SCHOOL DISPLACEMENT: LEARNING OUTSIDE BORDERS

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Borders and school displacement

Literature about the so-called *21st Century Learning Environments* advocates the huge changes of learning scenario in the contemporary world. But are classrooms really changing and to what extent is that happening? On the one hand, the challenges that surpass institutional environments are revealing the global turmoil in terms of economies, societies, cultures and borders. On the other hand, the worldwide data streaming and the easy access to information we have today, namely through the challenges posed by the hypertext, have turned learning into a rich field for debate, where a pool of concerns try to match investments (material and affective ones) with quantitative and qualitative outcomes. While curricula are changing (*cf.* United Kingdom 2014 Computing Curriculum) due to educational reforms that are comprised with multiple problematics all over the world, learning cannot be analysed as a commodity fashion that can be externalized from the event of meaning.

Although learning is context-dependent, it's definitively not school-dependent. This means that it is especially meaningful to think on the particular environments that the School can formally design for learning if we want to keep it as a relevant institution to merge personal and communitarian development with the changing worlds (the close and the distal ones) we live in. UNESCO General Education Quality Analysis/Diagnosis Framework (GEQAF) uses an Analytical Tool exactly to learn about these structured environments, in terms of its physical and psychosocial conditions, also considering the policy context they're in. In this regard, another significant work is done by the OECD. The OECD Educational Policy Outlook (2012) organized the education policies implemented between 2008 and 2014 according to (a) students outcomes, (b) institution quality and (c) effectiveness of governing systems. Issues such as equity (and quality), preparing students for the future, school improvement, evaluation and assessment, governance and funding were core across these policies. In this report, changing classroom practices is even considered as a fundamental part if we want to guarantee the quality of education provided by schools.

Even though all these efforts in terms of reforms that try to adjust educational strategies to the needs of evolving times – from physical/material structures to curricula and pedagogies –, we find conceptual and methodological resemblances across decades. In fact, the major learning theories and pedagogical strategies didn't always match over time. That is why we so easily find what may seem an educational *visionary perspective* when some distant dominant theory is around. So, what does the term *pedagogical innovation* stand for? According to Kirkland

and Sutch (2009), innovation refers to the application of new resources, approaches, processes or methods that change social practices in general, and teaching and learning in particular; it can also refer to a further development of existing ideas or products. Once innovation concerns application it has to do with its diffusion. The diffusion of innovation (Rogers, 1995) shows how it is dependent upon the perceived and observable benefits of it, as well as of its compatibility with the existing physical and human resources, its complexity, and its triability. Therefore, context plays a key role in what can be understood as an innovation. This seems to partially explain why some innovative views had short-lives and reappeared some years after as brand new perspectives, which are in fact embedded in several principles conceived before.

Nowadays, educational approaches that concern differentiation and personalization purposes justify a bunch of innovative methodologies such as the variants of blended learning: station rotation, lab rotation, flex and flipped classroom. The idea of the 21st Century Learning replaced *pedagogy* with *heutagogy*, where linear forms of expressing, living and understanding information are not conceivable and where Connectivism tried to explain the new dynamics of Constructivist learning, once people are commonly dealing with new media and started interacting differently with data and hypertext. One cannot forget Paulo Freire's Critical Pedagogy and the role played by "questioning" in its learning underpinnings when analysing totally personalised systems (e.g., Fontan Relational System, Columbia Britannica Education, Kunskapsskolan Education, etc.) and Project-based learning methodologies (Jones, Rasmussen, & Moffitt, 1997; Thomas, Mergendoller, & Michaelson, 1999; Moursund, 1999; Diehl, Grobe, Lopez, & Cabral, 1999). It is also interesting to notice to what extent principles of the so-called *innovative pedagogies* and some strategies already implemented decades ago are akin. Let's focus on particular defining characteristics of blended learning such as personalisation, mastery, and ownership, as well as on the spatial representation of a station rotation environment. In the beginning of the 20th Century, when behaviourist perspectives on learning were dominant, Maria Montessori already set learning environments where students of different ages could be seen, working through large periods of time, with several materials from which they reasoned their daily learning. These students had the opportunity to move freely within the classroom and work in different types of projects.

This example seems quite interesting to the main ideas this paper wants to prompt. How far is innovation really going? How do learning theories, strategies and psychological affective-cognitive learning processes can be thought when virtual environments enter the classroom space? Do they create opportunities not only to virtually displace learning from the classroom set but also to intentionally go outside classroom physical borders? To what extent can developmental goals (beyond the curricula) be formally conceived in these situations? And how can educational agents be guided to systematically get the benefits that the so-called innovations may bring, making them a living material to pedagogy enhancement?

Pedagogy as a reflexive praxis

JP-inspiring knowledge (JP-ik) is a company focused on the development of services for education: from *Pop Up* schools to technological devices, methodological approaches to ICT and computing integration in learning, and multi-layer training. In the school year of 2012-2013, the Pedagogical team of JP-ik developed a qualitative study on the practices of ICT integration in formal learning scenarios. The aim of this analysis was to develop a Pedagogical framework to guide teachers through the process of integrating all the technology available in their learning spaces with larger development goals, the curriculum skills, the affective-cognitive processes of learning and the people that is expected to be targeted through this intentional action. Some of the frameworks proposed by the literature on this field (*e.g.,* UNESCO Knowledge Ladder, UNESCO proposals on ICT adoption, Mishra and Kohler's TPACK, Puentedura's SAMR Model) to guide and monitor ICT integration in educational territories were analysed in order to understand the capacity they revealed to systemically consider several influential dimensions. One of the questions the revision of these models raised had to do with the subsidiary role given to Pedagogy in the whole process. Let's focus on TPACK (Mishra & Kohler, 2006): is it accurate to consider Pedagogy one of those knowledge domains proposed in the framework (Paulino et al., 2015)? Shouldn't Pedagogy include all the decisions made on the Technology and Content dimensions? Considering it a theoretical *corpus* and a *techné* in itself that strengthens teachers in their own process of educability throughout life, any framework that addresses formal education strategies is expected to take Pedagogy as the process through which change may be intentionally conceived. Willing to screen the dimensions that are intentionally aimed and those affected through the integration of new technological devices in formal learning scenarios, JP-ik together with the University of Porto run a qualitative study under the responsibility of six pedagogical consultants and two supervisors. The six consultants worked in context with one ERTE-MoE (Ministry of Education Team for Educational Technologies and Resources) Coordinator, seven DRE'S-MoE (Regional Direction for Education from the Ministry of Education) stakeholders, eight municipality stakeholders, six school cluster principals, one principal assistant, twenty nine primary teachers, thirty seven parents and seventy six students. In a first phase, data was collected on representations, attitudes and levels of ICT integration (Paiva et al., 2012). Bearing the conclusions of this initial study, six pedagogical consultants worked directly within six classrooms of different regions of Portugal (rural and urban, from north to south) during a full trimester. All the activities with ICT were intentionally designed and then collected in order to understand the invariant categories formally considered in the tasks that proved to be more effective in terms of learning outcomes (e.g., performance, learning transfer, intertwining between collaboration and autonomy). From this study we came across the ik-Model depicted in the Figure 1. In this framework, *Signification* reveals the core of the pedagogical action: it is the medium of connection but also an effect of a meaningful bond between all the components of (formal) learning. The *Content* domain is the axis where learning goals addressed by the curriculum and other major developmental goals are formally included within the learning design. The *Processes* domain refers to the affective-cognitive learning processes and to the strategies

conceived to target them. The *Technological* domain includes all the media available to enhance the learning experience. The *Relational* domain concerns all the people (and their networks) that can be reached in the process of making meaning out of the opportunities given by formal education.

Whatever the learning theory, educational model or learning strategies, these dimensions have proved to be sufficiently organic to match the diversity of systems with which JP-ik has been working all over the world, preserving their integrity and singularity. Within a model like this, the learning set may be easily selected, as the heart of the learning design is assured. This seems to be the case of the examples shared in the following lines, where the ik-Model is implemented as a basis for rethinking learning scenarios and goals beyond the curricula in two particular contexts: Bolivia, Jordan and Portugal.
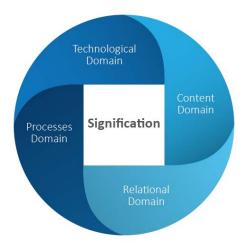

Figure 1. The ik-Model

Curricula and classroom' spaces: going outside borders

Bolivia: breaking down age barriers to learning

The Plurinational State of Bolivia is an interesting scenario regarding how the Educational System and Policies are responding to the challenges that Bolivian people are dealing with – those that come from their cultural and historical particular context (considering the critical topics of sociocultural diversity and multilingualism), as well as those that concern the complexities of living in the contemporary world. In fact, in The Bolivian Education law, it is stated that one of the Education goals is to reinforce intraculturality, interculturality, and multilingualism in education, empowering Bolivians, towards a society of Living Well (Ministerio de Educación, 2010). To use technologies is seen as a relevant part of the process of merging the cultural identity of the Bolivian nations and the native indigenous people, preserving their diversity above all. The *Socio-Community Productive Educational Model* (MESCP) is the basis to conceive all learning experiences, where the cultural heritage shall be preserved through the recognition and practice in all native languages. In this context, in July 2014 a group of 90 people, from elements of the Ministry Education, to teachers and students of Educational Sciences were trained in the ik-Model: this framework was conceived as a

guide that would help them systematically integrate all the challenges coming from their formal educational new demands. It was the basis of an activity design – the *Potato Legend* – that fully addressed the mentioned requisites and that we shortly present in this paper. Students were encouraged to go to their natural living contexts and to explore meaningful legends from their local community. The purpose was to collect these legends from their community older people, in their specific dialects, and then to illustrate them and translate them into Spanish, using the different available technologies, in order to create a video. One of the stories produced reported to the *Potato Legend*. In this project we may see hand-drawings combined with video and sound edition, and the native languages as told by the ancient ones with Spanish subtitles created by the students that known that native language. To produce this video, kids of primary education were using their own tablets with a lot of outstanding software, but the way the Relational domain of the ik-Model was conceived made them recognize that the unique medium that enabled the accomplishment of their task was storytelling from the older people of their communities. This was a way to preserve ancestral heritage, emotionally linking generations and making them learn with each other. Whereas students met these mesmerizing narratives, the older ones got in touch with new media that made them curious as they got surprised with all the possibilities they enabled. Students learnt through this unexpected encounter and they have also learnt while working with their peers to produce this video, exploring their creativity and accountability using traditional and non-traditional techniques, collecting folk music and structuring all the narratives in terms of the consistency expected in terms of the Spanish subject. The collection of these tales through the students' participatory process made them conscious of their role in the preservation and valuation of their cultural roots, simultaneous reinforcing their self-esteem and sense of belonging. The amount of the audio-visual products shared are expected to enrich Bolivian cultures dissemination (Mouta, 2015). This activity is a great example of an entwining of *old* and *new* technologies, of classroom and community opportunities, from peers to intergenerational learning, where the experience of learning doesn't know space or medium edges.

Jordan: go further going virtual

In the Hashemite Kingdom of Jordan, Education is assumed to be crucial for individual and societal development. The general objectives and educational policy principles defined for the Jordan Educational System (Ministry of Education, 2010) clearly show that perspective: there is an evident focus on Educations' responsibility in terms of students' empowerment towards an active and committed citizenship. It is expected that students become capable of contributing to the global interest of the society, balancing tradition – namely the respect for the historical, cultural and ideological national heritage –, and innovation – where the use of new technologies and scientific methods is valued in order to solve problems, develop knowledge, and innovate (ibid.). Assuring social equity and quality education for all is another structural principle of the Jordan Educational System, that is not only concerned with the gifted and special needs learners, but also with the gender parity topic, as it becomes particularly critical in terms of education access and integration in the labour market (UNESCO, 2012). The educational aims for the Jordanian students are clearly defined beyond

the curricula; they encompass sustainable generative goals and competencies, and consider new technologies as important tools to reach them, in the context of new learning approaches and pedagogic methodologies.

The Jordan Education Initiative (JEI) is an important local player considering the enhancement of education, creativity, and general capabilities. It envisions fast educational reforms through ICT integration and innovation, and JEI's team is responsible for the design, implementation and monitoring of several innovation pilots based on this standpoint. They are working together with JP-ik in the *Pop Up Digital Classroom Pilot* in Jordan that goes straight to these points; JEI was an active player in the design of the educational project for this school and is now responsible for its local monitoring and support. The Pop Up Classroom is installed in the Princess Taghreed School, a girls' school in the suburbs of Amman. It has been intentional to place this school in a particularly demanding and disadvantaged social context and to target girls and women. JEI was an active player in the design of the educational project for this school and is now responsible for the local monitoring and support. The strategy for ICT educational integration within this learning space has been considered along with the ik-Model since the beginning of the project, taking advantage of the relevant synergies between the conceptual visions of both JP-ik and JEI. The main goal of this project is to use this digital classroom as an enhanced scenario for learning, where new and traditional technologies are combined with renewed pedagogical strategies, in order to foster greater opportunities for teachers and students, and to explore broader perspectives in terms of their lifelong learning. In this experimental context, students will approach social problematics through means beyond those suggested by the curriculum. Teachers are expected to favour meaningful opportunities that make their students explore and develop their skills and their actual and future selves, considering more diverse academic and professional possibilities. A good example is one learning activity that has been created to the Secondary level, in order to address English and Sciences curriculum goals, along with several sustainable development and generative aims, such as gender parity, vocational development, media literacy, critical thinking, communication and knowledge transfer. The idea here was not only to make girls explore their interests on these areas, but also to make them question the gender professional stereotypes associated to STEM. Starting with Sciences, students were encouraged to use the available new technologies connected to the Internet to explore the life, accomplishments, and skills of women that became known as scientists (from Jordan or somewhere else) and then talk about them in Arabic and English in a way that challenged narrow thoughts based on prejudice. The aim of this activity was not only to know historical facts and figures in both languages: by exposing students to other symbolic role models, the idea was to bring them the opportunity to give personal meaning to that content, benefiting from the exploration of their own values, interests, and skills, projecting themselves into the future and avoiding the idea that there are *gender occupations*. The boarders of the traditional classroom were clearly broken, as teachers were informing, modelling, and supporting these girls trough a relevant community interaction (Law, 1981) that was virtually brought into the space of exploration and group discussion. This enabled to go beyond the possibilities given by the personal and collective experiences and narratives of the people that

are part of that learning space, expanding visions on human action, especially in what concerns those that are predominantly socially informed.

For the teachers in charge of this Pop Up Classroom, the ik-Model was considered a noteworthy guideline as they were just starting to deal with several new demands on what formal education should become. Those demands had to do with new technological devices that were expected to be experimented in a way that made the most of their potential if pedagogically driven. Furthermore, the borders of the physical/material context where the School was built were continuously questioned by the intentional consideration of social developmental goals. The Content domain aligned with the Processes domain axis enabled teachers to prepare activities that activated deeper connections between though, affections and skills, making students understand the complex relationship between learning and behaviour. Signification was here seen as the engagement with processes of questioning, willing and acting that comprised personal criteria in the process of making choices throughout life.

Portugal: from gamified engaged learning to meaningful role-taking

Although in 2008 all primary schools' students were given a personal laptop and schools were equipped with interactive whiteboards and connectivity, the experience of integrating ICT in education is not a consistent one in Portugal yet. A comprehensive study (Paiva et al., 2012) found very different visions and practices all over the country, as well as a significant gap between the meanings and the effective uses of new technologies, both at school and at home. These differences were particularly ascribed to the inconsistency of the initial training received by the teachers in what concerns the pedagogical integration of ICT. Even though it has been possible to find some meaningful experiences where digital and analogue worlds match in the pure benefit of development, it was clear that an integrated approach with a pedagogical ground was needed to fully achieve the potential of using ICT for intentionally learn. A pilot project that involved six public primary schools was designed and implemented by JP-ik aiming to respond to this challenge; this pilot made it possible to identify several meaningful and impacting examples of ICT use for learning systematic purposes. That is the case of a primary school located in a particularly socio-economic problematic neighbourhood of Oporto in Portugal. At this school, technology was integrated with the will of keeping students in the educational system, avoiding dropouts. In the beginning of the Project, teachers were trained in the ik-Model. These guidelines helped them to conceive learning session plans that made ICT only an excuse to reconsider practices and to reconfigure learning experiences that started including different theoretical aspects that worried them. One of the teachers has created a really intriguing activity, considering her 3rd grade students' perspective when asked about it. The goal of the task was to learn about the value of money, connecting it to the study of Geography and Mathematics. The teacher proposed a flipped approach to a new theme: students were asked to learn on coins and notes at home through an educational site of the European World Bank, so that they were able to use that knowledge to play a game during the next day classroom activities. On that day they started the class by playing games of that website in pairs, what allowed them to discuss their doubts and learn a little bit more with each other. The teacher was around, giving them occasional support. At

the end of the games, students were supposed to make questions to other groups about the differences between world currencies and the ways to find the veracity of the notes in circulation. On that day, students collected some fruits and vegetables from the school garden and prepared a biological market where those products were sold to the school community. During that experience, they had the opportunity to apply their learning in a role-taking situation, which also required their capacity to rapidly respond to Mathematics basic operations. All the items bought were introduced in an Excel page and in the next day these students had to verify discrepancies between the remaining products and those that were registered as sold. The money they have collected was kept in the savings for the Photo Album they were going to create by the end of their four years of Primary Education.

This activity clearly shows that there's no frontiers between subjects, helping students integrate knowledge in a continuum. Added to the experience of applying learning to meaningful contexts and to the flipped approach, students get a holistic feeling of what learning is about and freely engage in practices that widen their possibilities of recognizing, expressing and connecting with others, making the most of the artefacts they are able to grab.

Conclusions

All the mentioned examples have a noteworthy centrepiece in common: they all prove how narratives are important in the learning context. To call them "learning stories" has never been so meaningful. In fact, all the goals that are supposed to be achieved and all the available media could turn the learning space into a scattering scenario rather than an opportunity to learn how to learn and move through information in an intentional and personalised way. If it is true that new technologies create conditions to rethink the formal learning experience when one really wants to get the potential they may bring, it seems also acceptable to believe that the driver for innovation is not really rooted on those technologies but on signification as the heart of any planning in education. In this context, to signify means to link information and people to personal ways of performing sense, in a diversity of scenarios where meaning prompts as pure continuity. If learning is displaced by nature, the sense of formal education is not exactly on its physical placement but on the possibility of placing several worlds in a narrative that merges them from within.

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