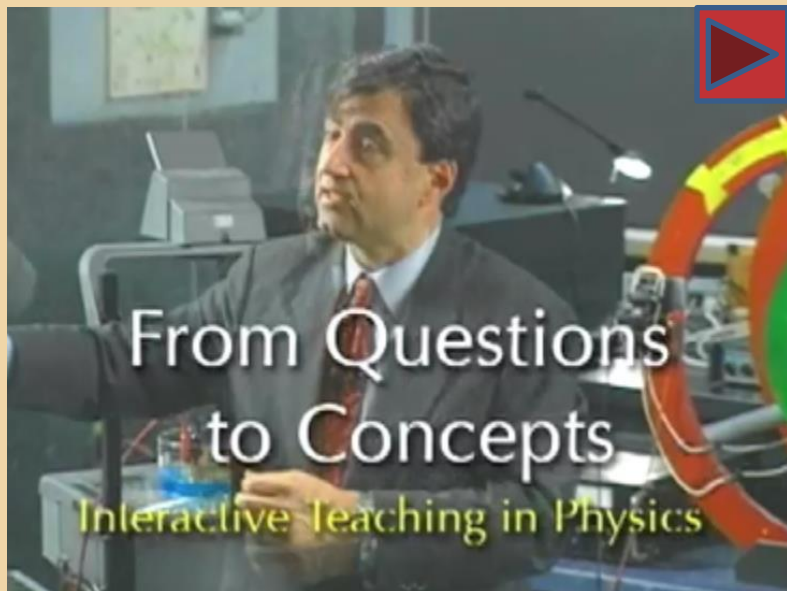
- the **first winner of the Minerva Prize** for Advancements in Higher Education development of "**peer instruction**" an **innovative teaching method** (*Source*)

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Peer Instruction

- developed by Eric, more than 20 years ago

- the instructor "**flips**" the classroom,

- motivate students in interactive discussions

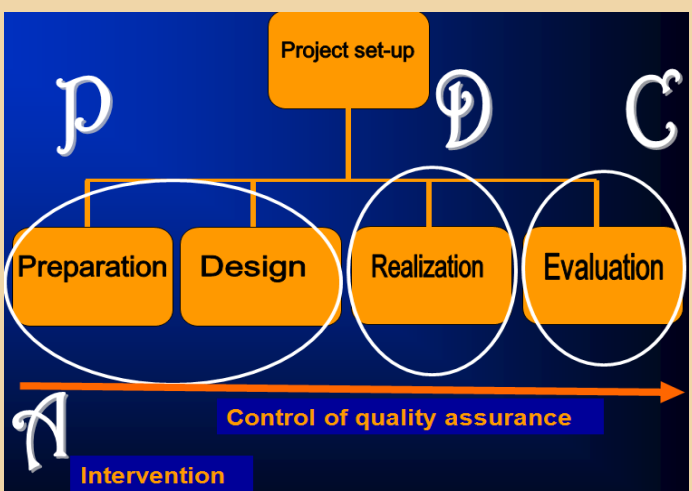- students prepare for class by reading or watching videos

Source

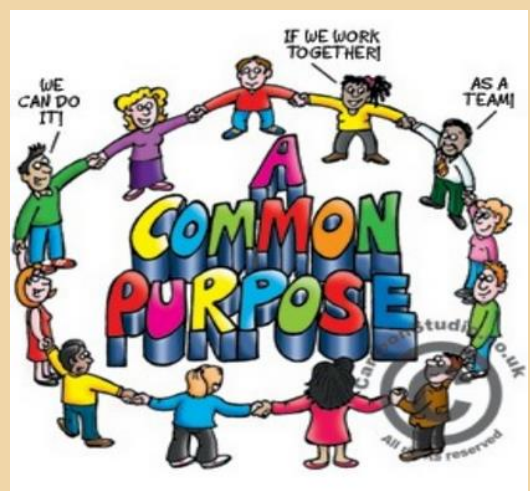European Cooperation in Science
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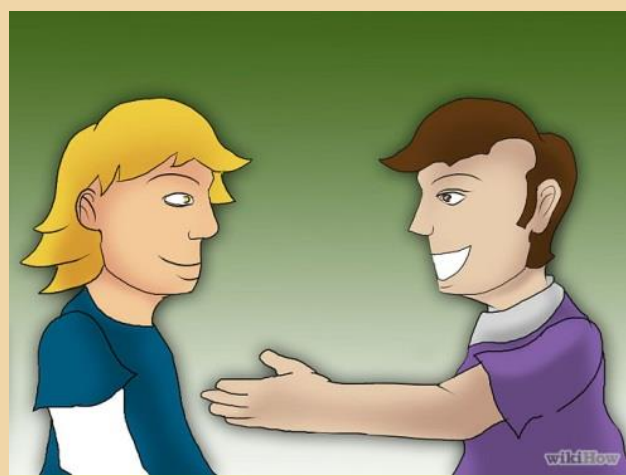
Methods to use ICT in Education

Project method

Cooperation method

Turn to Your Neighbor

Source 1; *Source2*

Using different methods we should not forget: Multimedia!

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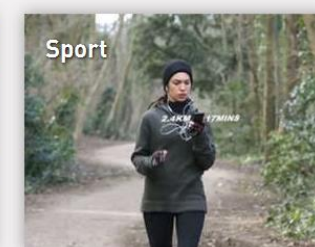
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Multimedia is any combination of

– text,

– graphic art,

– sound,

– animation,

– video,

– interactivity

delivered by computer or

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Areas of use of Multimedia

- business

- public places

- Virtual Reality

- at Home

- **Education**

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Example in DGC

What we need is

- SMART PHONE (for each student)
- FREE WIFI
- QRDROID apps *(Link to download)*
- LAPTOP for teacher
- Pre-prepared quiz
- Printed QR code (prepared) or apps

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Steps

Source

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f862bde5

Source: http://www.socrative.com/
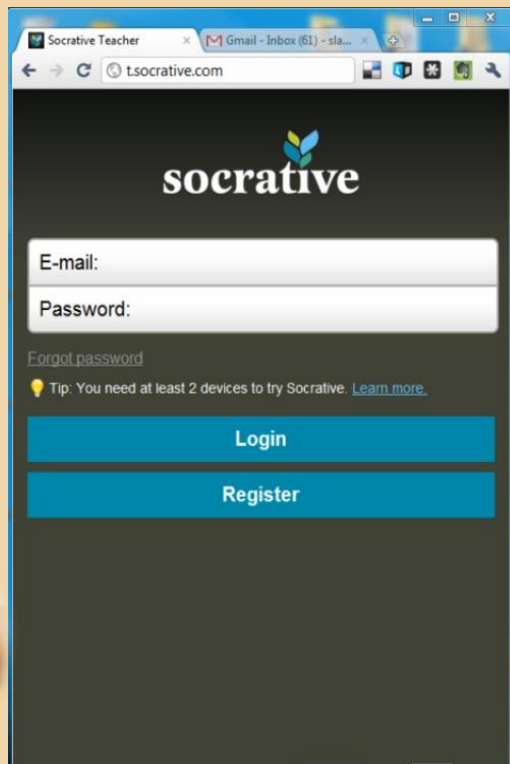
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TEACHER'S VIEW

socrative

ROOM: f862bde5
Elektromosságtan - Tue Feb 25 2014

GET REPORT

Dashboard

Name	Score	1	2	3	4	5	6	7	8	9	10	11
Anon 682b6	55%	C	A	A	A	B	B	True	True	False	True	False
Anon 965e0	82%	C	A	D	B	C	C	True	True	False	True	False
Anon 9e8ae	64%	C	A	A	C	A	B	True	True	False	True	False
Anon a3958	55%	C	A	A	A	B	C	True	True	False	True	True
Anon b872f	73%	C	A	C	C	C	A	True	True	False	True	False
Anon e9d43	64%	C	C	A	C	A	C	True	False	True	True	False
Class Total		100%	17%	17%	50%	33%	50%	100%	83%	83%	100%	83%

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TEACHER'S VIEW

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Impact of ICT and Multimedia

❖ **modernize teaching**

❖ **rise up students' motivation, interest**

❖ **follow the mobile revolution**

❖ **use mobile for good purposes**

❖ **follow the different high-tech developments**

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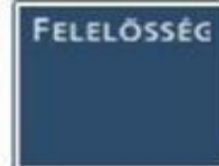
Conclusions

"**It is difficult and maybe even impossible to imagine future learning environments** that are not supported, in one way or another, by Information and Communication Technologies (**ICT**). When looking at the current widespread diffusion and use of ICT in modern societies, especially by the young – the so-called **digital generation** – then it should be clear that ICT will affect the complete learning process today and in the future." *(Yves Punie, Dieter Zinnbauer and Marcelino Cabrera, 2012)*

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1. Beáta Jarosievitz (2011): ICT, Multimedia used in the national and international educational projects, In: Informatika, nr.: 38., 2011., page 22.

   http://www.gdf.hu/sites/default/files/informatika_38_6.pdf ;

2. Beáta Jarosievitz (2009): ICT use in science Education, In:„Research, Reflections and Innovations in Integrating ICT in Education" Vol. 1 (Editors: A. Méndez Vilas, A. Solano Martín, J. Mesa González, J. A. Mesa González, ISBN Vol1.: 978-84-692-1789-4) , page: 382-386, Language: English http://www.formatex.org/micte2009/book/382-386.pdf ;

3. Vaughan, Tay, 1993, Multimedia: Making It Work (first edition, ISBN 0-07-881869-9), Osborne/McGraw-Hill, Berkeley, 3.o.

4. MISHRA, Punya y KOEHLER, Matthew (2006) Modelo TPACK. Recuperado el 26-4-2012 en   http://www.tpack.org/

5. Yves Punie, Dieter Zinnbauer and Marcelino Cabrera (October 2006), "A Review of the Impact of ICT on Learning". Available at: http://ftp.jrc.es/EURdoc/JRC47246.TN.pdf. (Accessed on: November 19, 2012

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„The future cannot be predicted, but futures can be invented".

Dennis Gabor

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