Innovative Learning Environments - a new perspective of innovation in education

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Abstract. This article brings into question the current concerns internationally in the area of learning theories and practices. Based on new trends expressed through the policies and projects of The Organisation for Economic Co-operation and Development (OECD), we intend to approach the theoretical foundations of the concept of Innovative Learning Environments (ILE), and this concept applied into practice - the "7 plus 3" framework – that is based on learning research and the analysis of the innovative cases submitted through the OECD / ILE project. In this framework we presented the OECD Innovation Strategy and particularities of innovation in education and brought arguments to support this idea.

Keywords: innovation, learning, Innovative Learning Environments, education, school

1. Innovation in education

Innovation in education is a permanent topic, continuously, but in equal measure is actual, contemporary and modern in perspective of the new challenges existing in society today.

In this paper, we propose to answer the question *What are the changes that it brings Innovative Learning Environments (ILE), as the newest form of innovation in education, at the macro, meso and micro - level*. To provide a more exhaustive response, we will proceed to clarify the assertion of innovation in education, something that will lead to an accurate understanding, general and particular, of the concept of innovation.

The concept of *innovation in education* integrates a complex and holistic approach; oriented to solutions to remedy certain specific aspects of educational reality, but also to: new, progress, evolution. In this context, we can talk about two facets of innovation in education: remedial innovation and emerging innovation. Remedial innovation focuses on solving specific problems of the educational system and the educational system with aim of improving specific aspects of educational, social and economic reality. The concerns specific for this remedial approach of innovation can be materialized in reducing targets school failure, increasing the motivation of students, inequality of opportunity in education, increase access to education of disadvantaged groups, improving school results etc. Emerging innovation focuses on a proactive approach at the macro level, based on growth, development, progress. The change involves a new vision on the educational system, in relation to growth and economic and social development, changes of educational culture, practices and process.

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To surprise the significance of this concept for more accurate approach to the issue, it is necessary to refer to the current terminology, agreed in scientific environment and in the vision of practitioners, teachers and experts.
If in areas such as science and technology, innovation is created in environments different from those to be applied and applies precise procedures for transposition into practice through technical textbooks and manuals; in education is totally different approach.

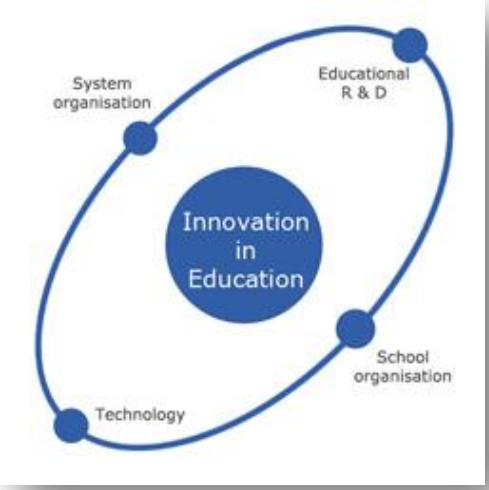
"In schools, innovation occurs in the same environment that has to simultaneously provide services and maintain the smooth running of everyday practices" (Blackmore, J., 2012, p.10).

The Oslo Manual defines innovation as *"the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations."* (OEDC, 2005, p. 46).

Teachers, designers, administrators & students share their definitions and favourite examples of innovation: *"Innovation is about reframing challenges as opportunities"* (Charles Shryock IV, 2015); "*is connecting broadly while rethinking creatively to live anew" (Dominic Randolph, 2015);"Innovation isn't just change, it's change in a positive direction" (*Tom Sayer, 2015*);"is building a totally new solution to a problem" (*Gavin Cosgrave, 2015); "*Innovation is when a change or update is made to something that already exists but it dramatically improves its efficiency, productivity, or outcome… it's an improvement to a system, product, service, curriculum, etc., an innovation, is not just a change but a "game changer". I often link invention and innovation closely, in that an invention is a new creation of something whereas an innovation is an inventive improvement of something"* (Brett Brownell, 2015*);"innovation occurs when you solve a problem in a new way, but impactful innovation occurs when you solve the problem in the right way"* (Elysa Fenenbock, 2015); "*It's recognizing a need and creating a solution for it. Addresses needs that are entrenched and multi-faceted, and require an iterative approach to the development of solutions. [It's] not just about being NEW and DIFFERENT—it's about tackling issues that are complex and not so well understood*." (Emma Scripps, 2015) (*The Teachers Guild)*

To respond to the challenges and provide answers to reflections on the type of education they advertise innovative companies, such innovation can be stimulated and measured in Education, OECD released in 2010 the *Innovation Strategy*. According with it, the essence of innovation is human capital. The completion of formal education by developing competent people enabling them to innovate is absolutely necessary. "Curricula and pedagogies need to be adapted to equip students with the capacity to learn and apply new skills throughout their lives" (OECD, 2010)

Innovation in education is influenced by the role of technology, networking, educational research and development (R & D) and organisational culture (Figure 1) and requires research and development of new products, processes and methods.



Source:www.oecd.org/edu/ceri

Figure 1: Innovation in Education

In this perspective, OECD Innovation Strategy 2015 focuses on strengthening innovation performance in a more action – oriented, inclusive, personalised environment and comprehensive approach. The 2015 Strategy "*sets out 5 priorities for policy makers: strengthen investment in innovation and foster business dynamism; invest in and shape an efficient system of knowledge creation and diffusion*; *seize the benefits of the digital economy*; *foster talent and skills and optimize their use*; *improve the governance and implementation of policies for innovation."* (OECD, 2015).

2. **Innovative Learning Environments**

In the current context, in which the trend of the 21st century is that countries to become transformed from industrial, knowledge-based enterprises, to knowledge economies, considering that are still schools that prepare students for an industrial economy, and this approach is outdated. The implicit "*mind-as-container"* metaphor does not reflect the productive, creative side of working with knowledge that underlie innovative activity. (Dumont, Istance, 2010)

Therefore, new educational realities require creation of new models of teaching - learning – evaluation to meet the requirements of contemporary global development. In this context, the emphasis is on creating innovative learning environments which to exceed the old approaches.

For a better exposure of this reality we realized the two figures used below which shows the comparative analysis of those two approaches in learning: classical (Fig. 2) and new (Fig. 3).

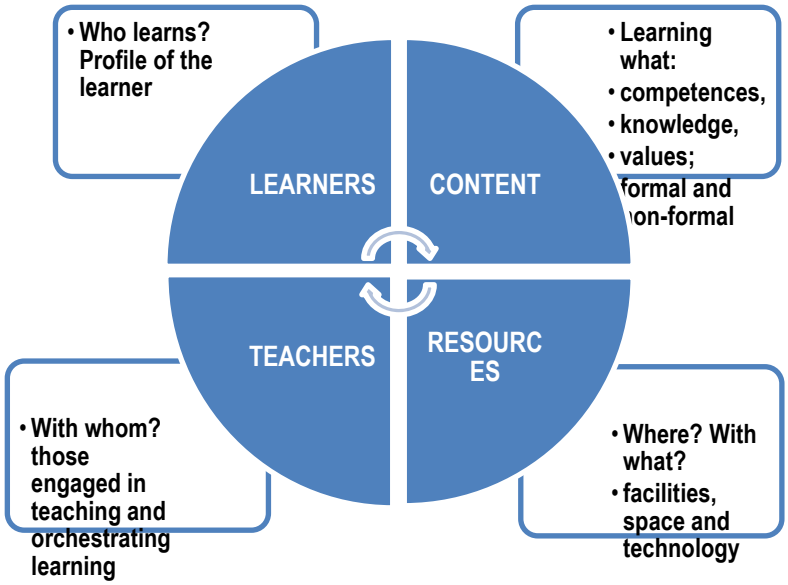


Figure 2: 'Micro' environment level (adapted after Istance, 2012)

According with D. Istance (2011, p. 7, 8) "learning environments should be: **learner-centred:** highly focused on learning but not as an alternative to the key role for teachers; **structured and well-designed**: needs careful design and high professionalism alongside inquiry & autonomous learning; **profoundly personalised:** acutely sensitive to individual and group differences and offering tailored feedback; **inclusive:** such sensitivity to individual and group differences means they are fundamentally inclusive; **social**: learning is effective in group settings, when learners collaborate, and when there is a connection to community".

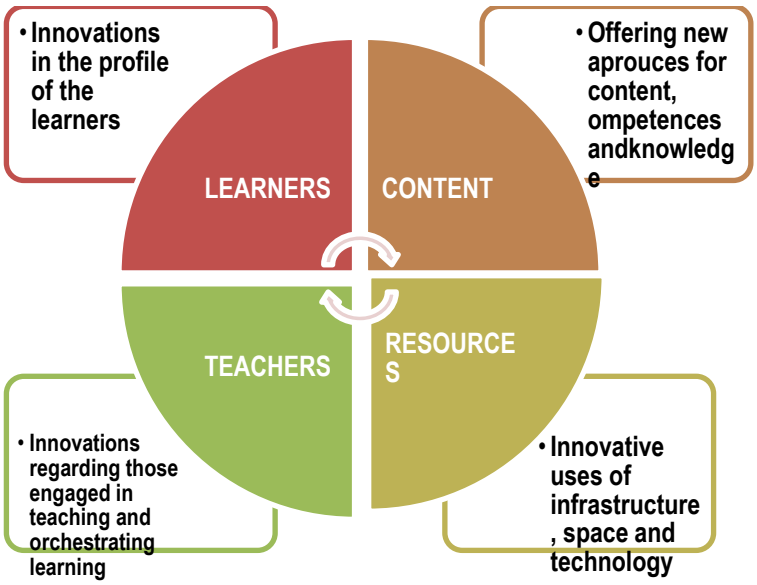


Figure 3: Innovative 'micro' environment level (adapted after Istance, 2012)

The new approach in learning (Fig. no. 3) describes the way is realised rethinkin g the innovation of four elements of ”pedagogical core”: learners, teachers, content and resources. Through using the Internet in virtual class or parents become learners; **teachers** and different expert, adults or peers, teach alongside with **learners**. Approaches to innovating **content** include the new social learning competences, application of the interdisciplinary approaches and sustainable development education. Resources refers to use of new learning spaces, such as digital resources.

Innovative Learning Environments require a contemporary learning environment in which the emphasis is on innovation education system through innovation elements and their dynamics. School organization is required to become a formative organization based on leadership strategies of teaching, learning and assessment. Partnerships are very important for increasing the share capital for growth and professional dynamics and replacing old with new approaches. ILE involves changes at the macro, meso and micro, including new approaches of pedagogical (curriculum and educational outcomes), physical spaces and social reality

We brought up, in a previous section, about 5 priorities of Strategy 2015 and mention the important contribution that it has encouraging talent and skills and optimize its use. Support of skills for innovation can be achieved through following dimensions: lifelong learning policy, developing innovation-friendly organisations, increase of people mobility, international mobility, as a way of innovation in education.

The declared mission of Innovative Learning Environments is to identify the most appropriate ways to transform the school to become an enabling environment for teaching and learning, and foster lifelong learning.
The goals of ILE is to analysing and synthesizing international research findings on learning; to identifying and analysing examples of innovative learning environments from all over the world; to engage with many systems and stakeholders and to identify ways ahead to implement change (Dumont, H., 2015).

For a better understanding of the fundamentals that underlie learning in new innovative approach, we expose the **learning principles in ILE**, as they were presented in *The nature of learning – using research to inspire practice* report. identified to optimise learning but they equally serve as principles to guide wider strategies, reforms and system change.

The “7 plus 3” framework is based on learning research and the analysis of the innovative cases submitted through the OECD / ILE project (OECD, 2015):

1. ”*Learners have to be at the centre of what happens in the classroom* with activities focused on their cognition and growth. They have to actively engage in learning in order to become self-regulated learners who are able to control their emotions and motivations during the study process, set goals, and monitor their own learning process.” (Schwarts, K, 2013) Learning is a central process, that encourage engagement, and be where learners come to understand themselves as learners (‘self-regulation’) (Kools, M., 2014, p.7)

2. ”*Learning environments* is a social practice (Schwarts, K, 2013), learning is social and often collaborative *(*Kools, M., 2014), they are a big part of student’s daily life and, also, social skills are integrated in the assessment strategies (Dumont, 2015)

3. ***"****Motivations and emotions are an integral part of learning*. Students are encouraged to reflect on their own emotions and motivations. (Dumont, 2015).

4. ***"****Learners are different* and innovative learning environments reflect the various experiences and prior knowledge that each student brings to class." (Schwarts, K, 2013). Individual differences between students are not seen as a problem, but as enrichment, therefore heterogeneous learning groups are deliberately created inclusive through integrated of students with disabilities, special needs or behavioural problems. Individualized learning tasks and assignments are developed by teachers and students. "Open learning periods" are an important part of the school day, in which each student works on something different (Dumont, 2015).

5. *Students need to be stretched, but not too much****.*** "Students need to experience both academic success and the challenge of discovery. In a diverse classroom group work can help achieve this as students at different levels and help one another." (Schwarts, K, 2013).

6. Assessments should focus on the learning process, not only on the product of learning. (Dumont, 2015), assessments are important to support learning. In ILE "self-assessments and peer-assessments" are very common and students are assessed on a wide range of outcomes: academic achievement, social skills, meta-cognitive skills, and self-regulation skills. (Dumont, 2015).

7. *Horizontal connectedness make* the learning environment strongly promotes horizontal connectedness across activities and subjects, in-and out-of-school, to the community and the wider world" (Kools, M., 2014, p.7, Dumont, 2015).

The follow-up ILE report "*Innovative Learning Environments*" (2013) put the learning principles at the middle but then added three more dimensions that are about defining and organizing learning environments so that they become powerful and innovative and put the principles into practice. Such powerful learning environment is (Istance, 2015, p. 10):

8. *"Innovate their <pedagogical cores>* – both the core elements (learners, educators, content and learning resources) and the dynamics that connect those elements (pedagogy and formative evaluation, use of time, and the organisation of educators and learners)."

9. "*Become <formative organisations> with strong learning leadership* – with vision, strategies and design, all closely informed by evidence on learning and self-review."

10. *"Open up to partnerships, to create synergies and enhance professional, social and cultural capita*l - with families and communities, higher education, cultural institutions, businesses, and especially other schools and learning environments."

Considering the conceptual and informational exposed, we can conclude by summarizing directions which ILE make consistent adjustments in the three levels of analysis proposed in the beginning of the article: macro, meso and micro lavel. These can be considered **strengths** of ILE. in this perspective, Innovative Learning Environments change framework in the next four-way: "(1) Designing, sustaining and building capacity in individual learning environments (*micro learning*); (2) Aligning learning environments with educational organisations and their

institutional structures (*micro organisations*); (3) Environments connected to others in diverse networks and professional communities focused on learning - critical for sustainability and for "going to scale" (*meso level*); (4) Policy as building capacity and creating conducive climates or incentives for micro and meso change (*macro level*)" (Istance , 2011).

3. Closing remark - the critics, advantages and the new directions of ILE

The heterogeneity of the system 25 educational systems where ILE was implemented has resulted in some **shortcomings or weaknesses** of ILE. In New Zealand, some experts, such as Blackmore, J. (2012) appreciated that "the ILE approach to learning is highly individualized and more oriented towards social efficiency than by a robust curriculum approach." Blackmore, J. (2012) appreciated that another weakness would be to push "the students to digital providers, that could signal a de-skilling of teachers and (along with open plan class rooms) an emphasis on cost-efficiencies over quality and effectiveness".

Although these criticisms have been made, the case studies in ILE outlined the **main advantages of innovative learning environments** bring through indicators of positive impact: decrease in school dropout rate and absenteeism, a "value-added" on system achievement assessments, the conventional examination results, learners perceive the school in a highly positive light, they report it is fun to learn there, that the teaching methods are different and unique, the contents are interesting and there are good relations between teachers and learners; increased high school completion rates, increased provincial standardized test scores, school satisfaction surveys and strong community support. (OECD, 2013)

Contemporary learning environments need to be connected to diverse networks and professional communities, learning from others and developing "learning systems".

"In complex eco-systems of learning, there will be a wide range of approaches. Some will be operating within the <pedagogical core> of learning environments, changing learning cultures and capacities, while others will be less direct and more systemic. In contemporary learning systems, <systemic> includes but extends well beyond the institutional school system as it is delineated through formal governance." (OECD, 2013)

In conclusion, we can say with conviction that innovation in education is an challenging area, regardless of the innovation we are talking about, whether it's about innovation in structure and organization of education, whether we relate to innovation level education content.

In the end, we would bring into question the important role that universities play in promoting innovation in education through a greater focus on education policies, university autonomy by adopting a vision and a philosophy us that the entrepreneurial university focusing on innovation and development. This may be the focus of future publications.

References:

Blackmore, J. (2012). *Innovative Learning Environments Research Study. Deakin University*. Accessed at *http://www.learningspaces.edu.au/docs/learningspaces-final-report.pdf in 12.04.2015*

Bocconi, S., Kampylis, P. G. & Punie, Y. (2012). *Innovating Learning: Key Elements for Developing Creative Classrooms in Europe*. European Commission, Joint Research Centre accessed at http://ftp.jrc.es/EURdoc/JRC72278.pdf in 20.02.2015

Dumont, H, Istance, D., Benavides, F. (2010). The Nature of Learning – Using Research to Inspire Practice, OECD, accesed at http://www.keepeek.com/Digital-Asset-Management/oecd/education/the-nature-of-learning_9789264086487-en#page6 in 20.02.2015

Dumont, H. (2015). Innovative Learning Environments for the 21st Century. Accessed at http://www.fiergs.com.br/files/arq_ptg_6_1_9709.pdf in 23.08.2015

English Oxford Dictionary. Accessed at https://en.oxforddictionaries.com/definition/innovation in 05.10.2014

Kools, M. (2014). *Insights from International Work on Innovative Learning Environments*. OECD. Accessed at http://www.eunec.eu/sites/www.eunec.eu/files/event/attachments/marco_kools_oecd.pdf in 15.03.2015

Istance, D. (2011). The OECD/CERI Study of "Innovative Learning Environments". Centre for Educational Research and Innovation (CERI), OECD. Accessed at https://www.uibk.ac.at/ils/tagungen/tagungen/keynote-david-istance.pdf in 23.09.2014

Istance, D. (2012). Translating Learning Research into the Design of Innovative Learning Environments. Accessed at http://www.slideshare.net/OECDEDU/translating-mearning-research-into-the-design-of-innovative-learning-environments in 23.09.2014

Istance, D. (2015). ILE Final Report on Implementation and Change. Accessed at file:///E:/Visible_learning/Draft_Final-ILE-ReportApril2015.pdf in 20.09.2015

McCance, R. (2015). *Innovative Learning Environments: A critique*. In The Journal of Education. Accessed at https://thejournalofeducation.wordpress.com/2015/12/18/innovative-learning-environments-a-critique/ in 21.09.2015

OECD and Eurostat (2005). *Oslo Manual – Guidelines for Collecting and Interpreting Innovation Data,* OECD, Paris.

OECD (2010). *Innovation to strengthen growth and address global and social challenges: Key Findings*. Accessed at https://www.oecd.org/site/innovationstrategy/ in 23.09.2014

OECD (2013), *Innovative Learning Environments*, Educational Research and Innovation, OECD Publishing. Accessed at *http://dx.doi.org/10.1787/9789264203488-en* in 23.09.2014

OECD (2015). Innovation Strategy 2015 an Agenda for Policy Action. Accessed at https://www.oecd.org/sti/OECD-Innovation-Strategy-2015-CMIN2015-7.pdf in 20.09.2015

Schwarts, K. (2013). *7 Essential Principles of Innovative Learning*. Accessed at https://ww2.kqed.org/mindshift/2013/02/01/7-essential-principles-of-innovative-learning/ in 23.09.2014

The Teachers Guild (2015). Accessed at https://medium.com/teachersguild/what-does-innovation-mean-to-you-68045b5932c4#.4tjt1jqeq in 22.09.2015