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THIRD WORKSHOP

"INTEGRATING E-LEARNING AND OPEN EDUCATIONAL RESOURCES INTO CLASSROOM" – IOERC

STIP, REPUBLIC OF MACEDONIA, SEPTEMBER 5TH - 10TH 2016

SESSION 2 - METHODOLOGICAL / DIDACTICAL APPROACH-CHALLENGES OF USING OER INTO CLASSROOMS

– **KIRIL BARBAREEV**

FACULTY OF EDUCATIONAL SCIENCES

RATIONALE AND BACKGROUND

"Do you think me a learned, well-read man?"

"Certainly" replied Zi-Gong, "Aren't you?"

"Not at all" said Confucius

"I have simply grasped one thread which links up the rest"

Sima Quian, Confucius

Konrad Paul Liessmann,

professor at the Faculty of Philosophy in Vienna, named scientist of the year in 2006 in the work - Theory of lack of education, said:

"The state of today's educational policy can be described in a single sentence: she is exhausted with staring and ranking lists ".

Jean Baudrillard,

speaks of "Last Tango values" (1977), noting that - everything has become moot, simulation, and studying and teaching and diplomas, everything.

Donald Hirsch

(Hirsh, 1996) speaks of the separation of the teacher education system from life. This separation appeared because of the non-adjustability of education and of teachers to follow modern trends in science and technology, track changes and change their concept of work. School remains traditional and becomes decadent as the medieval church, self-sufficient and a world of itself.

RATIONALE AND BACKGROUND

RATIONALE AND BACKGROUND

Current age is characterized by the ability of individuals to transfer information freely, and to have instant access to information that would have been difficult or impossible to find previously

> **"If we change the way we communicate, we change the society"**

Change is inevitable now…

WORLD OF QUALITIES

- Changes are fast and deep; the transmission of culture, tradition, and system of values become dynamic. Children and young people become "free" to shape their own values and their own life contents. They form "**their own world of qualities**." Today, the basic unit of time is constantly shortened.
- Computers work in **nano-and picoseconds**. These mega changes are reflected in the culture, i.e. its transfer into education. Social, moral and cultural values are changing.
- For students who have already developed a sense for picoseconds and nano- space, and new telecommunications and media, an educational system which is implemented in classic school space (classroom) and traditional school **time is unacceptable**.

This space is already unbearable for them, and time is unendurable and slow. Acceleration of time occurs, as well as reduction of space and we move on from feeling the physical world to feeling the virtual world. It is the call of nature for unification (**Laitman,** 2012).

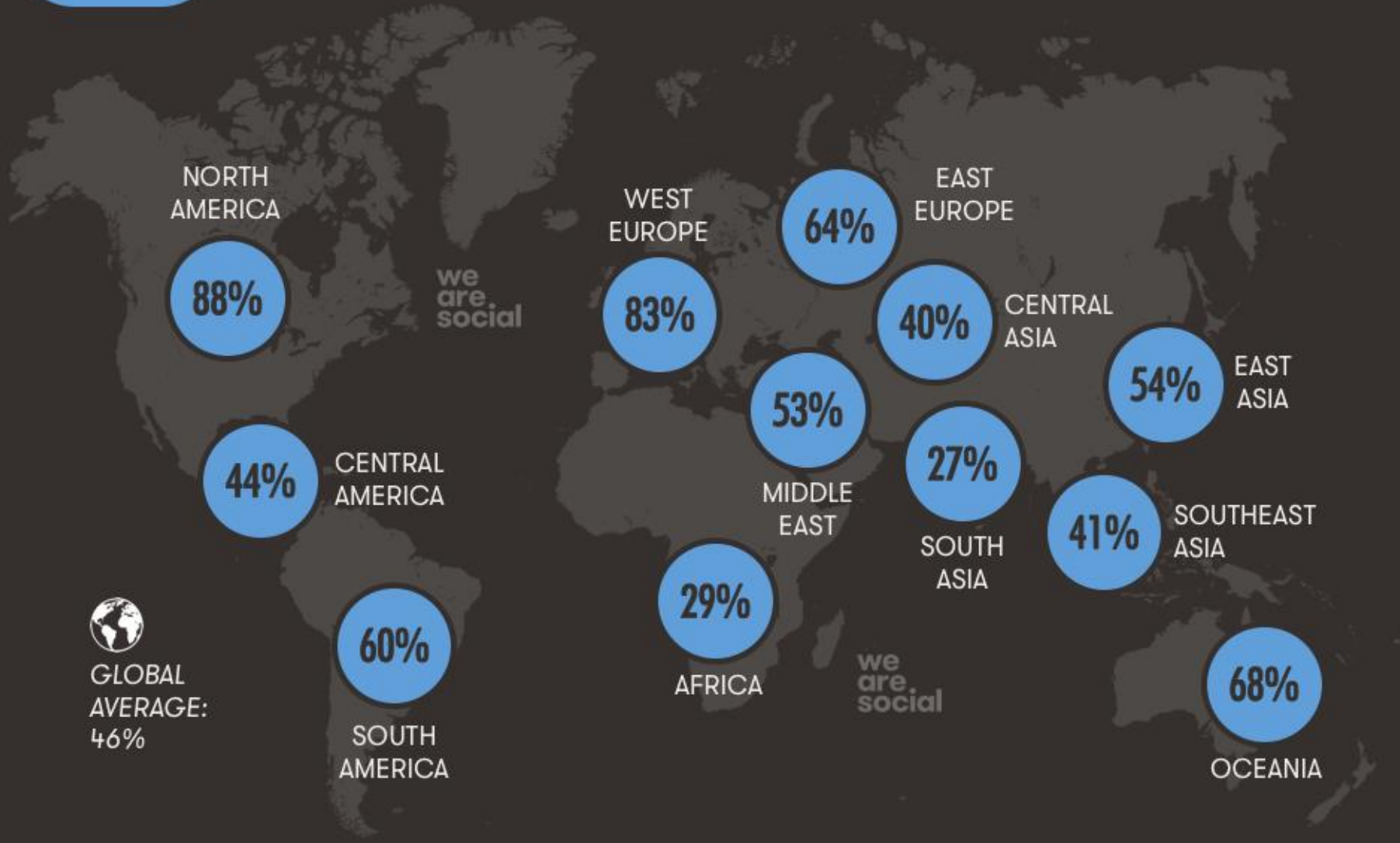
These new needs and new knowledge will require a different pedagogy which will have to be much more effective.

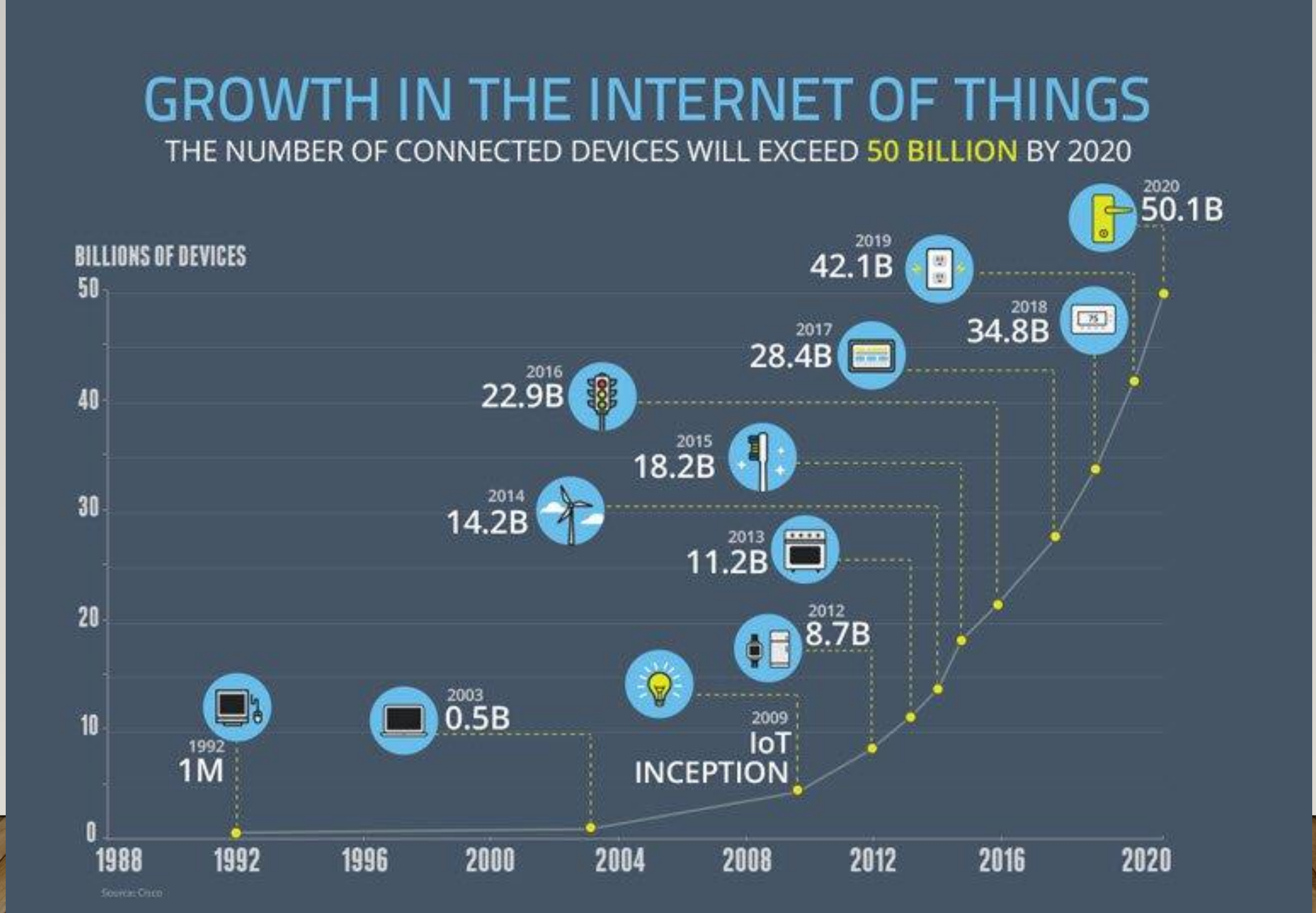
It will cause a need for standardization of educational systems in wide geographic areas, for global education standards, and for universalization of educational institutions.

JAN 2016

INTERNET USE

REGIONAL INTERNET PENETRATION FIGURES




GROWTH IN THE INTERNET OF THINGS
THE NUMBER OF CONNECTED DEVICES WILL EXCEED 50 BILLION BY 2020
BILLIONS OF DEVICES
50
40
30
20
10
0
1988
1992
1996
2000
2004
2008
2012
2016
2020
1992
1M
2003
0.5B
2009
IoT
INCEPTION
2012
8.7B
2013
11.2B
2014
14.2B
2015
18.2B
2016
22.9B
2017
28.4B
2018
34.8B
2019
42.1B
2020
50.1B
Source: Cisco

JAN 2016

INTERNET RANKINGS

BASED ON INTERNET PENETRATION IN COUNTRIES WITH NATIONAL POPULATIONS OF 50,000 PEOPLE OR MORE

HIGHEST INTERNET PENETRATION

#	COUNTRY	%	USERS
01	ICELAND	98%	324,518
02	BERMUDA	97%	68,280
03	NORWAY	96%	5,047,528
04	DENMARK	96%	5,452,151
05	ANDORRA	96%	82,148
06	UAE	96%	8,807,226
07	NETHERLANDS	95%	16,143,879
08	LUXEMBOURG	95%	541,206
09	FAROE ISLANDS	95%	47,762
10	SWEDEN	94%	9,216,226

LOWEST INTERNET PENETRATION

#	COUNTRY	%	USERS
214	NORTH KOREA	0.03%	7,200
213	NIGER	2.0%	395,990
212	CHAD	2.5%	356,678
211	CONGO (DEM. REP.)	3.0%	2,381,254
210	ETHIOPIA	3.7%	3,700,000
209	GUINEA-BISSAU	3.8%	70,000
208	SIERRA LEONE	4.0%	260,000
207	CENTRAL AFRICAN REP.	4.4%	217,279
206	SOMALIA	4.6%	500,000
205	BURUNDI	4.6%	526,372

Our students/children have changed radically in the last decade. Today's students are no longer the people our educational system was designed to teach. They are **"digital natives"**

Children today are all "native speakers" of the digital language of computers, video games and the Internet.

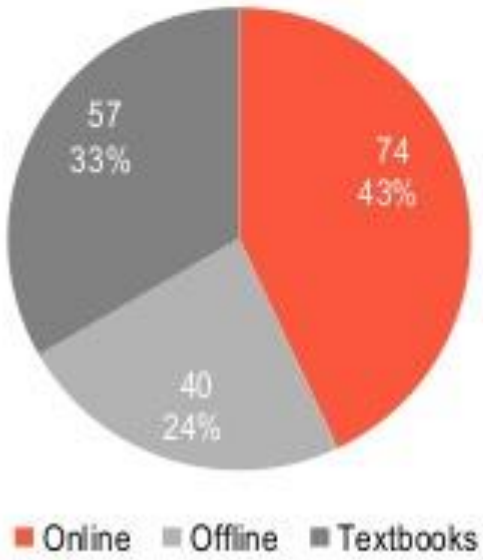
RATIONALE AND BACKGROUND

In fact, online courses are quite acceptable for post-85s/90s who grew up in digital and internet era

Typical User Characteristics: Age 23-27; Male; Over 50% of them are employed

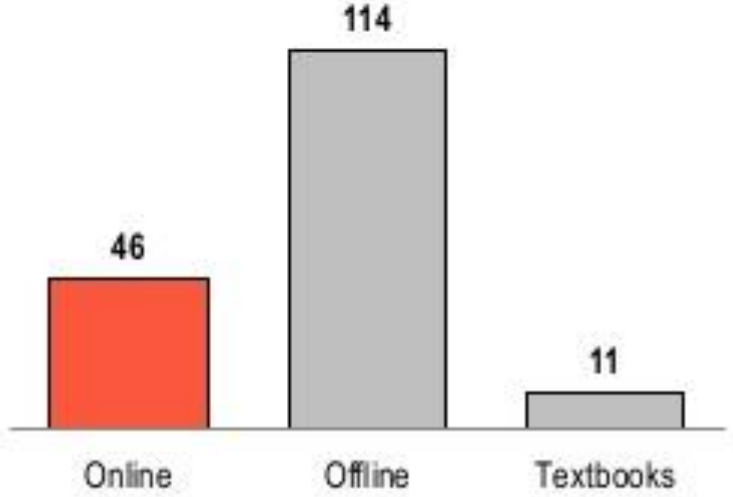
2013 Taobao Classmates[1] GMV Share

Total GMV: 171 Million USD



Average GMV per User

Unit: USD



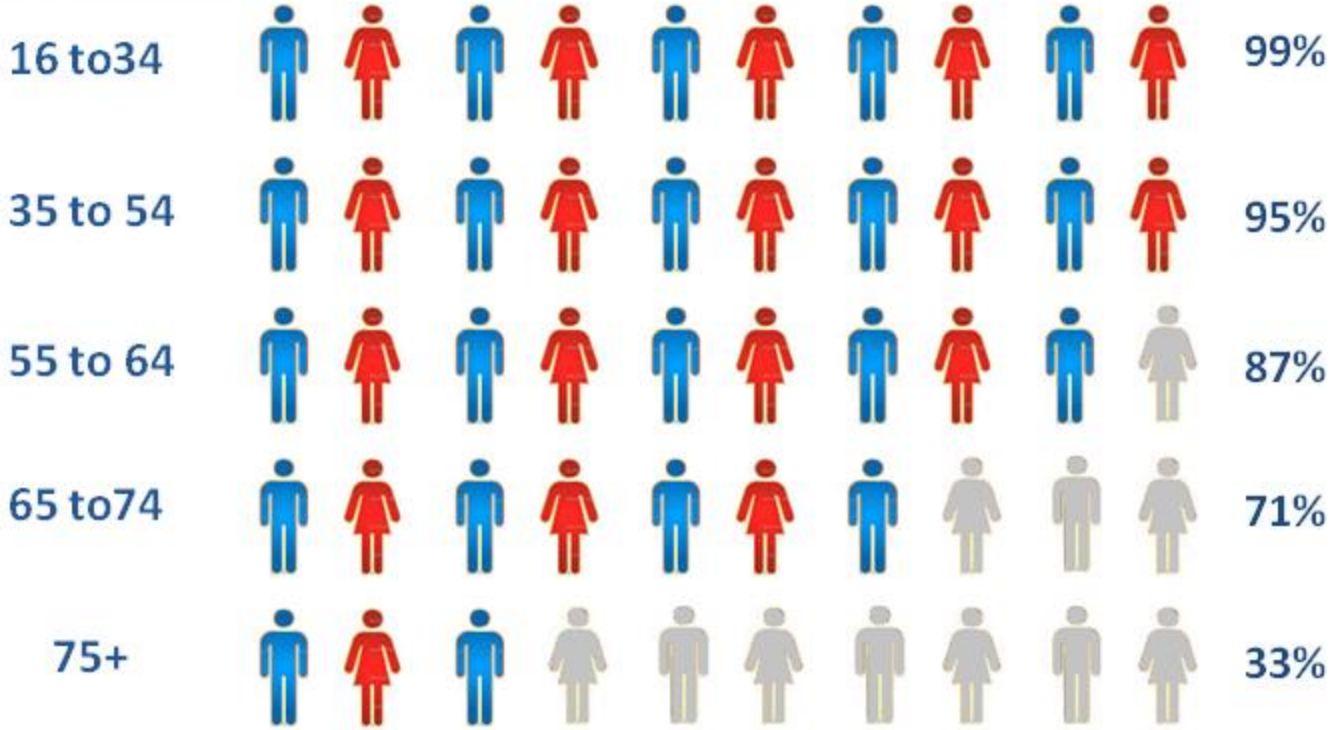
1) http://xue.taobao.com/ is marketplace for corporate or individual educators to sell all kinds of resources, including online, offline and textbooks

Source: Taobao

Recent internet users by age group, quarter 1 (Jan to Mar) 2015

Almost 9 in every 10 adults in the UK have used the internet in the last three months (86%)

Almost all adults aged 16 – 54 years have used the internet in the last three months …



… but just 3 in every 10 adults aged 75+ have used the internet in the last 3 months.


It's a beautiful day. I really want you to go outside and play.
Chattanooga Times Free Press
Bennett


"No, you weren't downloaded.
Your were born."

RATIONALE AND BACKGROUND

YOUNG POPULATION
An opportunity?
A risk?

AUGMENTED REALITY IN EDUCATION

THE FUTURE OF LEARNING IS HERE

RATIONALE AND BACKGROUND

How they learn,
Where they learn,
When they learn
What they should learn
Have changed a lot.

SO

How we teach
Where we teach
When we teach
What we teach
Should be changed.

Each epoch understood, raised and educated teachers. Today old and new conceptions of teacher education intersect and mutually oppose, and it is therefore necessary to recognize the challenges of teacher education and thereby notice the structure of a modern teacher which is in the function of the entire human creation expressed in the epochal personality and structure of the educational process.

Today there are two opposing streams of educators reformers, the first propagate education as a goal, motivation, expertise and specific separation of the sexes and non-confrontational integration. While other current educators reformers propagate global, full-neutral tests of knowledge, competitive spirit, competition and efficiency.

PIAGET, 1972

According to Piaget, neither the study of the human intellect, nor the study of the physical world can respond to the problems of epistemology. Only the study of intellect in its relation to the world can do this, because the sources of knowledge are neither in the human nature nor in the physical world; their root is in the activities (actions) that a child performs on objects, in his/her individual practical actions on physical objects. The learning process is not a simple accumulation of knowledge, but "an active reconstruction of thoughts." Piaget expresses this strongly: "To understand simply means to discover or reconstruct by rediscovering" (Piaget, 1972).

The socio-cultural approach is based on the ideas of the socio-cultural school whose main representatives are Vygotsky, Leontiev, and Luria. According to them, learning and thinking are more a part of the social context than of the individual mind. Through discussions with others, exchanging ideas, arguing different positions, compa

ring and checking a new level of conceptual understanding is learnt. Knowledge is not a map or a mirror of reality but a product of engineering which is largely determined by the social environment, culture and history of the community in which it arises. Acquiring knowledge is a historical process of interaction between man and reality. A historical perception is not possible, because our view of the world depends on the culture and society in which we live, and on the previous knowledge that we have acquired in the course of our personal history. This applies to all aspects of cognition, perception, learning, thinking, and remembering.

VYGOTSKY

FROM KNOW-HOW, TO DO-HOW

"If know-how is knowing what to do to make change happen, do-how is what needs to be done. There is a big difference"

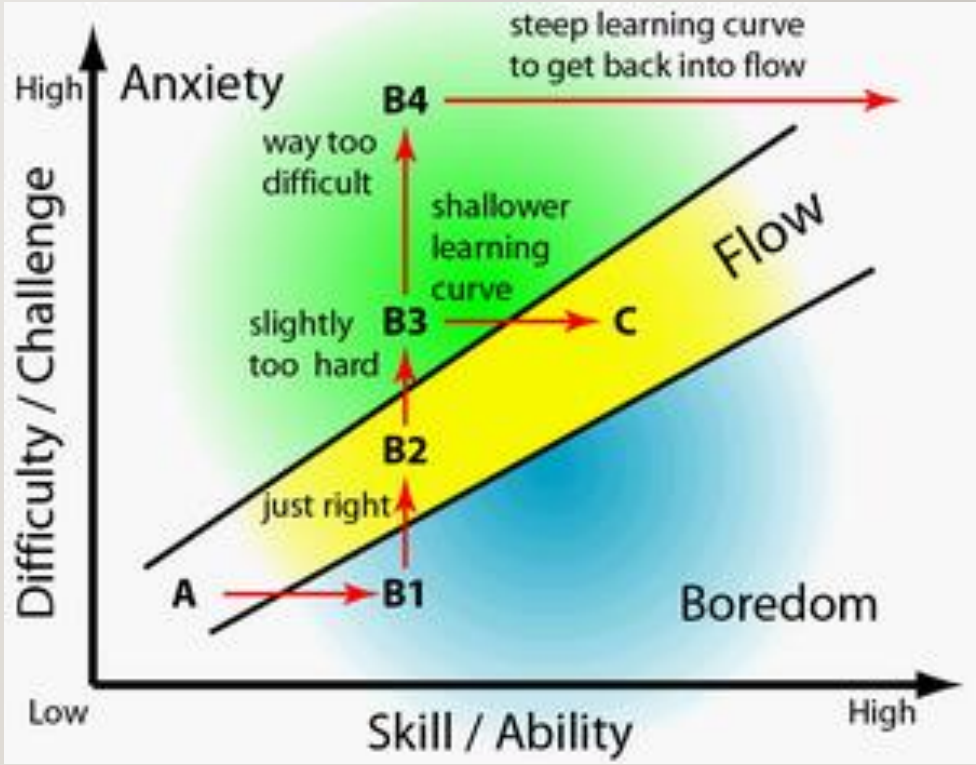
Do-how is turning knowledge into reality.

Sharing experiences is very important but, one size does not fit all. Each country should have its own specific implementation and transformation notion shaped by their specific characteristics, culture, experience and tacid knowledge.

Mihaly Csikszentmihalyi (Hungarian: 1934) is a Hungarian psychologist. **He created the psychological concept of flow, a highly focused mental state**. Csikszentmihalyi is noted for his work in the study of happiness and creativity, but is best known as the architect of the notion of **flow** and for his years of research and writing on the topic. Flow (FLOW) - experience

In his studies he starts from human activity that it is undisputed that are performed under the influence of high motivation. Such activities are chess, rock climbing, music composing, surgery and so on. In these activities he sees the greatest similarity between play and work. People during these activities feel special "ecstatic" (similar to ecstasy) excitement or occupation. This feeling Mihaly Csikszentmihalyi calls Flow - experience. It is a strong concentration of attention, in excluding other stimuli than those relating to the activity.

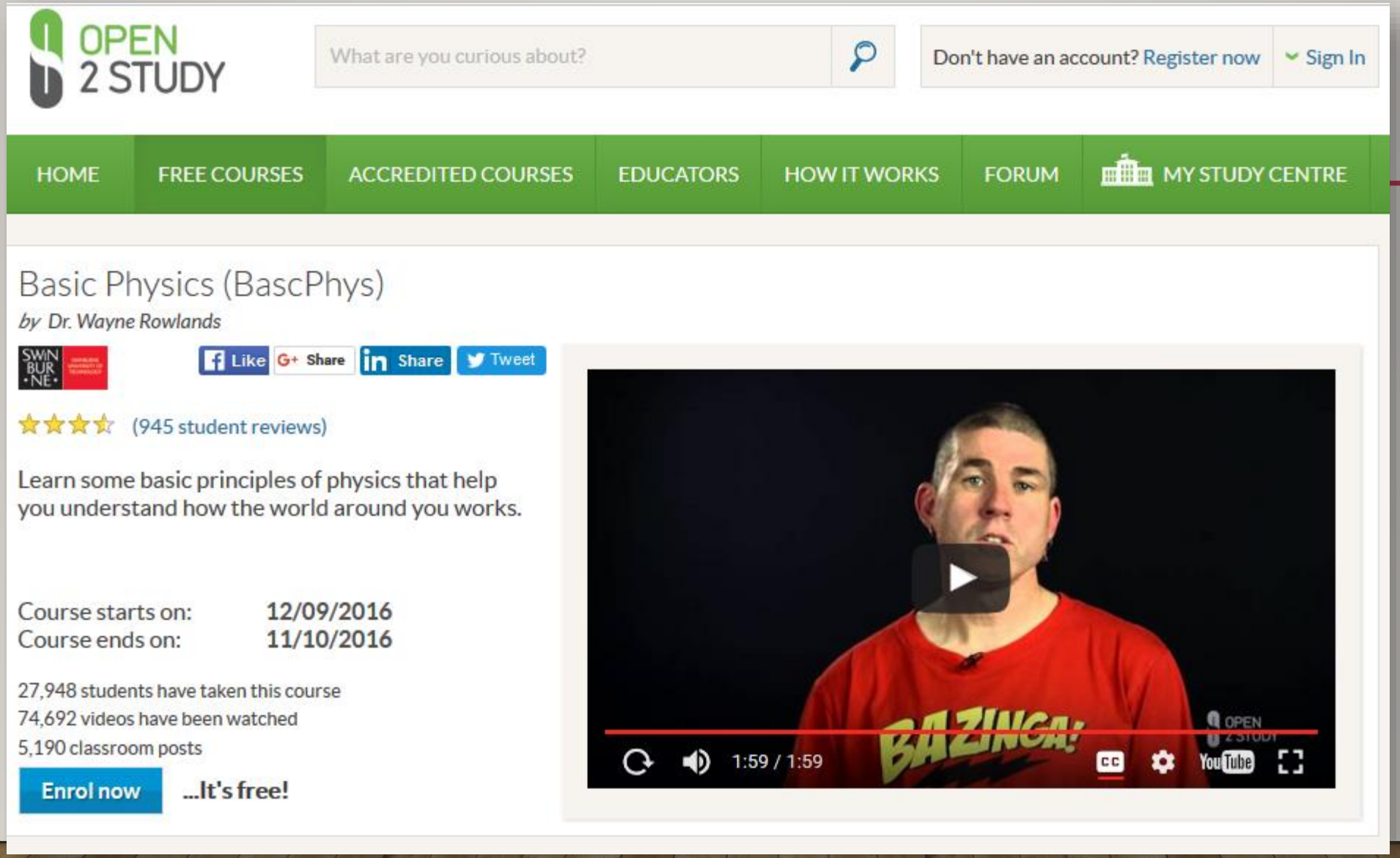
personal issues overpower, care and anxiety disappear, and instead appears Flow - experience, which actually removes the boundary between self and environment. **For example: alpinism is a good illustration.** Although experienced **mountaineer exertion**, **cold, thin air and related discomfort, mountaineer is highly motivated. What motivates mountaineer?** The very big experience that flows through the body while the man in action.



BALANCE V1RTUAL AND REAL L1FE

Integrate outdoor activities with IT lessons!

EXAMPLE OPEN2STUDY



https://www.open2study.com/courses/basic-physics

EXAMPLE OPEN2STUDY

https://www.open2study.com/courses/basic-physics

EXAMPLE OPEN2STUDY

What's it about?

In our highly technological society, it is useful to have a basic understanding of the how and why the world works the way it does: that's what physics is all about. It also involves a touch of history, a bit of mathematics, and many everyday examples.
Before starting this course, you are recommended to have the following equivalent mathematical knowledge:

- Calculus
- Elementary statistics
- Trigonometry
- Sine and Cosine graphs
- Algebra

Read more

What's involved?

MODULE 1	MOTION	9 videos, 8 quizzes, 1 assessment	12 Sep - 18 Sep
MODULE 2	WAVES & SOUND	10 videos, 9 quizzes, 1 assessment	19 Sep - 25 Sep
MODULE 3	ELECTRICITY & MAGNETISM	9 videos, 8 quizzes, 1 assessment	26 Sep - 2 Oct
MODULE 4	LIGHT & OPTICS	9 videos, 8 quizzes, 1 assessment	3 Oct - 9 Oct

Who's the instructor?
Dr. Wayne Rowlands

Wayne is a Senior Lecturer at Swinburne University of Technology, where he has taught for more than 10 years. Apart from his passion for delivering undergraduate lectures, he has been active in science communication for many years, ranging from visiting High School physics classes to presenting a regular science radio show.

Read more

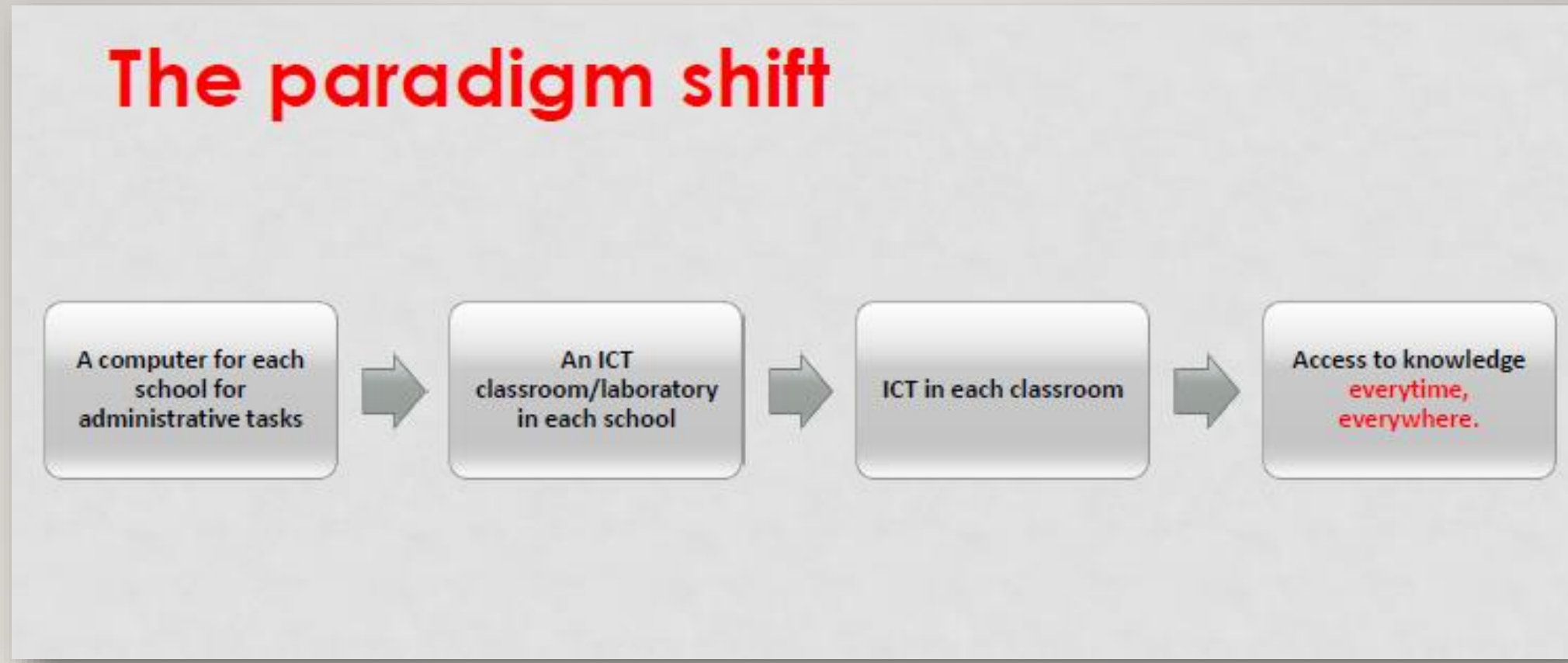
303 students are taking this course

EXAMPLE OPEN2STUDY

What will I learn?

- The important quantities that describe motion: position, velocity, acceleration
- How to analyse the causes of motion using Newton's Laws of Motion
- What the relationship is between force and energy
- How to understand the properties of waves, including a mathematical description
- How to understand sound and light in terms of their wave nature
- How waves overlap and interfere, and how this applies to some musical instruments
- Why a siren changes pitch as it moves past you
- The general properties of electric and magnetic fields
- How to understand the motion of charge as an electric current, and its application in simple circuits
- How to determine the forces on charges and currents from magnetic fields
- Key steps in the development of our understanding of light
- How to use the basic principles of reflection and refraction to understand the behaviour of lenses and mirrors
- An insight into the unusual and unexpected properties of light that are simultaneously wave-like and particle-like

RATIONALE AND BACKGROUND



OPEN EDUCATIONAL RESOURCES (OER)

Open Educational Resources are defined as "technology-enabled, open provision of educational resources for consultation, use and adaptation by a community of users for non-commercial purposes". They are typically made freely available over the Web or the Internet. Their principal use is by teachers and educational institutions support course development, but they can also be used directly by students. Open Educational Resources include learning objects such as lecture material, references and readings, simulations, experiments and demonstrations, as well as syllabi, curricula and teachers' guides

(**UNESCO 2002**).

What are OERs?

Open Educational Resources (OER) are teaching and learning materials that are freely available online for everyone to use, whether you are an instructor, student or self-learner. Examples of OER include: full courses, course modules, syllabi, lectures, homework assignments, quizzes, lab and classroom activities, pedagogical materials, games, simulations, and many more resources contained in digital media collections from around the world. **JISC OER Infokit**

APPLICATION OF INTEGRATING E-LEARNING IN TEACHING IS SERIOUSLY COMPLICATED PROCESS ?

Why?

- Investment in E-Learning
- Investing in teachers
- Quality learning materials
- Support teachers
  pedagogical, psychological, technical
- didactic concept

Useful resources

Finding OERs

Evaluating OERs

USE FLEXIBILITY INTO CLASSROOM

- Integrating OER in TEACHING + LEARNING
- Learner Perspective
- Evaluation
- Accessibility
- Perspectives

Integrating OER in TEACHING + LEARNING

There are eight steps to OER integration.

1. Assess the validity and reliability of the OER.
2. Determine placement within the curriculum, if not already done. Note that some OER integration may be abandoned at this point if the OER relates poorly to the rest of the curriculum.
3. Check for license compatibility[1].
4. Eliminate extraneous content within the OER (assuming the license permits derivatives).
5. Identify areas of localization[2].
6. Remix with other educational materials, if applicable[3].
7. Determine the logistics of using the OER within the lesson. For example, you may need to print handouts for learners. In other cases special software may be needed.
8. Devise a method of evaluation or whether the currently planned evaluation needs adjustment[4].

HOW DO I ENCOURAGE STUDENTS TO ENGAGE WITH OER?

Lessons can be centered around the modification, and perhaps improvement, of an OER. For example, you might have students edit a Wikipedia article based on information they learn during lectures and research. Another example might include students taking pictures from the Internet Archive to create a collage around a theme (e.g. Civil Rights movement, World War II). The exact way in which you have students compose and adapt OER will vary with the subject material and what will best promote learning for your students.

REFLECTION

- Is the activity relevant to the resources being produced?
- Will students see this as a meaningful activity?
- Is the activity grade-appropriate?
- Are the tasks equally divided among the class or group?
- Will students have enough information to meet the objectives?
- What are the technical requirements (e.g. both hardware and software for the localization/remix)?
- Is there sufficient time for the adaptation?

OPTIMISING AFFORDANCES OF ONLINE LEARNING

The five stages are access and **motivation**, **online socialisation**, **information exchange**, **knowledge construction** and **development**. For example, in stage 1, tutors or e-moderators would welcome students and provide words of encouragement.

Setting ground rules about social engagement and netiquette would be taken care of in Stage 2. At the final stage, the e-moderator focuses on encouraging reflection, supporting and responding only when required. Refer to the following for further clarifications on the five stages of this model.

STAGE 1: ACCESS AND MOTIVATION

Participants need information and technical support to get started online, and strong motivation and encouragement to put in the necessary time and effort. Mastering the system can be fairly daunting to start with. Most learners will need some form of individual technical help at this stage as well as general encouragement to overcome their fear of the technology and any frustration they experience when 'the system' doesn't respond as expected. Access to technical support needs to be made available, for example through a telephone helpline, particularly when the participant is struggling to get online on his or her own.

STAGE 2: ONLINE SOCIALIZATION

Some learners are initially reluctant to participate in written discussion forums, and they should be encouraged to read and enjoy others' contributions for a short while before taking the plunge and posting their own messages. When participants feel at ease with the online culture and reasonably comfortable with the technology, they can contribute more confidently. The e-moderator has an important role to play in helping participants to develop a sense of community.

STAGE 3: INFORMATION EXCHANGE

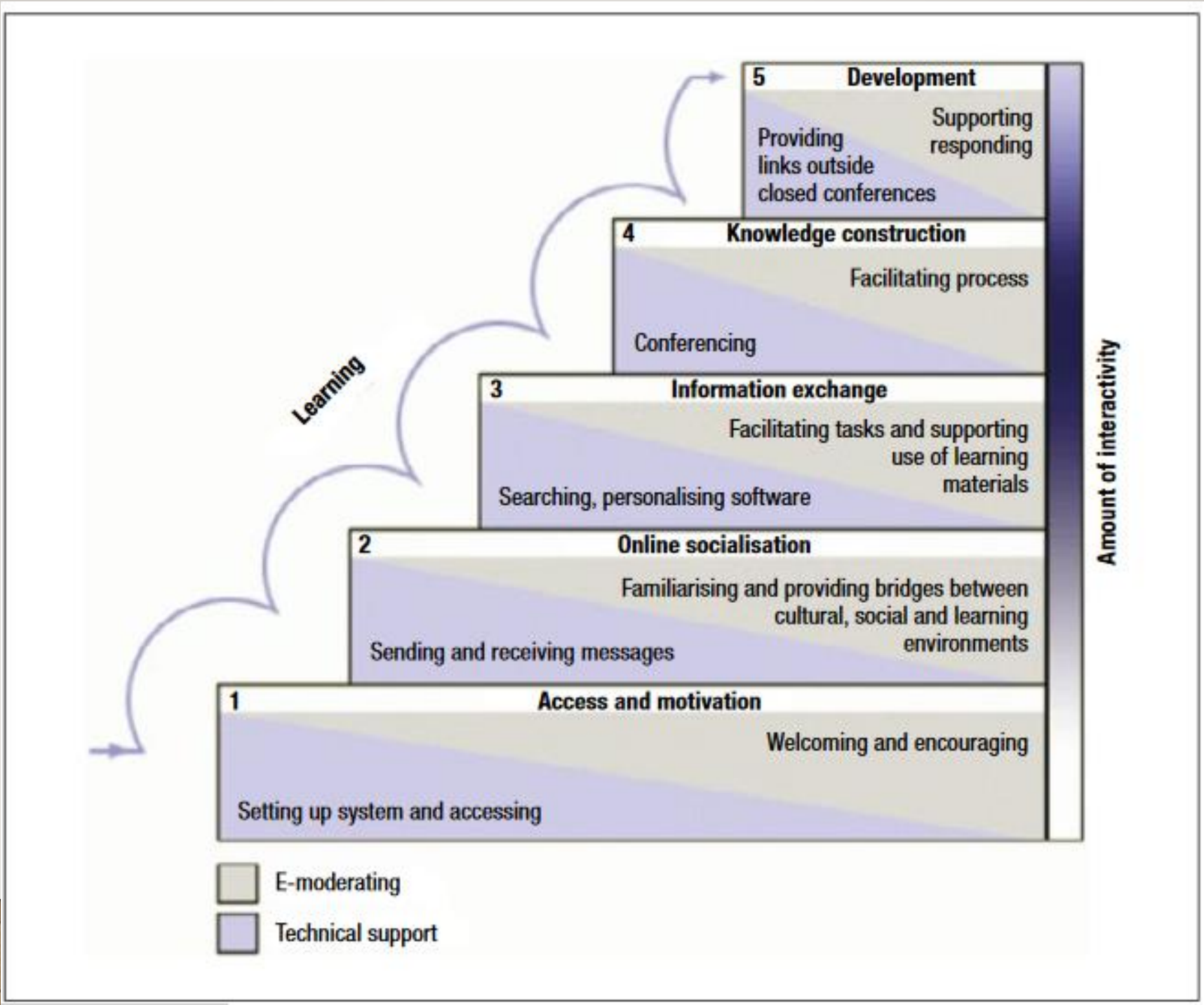
In this stage, information starts to flow and participants generally become excited about the immediate access and fast information exchange. They also express concern about the volume of information suddenly becoming available and the risk of potential information overload. E-tutors can help participants to develop good time management and organisational skills. Two kinds of interactions are required from participants: interaction with the course content and interaction with people.

STAGE 4: KNOWLEDGE CONSTRUCTION

At stage four, participants start to become online authors
rather than transmitters of information. Knowledge construction occurs when participants explore issues, take positions, discuss their positions in an argumentative format and reflect on and re-evaluate their positions.

STAGE 5: DEVELOPMENT

Participants begin to explore their own thinking and knowledge building processes. It is common at this stage for participants to reflect on and discuss how they are networking and to evaluate the technology and its impact on their learning processes. These higher level skills require the ability to reflect on, articulate and evaluate one's own thinking. Learners become responsible for their own learning and need little support beyond that already available.


5 Development
Supporting responding
Providing links outside closed conferences
4 Knowledge construction
Facilitating process
Conferencing
3 Information exchange
Facilitating tasks and supporting use of learning materials
Searching, personalising software
2 Online socialisation
Familiarising and providing bridges between cultural, social and learning environments
Sending and receiving messages
1 Access and motivation
Welcoming and encouraging
Setting up system and accessing
Learning
Amount of interactivity
E-moderating
Technical support

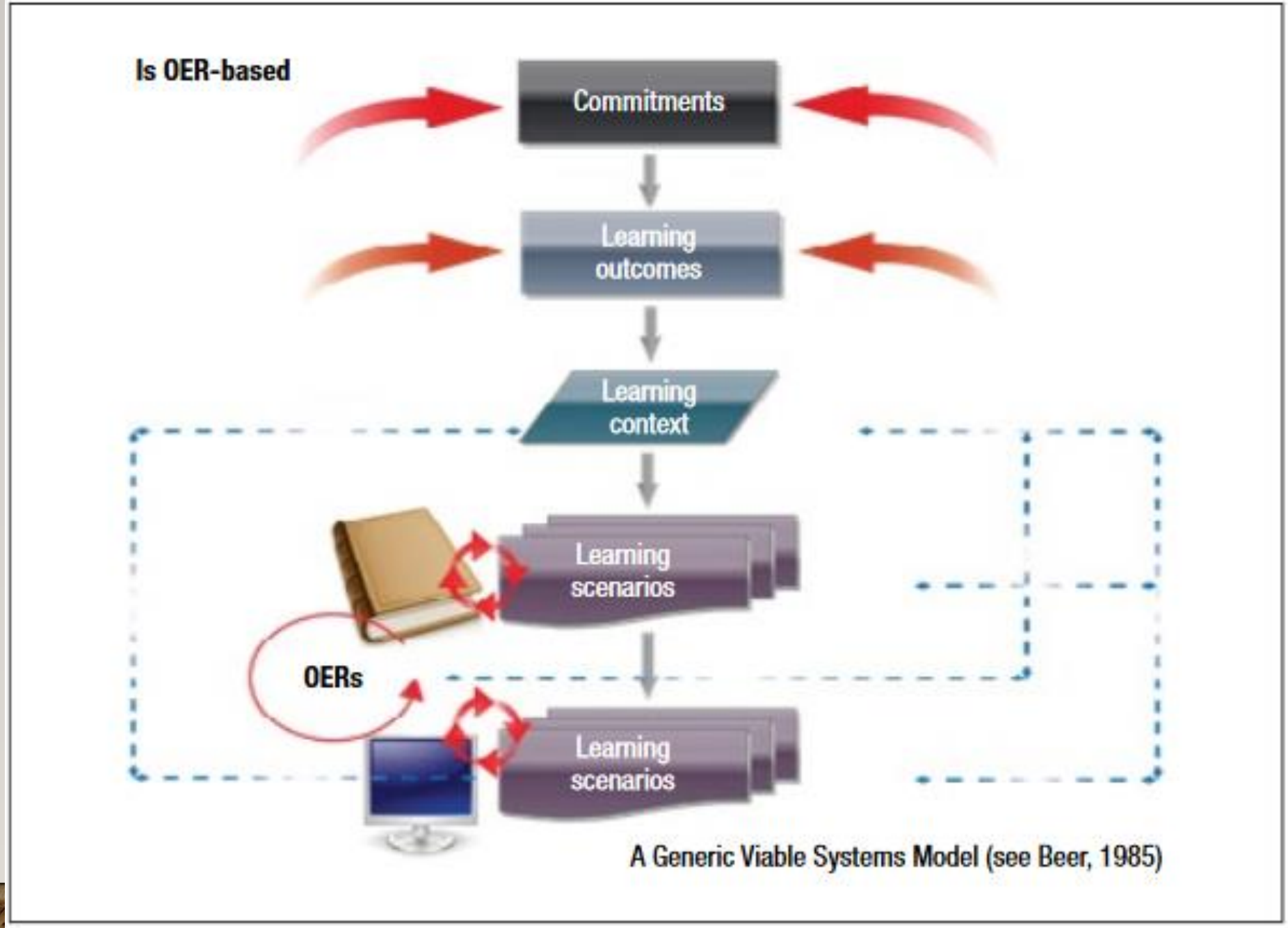


Figure 5.3 Systems view of OER-based eLearning

Work in Groups 15 min

Useful resources

JISC OER Toolkit: https://openeducationalresources.pbworks.com/w/page/24836860/What%20are%20Open%20Educational%20Resources

Open Learn (Over 600 free courses from the Open University): http://openlearn.open.ac.uk/

MIT Open Courseware initiative (over 2000 free courses, lectures notes and materials) : http://ocw.mit.edu/index.htm

LSE DELILA project: http://opendelila.wordpress.com

Kings OER Project website: http://keats.kcl.ac.uk/course/category.php?id=11

UNESCO OER http://www.unesco.org/new/en/communication-and-information/access-to-knowledge/open-educational-resources/

Finding OERs

Jorum (UK repository for teaching and learning materials): http://jorum.ac.uk

LSE Learning Resources Online: http:l//earningresources.lse.ac.uk/

DiscoverEd (find materials licensed under Creative Commons): http://wiki.creativecommons.org/DiscoverEd

Xpert (tool for finding OERs from Nottingham University): http://xpert.nottingham.ac.uk/

OER Commons (find resources for all educational levels) : http://www.oercommons.org/

A longer list of resources is available at: https://openeducationalresources.pbworks.com/w/page/27045418/Finding%20OERs

Evaluating OERs

DELILA Evaluation Criteria for Digital and Information Literacy OERs: http://delilaopen.files.wordpress.com/2010/10/delila_criteria-for-evaluating-oersv2.doc

JISC Evaluation and Synthesis Wiki: https://oersynth.pbworks.com/w/page/29595671/OER-Synthesis-and-Evaluation-Project