HOW DOES EDUCATION MEET THE NEED FOR INNOVATIVE LEARNING ENVIRONMENTS?

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What are innovative learning environments?
The Pedagogic Core

Source: ILE project, OECD, 2013
The Design/Redesign Leadership Circle

Source: ILE project, OECD, 2013
The Partnership Circle

Source: ILE project, OECD, 2013
Four characteristics of contemporary learning environments

The three circles characterizing learning environments offer four ways for defining what a contemporary learning environment should be aiming to do:

- Innovating the ‘pedagogical core’
- Engaging the ‘Design/Redesign Leadership Circle’
- Widening connections and capacity through partnership
- Promoting 21st century effectiveness

ICT and digital resources will enter in numerous ways, at different levels.
Schools are an increasingly digitalised environment, and textbooks remain a central resource for instruction.
The quality of schools’ educational resources improved in most countries over the last decade

Change between 2003 and 2012 in the index of quality of schools' educational resources (e.g. textbooks, computers, laboratory materials)

Source: PISA 2012
New technologies and high-quality instructional resources are increasingly present in schools

School principals reports on the adequacy of resources to support student learning in their schools

Source: PISA 2012
Schools and HEIs will rely more and more on VLEs, but uptake levels vary substantially across countries.

EU schools; secondary level (Grade 8), 2012
% of students in schools with a virtual learning environment

The total VLE/LMS market (Schools + HE + Corporate training) is expected to triple its size globally by 2018.

Teachers use ICT mainly to prepare teaching activities, but less so to create or evaluate digital resources.

Source: European Schoolnet (2013), Survey of Schools: ICT in Education.
At the EU level, less than a quarter of students make frequent use of digital resources during lessons.

Source: European Schoolnet (2013), Survey of Schools: ICT in Education.
Growing adoption of textbooks as the basis for instruction in both primary and secondary education

Percentage of students whose teachers use textbooks as a basis for 8th grade instruction in mathematics and science and change over time (2003-2011)

How can digital learning enhance the quality and relevance of education?

A learning-centred approach, within a learning environment

Some affordances of technology in education

- Expand access to content
- Support new pedagogies with learners as active participants
- Collaboration for knowledge creation and learning
- Faster and more granular feedback

Some ways forward

- Design resources flexibly for adaptation to new environments
- Improve ability to search for high quality materials (e.g. tagging)
- Creating communities of practices with a clear goal to evaluate and enhance materials (e.g. peer-review and user feedback)
OER and MOOCs present challenges but also opportunities for designing innovative learning environments
Overview of OER and MOOCs

Open Educational Resources (OER)
- Digital learning resources offered online (although sometimes in print) freely and openly to teachers, educators, students and independent learners in order to be used, shared, combined, adapted, and expanded in teaching, learning and research. They include learning content, software tools to develop, use and distribute, as well as implementation resources such as open licences.

Massive Open Online Courses (MOOCs)
- Term coined in 2008, designates large-scale online courses usually free of charge for students, but no agreed definition
- Many variations exist (e.g., cMOOCs vs. xMOOCs)

Some similarities
- Online delivery
- Lower cost than traditional options

But more differences
- Openness: Reuse / Access
- Form: Granular / Full-course
- Audience: Teachers / Students
- Business models
‘Openness’ means free to access and free to change

Openness involves both legal and technical aspects
  ➢ Licensing plus the possibility of re-working the material

The 4 ‘R’s of OER – 4 dimensions of re-use
  ➢ Reuse – to use the material exactly as it was found (free vs. proprietary)
  ➢ Revise – to alter or transform the material
  ➢ Re-mix – to combine the (verbatim or altered) material with other material
  ➢ Re-distribute – to share the verbatim, reworked or re-mixed material

OER can be used for various teaching and learning purposes
  ➢ Substitution – of another materials with the same functionalities
  ➢ Augmentation – improvement of previous materials’ learning efficacy
  ➢ Modification – redesign of the learning activity
  ➢ Redefinition – of the pedagogical approach
Potential benefits of OER relate to quality teaching and learning, costs containment, and equity

**Fostering the use of new forms of learning for the 21st century**
- Involving learners in the development of their own learning materials and the support of other learners

**Fostering teachers’ professional development and engagement**
- Allowing teachers to revise and tailor-make their educational resources to provide a better fit to the environment in which they are working

**Continually improving the quality of educational resources**
- Keeping up-to-date with new developments and new learning theories

**Containing public and private costs of education**
- Reducing costs through sharing and updating resources more cost-effectively

**Widening access and distribution of high quality educational resources**
- Assuring a more even distribution of high quality resources produced within institutional boundaries, and enabling access beyond a set place and time

Source: OECD (2015), OER a Catalyst for Innovation
Country views of OER: Key benefits and risks

Benefits
- Systemic transformative capacity
- Innovative potential
- Cost-efficiency
- Increased efficiency and quality
- Open and flexible learning opportunities

Risks
- Sustainability
- Copyright issues and publishers
- Quality
- Connectivity
- Language and cultural diversity

Source: OECD (2012), results from Country Questionnaire (n=28 countries)
Limited data on use and impact of OERs and MOOCs, but some conclusions begin to emerge

OER and MOOCs can extend access to high-quality learning resources

- Once developed, materials in a digital format can be distributed at negligible costs
- May reach population segments not participating in education before

There is great potential to redefine learning interactions but pedagogical integration remains a major challenge

- OER are still largely implemented to augment rather than redefine existing settings
- Promising examples of reflective integration and support for collaborative usage
- Improved mechanisms for assessing quality are being developed

Sustainable business models have yet to consolidate

- Initial production costs remain high and cost-efficiencies will depend on extending the distribution and the life cycle of OER

Source: OECD (2015), OER a Catalyst for Innovation
Conclusions
The value of education remains high but there is pressure to reduce costs and improve quality

Increasing digitalisation can help address both challenges

- Cost-effective reproduction and distribution of high-quality materials
- Leverage the potential of hybrid learning designs and collaboration

Pedagogical integration of digital resources remains critical

- Enhanced demand for modular and adaptable content
- Changing role of teachers – more towards ‘curators’ of content
- Co-creation will require new solutions to ensure quality and protect IP

New business models yet to emerge

- High development costs and need to extend the life cycle of content
- Opportunities in the production and distribution of OER and MOOCs
Thank you for your attention

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