DIYLAB

Pedagogy first. From tools to educational visions: The DIYLab project

Juana M. Sancho-Gil
Universitat de Barcelona

Cristina Alonso-Cano
Universitat de Barcelona

Judith Arrazola-Carballo
Universitat de Barcelona

esbrina

DIYLAB

UNIVERSITAT DE BARCELONA

REUNI·D

Lifelong Learning Programme

European Commission

1. What is DIYLab about?

Do It Yourself in Education (DIYLab)
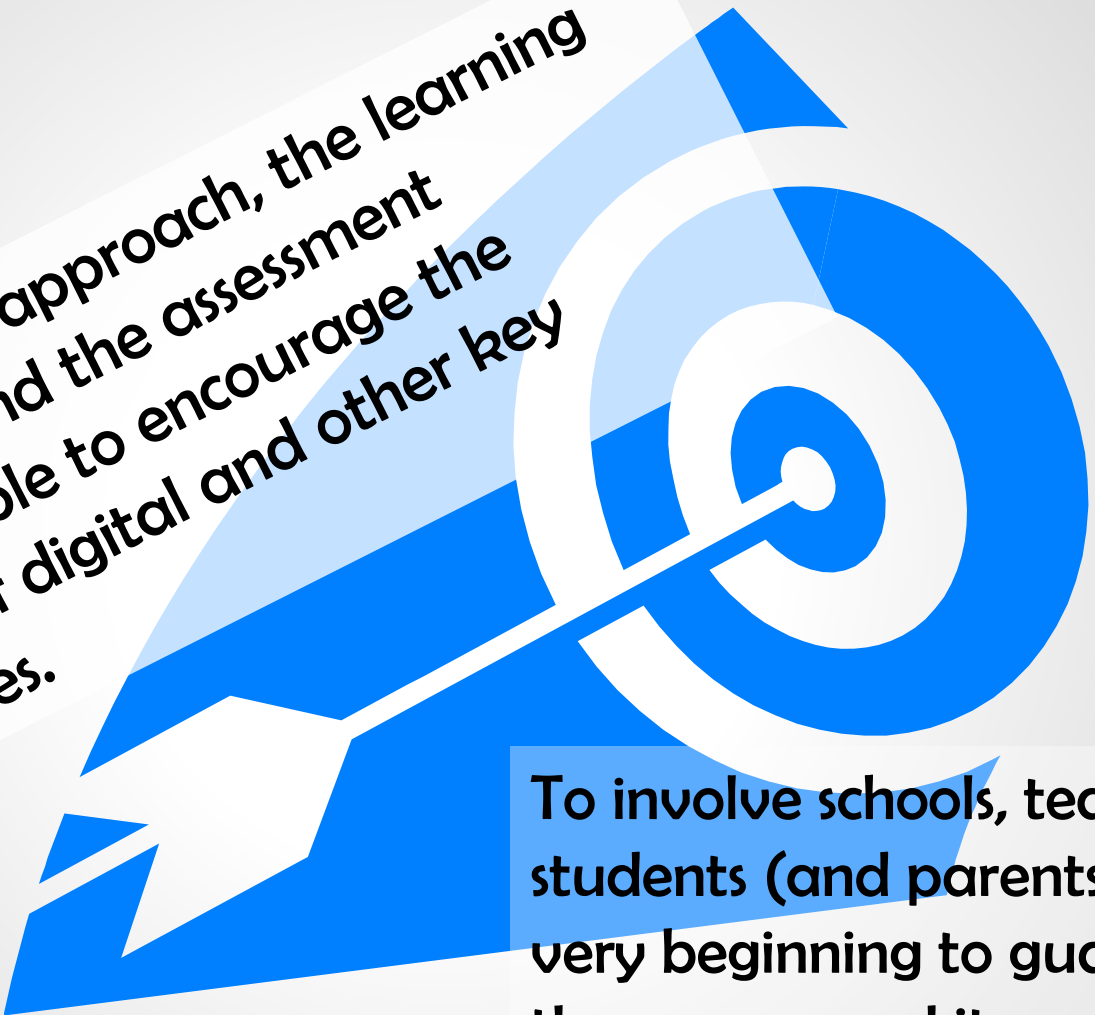**Expanding Digital Competence To Foster Student Agency And Collaborative Learning**

Background

Increasing need of

- understanding and fostering the skills required to make education better suited to meet the challenges of the knowledge society,
- better equipping citizens with key competences
- developing a 21st century lifelong and life-wide learning culture

Lessons learnt

- The introduction of a tool –not matter how powerful it could be-, in educational institutions with deeply rooted organizational and teaching cultures hardly becomes the Trojan horse, as argued by Seymour Papert, or the foothold that will move the world, in this case education (Conlon & Simpson, 2003; Balanskat, Blamire & Kefala, 2006; Condie & Munro, 2007; Law, Pelgrum & Plomp, 2008; Sancho & Alonso, 2012).

- Schools aiming to meet individual and societies learning needs should undergone a profound organizational, epistemological (how knowledge is understood and represented) and pedagogical (teaching, learning and assessment conceptions) transformation (Chen, 2010; Law, Yuen & Fox, 2011; OECD, 2013; Yang, Z., Yang, H. H., Wu & Liu, 2014).

The pedagogical approach, the learning opportunities and the assessment approaches able to encourage the acquisition of digital and other key competences.

To involve schools, teachers, students (and parents) from the very beginning to guarantee the process and its sustainability

1. What is DIYLab about?

Do It Yourself in Education (DIYLab)
Expanding Digital Competence To Foster Student Agency And Collaborative Learning

Philosophy/perspective

EISENBERG & BUECHLEY (2008), GUZZETTI, ELLIOTT, WELSCH (2010), KAFAI & PEPPLER (2011), LANKSHEAR & KNOBEL (2010); McKAY (1998), SPENCER (2005).

DIY, or Do It Yourself, is a philosophy that puts the **student at the center of the learning experience**, by turning it into the **maker** of its own learning materials

This project aims, develop to foster student's **agency**, **collaboration** and **digital skills**, using any kind of technology, to make them lifelong and lifewide learners.

DiyLaB Project

1. Creativity

2. Collaboration

3. Self Regulation

4. Digital competence

5. Agency and Sharing

Lifelong and
Life-wide Learning
by expanding students'

Partners

University of Barcelona
Grup de recerca Esbrina
Barcelona, Spain

University of Oulu
Oulu, Finland

Charles University
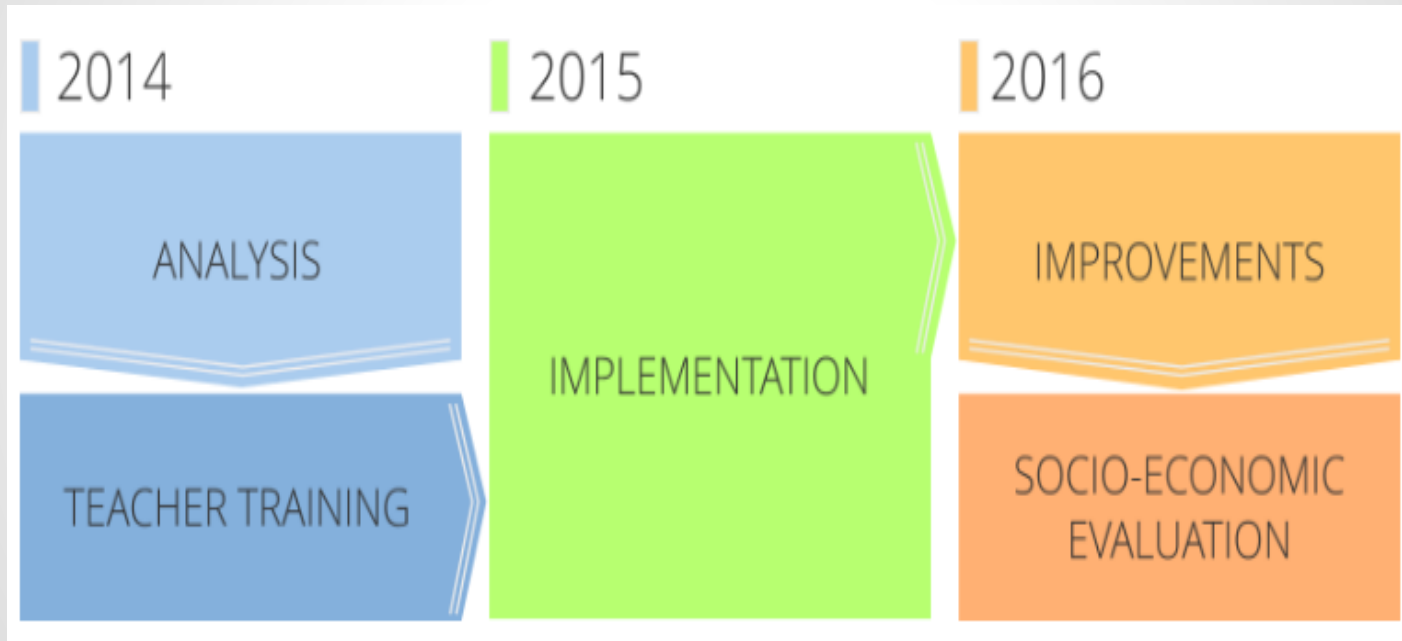Prague, Czech Republic

Escola Virolai
Barcelona, Spain

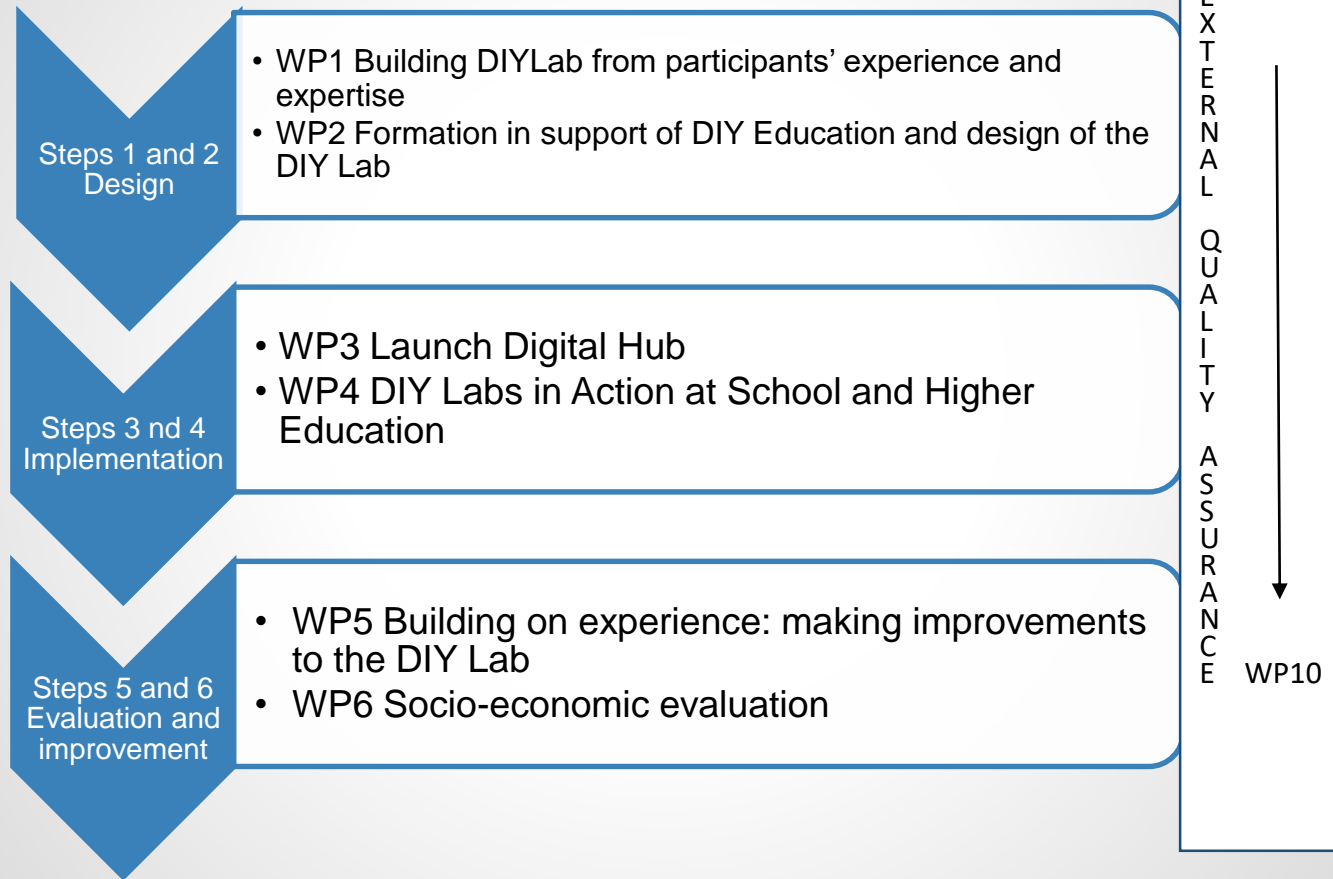Oulu University Teacher Training School
Oulu, Finland

ZŠ Korunovační
Faculty School
Prague, Czech Republic

Collaborative Action Research circle

Steps 1 and 2 Design
- WP1 Building DIYLab from participants' experience and expertise
- WP2 Formation in support of DIY Education and design of the DIY Lab

Steps 3 nd 4 Implementation
- WP3 Launch Digital Hub
- WP4 DIY Labs in Action at School and Higher Education

Steps 5 and 6 Evaluation and improvement
- WP5 Building on experience: making improvements to the DIY Lab
- WP6 Socio-economic evaluation

EXTERNAL QUALITY ASSURANCE

WP10

Where schools where

13 documents were analysed:
- National curricula:.
- Schools syllabi
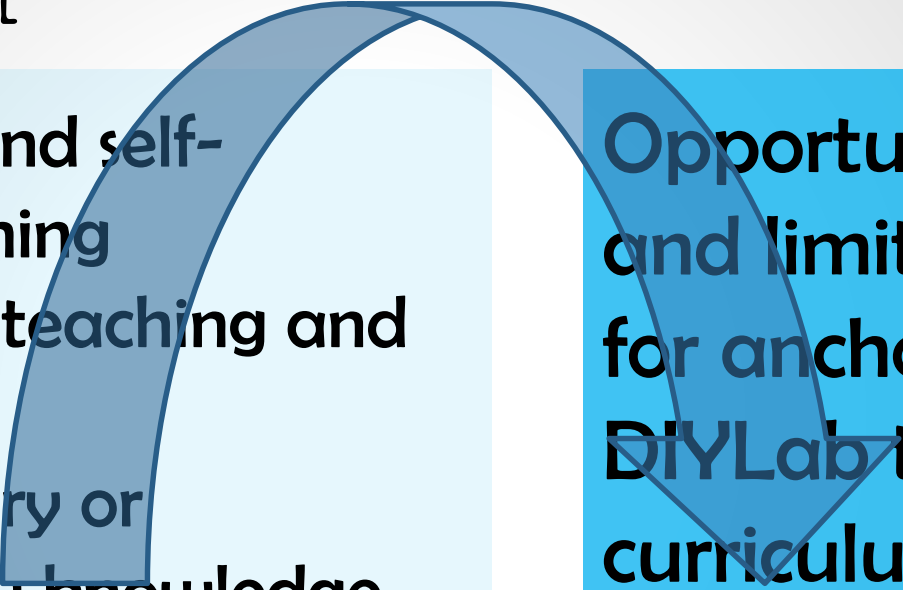
School equipment
Students access digital technology

Where schools where: Focus Groups

Level	Teachers	Parents	Students	Country
Primary & Secondary	**5** Primary **6** Secondary	**6** Primary **6** Secondary	**6** Primary **6** Secondary	Spain
	8 Combined	**10** Combined	**8** Combined	Finland
	8 Primary **7** Secondary	**5** Primary **6** Secondary	**10** Primary **6** Secondary	Czech Republic
Total	**34**	**23**	**36**	**93**

WHERE SCHOOLS WHERE

1. Autonomous and self-regulated learning
2. Inquiry-based teaching and learning
3. Transdisciplinary or interdisciplinary knowledge, links and connections
4. Digital competence
5. Collaborative learning

Opportunities and limitations for anchoring DIYLab to the curriculum

Training workshops

for participants

Perspective

- **Increasing our understanding of DIY perspective/philosophy/culture**

Digital Technology

Pedagogy

- WHERE: at what times and in which contexts of the syllabus would we implement the DIYLab?
- WHERE: what timing do we forecast: continuous hours, fractioned time, specific moments, etc.?
- HOW: ideas about how the project can be implemented.
- WHO: who should be involved: one teacher per classroom, several, external agents...
- WHAT: what we need to be able to work. What tools and resources.
- EVALUATION: how we envisage it.
- DIFFICULTIES AND ADVANTAGES: of implementing the project.

Implementing DIYLab

Primary and secondary school	Num. of Pupils	Num. of Teachers	Num. of Subjects	Num. of projects	Num. of Digital objects published on the DIYLabHub
Spain	95	15	9	2	32
Finland	114	14	18	9	56
Czech Republic	269	7	13	20	20
Total	**478**	**36**	**40**	**31**	**108**

DIYLab in primary and secondary schools described by numbers

Making DIYLab sustainable

The philosophy
- Strengths, valuables, Weaknesses of DIY culture at school level

The activities
- What has been done? What has been done differently than before? Strengths and valuables; Weaknesses and problems

The future

Making DIYLab sustainable

Level	Teachers	Parents	Students	Country
Primary & Secondary	**4** Primary **5** Secondary	**3** Primary **5** Secondary	**4** Primary **7** Secondary	Spain
	6 Primary **6** Secondary	**6** Primary **4** Secondary	**34** Primary **6** Secondary	Finland
	4 Primary **4** Secondary	**3** Primary **5** Secondary	**5** Primary **10** Secondary	Czech Republic
Total	**29**	**26**	**66**	**121**

Making DIYLab sustainable: conclusions

Pedagogy

- Further exploring with students the implications of DIY philosophy in the teaching and learning processes
- Fundamental transformation of students' role from consumers to prosumers
- Requires reflection spaces between students and teachers to enhance a pedagogical relationship build on mutual trust and responsibility

Making DIYLab sustainable: conclusions

DIGITAL TECHNOLOGY

The need of further developing and improving:

• The intensive use of technology (not only digital but understood as all available resources) from an educational and critical point of view.

• The use and development of multi-literacies and modes of expression and communication.

• Contemporary approaches to diversified representations and conceptions of knowledge.

Making DIYLab sustainable: conclusions

Organizational

The need of:

- Inviting more teachers to join in the adventure, making possible more transversal implementations.
- Include these issues in all institutional instances, which deal with curriculum matters (coordination meetings, Boards of Studies, etc.).

References

➤ BUCKINGHAM, D. (2007). *Beyond Technology: Children's Learning in the Age of Digital Culture*. Cambridge: Polity Press.

➤ EISENBERG, M. & BUECHLEY, L. (2008). Pervasive Fabrication: Making Construction Ubiquitous in Education. *Journal of Software*, *3*(4), 62–68. doi:10.4304/jsw.3.4.62-68.

➤ GUZZETTI, B., ELLIOTT, K. & WELSCH, D. (2010). *DIY Media in the Classroom*. New York, NY: Teachers College Press.

➤ KAFAI, Y. B. & PEPPLER, K. A. (2011). Developing Participatory Competencies in Creative Media Production. *Review of Research in Education*, *35*(1), 89-119. doi: 10.3102/0091732x10383211

➤ KOP, R. & HILL. A. (2008). Connectivism: Learning theory of the future or vestige of the past? *The international Review of Research in Open and Distributed Learning*, *9*(3).

➤ LANKSHEAR, M. & KNOBEL C. (Eds.). (2010). *DIY media. Creating, sharing and learning with new technologies*. New York, NY: Peter Lang.

➤ McKAY, G. (1998). DIY culture: Notes towards an intro. In G. McKay (Ed.), *DIY Culture: Party and Protest in Nineties Britain* (pp. 1-53). London: Verso.

➤ SANCHO, J. M. & ALONSO, C. (Coords.). (2012). *La fugacidad de las políticas, la inercia de las prácticas*. Barcelona: Octaedro.

➤ SANCHO, J.M. & PADILLA, P. (2016). Promoting digital competence in secondary education: are schools there? Insights from a case study. *New Approaches in Educational Research, 5(1)*, 57-63 . DOI: 10.7821/naer.2016.1.157

➤ SIEMENS, G. (2008). *Learning and knowing in networks: Changing roles for educators and designers*. Paper 105: University of Georgia IT Forum.

➤ SPENCER, A. (2005). *DIY. The rise of Lo-Fi culture*. London: Marion Boyars.