

Chapter 10

Framework for Non-Invasive Learning Experience Management in Third Millennium Higher Education Ecosystems

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ABSTRACT

Society is demanding from higher education institutions a new generation of proficient learning workers. This claim requires a paradigm shift: every aspect of our life is changing rapidly; higher education should also develop its own transformation. Introducing progressive and radical innovations requires strategic planning, Design Thinking methodology is the best candidate for this process as it offers a holistic approach and problem solving strategies. Communities are key players. Their involvement and active participation are important in this long term transformation; they should start learning and figuring out how to build a new higher education ecosystem. A Design Thinking planning tool is proposed for building a student-led participatory research-based learning experience. It is also conceived as a communication platform and community organizer to be used by students, teachers, student advisers, and administrators. It is a participatory system in which Design Thinking is a tool for all the community, not a domain-specific methodology used by elite professionals.

INTRODUCTION

Higher education teachers and planners need to drive a Deep Change. We are heading to the perfect storm. The economy is changing; the technological ecosystem is suffering a deep transformation. Our

production system is subject to a deep transformation; we are heading to a second industrial revolution that may change actual business models based on mass production. A new scientific revolution is rising, many discoveries made in the last two decades, with great potential will require years

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of research. Neuroscientists are debunking many established dogmas about how the brain works, the nature of learning, and how individuals build knowledge and interact emotionally with the world (Carey, 2015).

The world is progressively heading to a deep transformation; society and businesses require a new generation of workers and scientists to accomplish future goals in a reasonable time interval. A new R&D ecosystem is rising with the advent of big data, cloud computing, and the internet of things. Those new components will change radically how people collaborate and develop complex research. The human genome project is the proof that a well-structured organization of activities and collaboration protocols could lead to a significant leap forward that exceeds all expectations. The work was finished in less than half of the expected time (Tapscott & Williams, 2006). The complexity of the scientific challenges is requiring a new way of thinking and peer collaboration. Challenges are complex; they will require heterogeneous teams of people from different cultural and technical origins, and divergent and creative thinking. Our physical, cultural, emotional and biological ecosystems are too complex for individual solutions, we need to think globally.

All decision makers and staff want their universities to occupy a privileged position in the world ranking. Huge investments are undertaken and modern facilities are built. The majority of people don't understand that excellence in higher education is not the outcome of excellent facilities or heavy economic support. The best kept secret of top ranking universities and countries is their ability to learn. Technology is not their advantage but it is the smart use of resources which can accelerate learning and enhance the learners' capabilities. The ability to learn and develop creative knowledge is not an individual achievement, it is a collective one. Peer and collective learning are the main drivers of great learning ecosystems.

At our educational institution we have felt the need to confront this reality in a practical and

experimental way. Reviewing the literature in the context of the challenges for higher education of new discoveries, a rapidly changing economy and the information society leads us to focus more particularly on Design Thinking as a key strategy. With the desire to harness this approach to solving problems with due regard for its affordances and pitfalls, we compose a framework proposal which we establish recursively in the light of our students-learners whose frank input provides a kind of validation of our adaptable reference model. We conclude by reflecting on the learners' remarks and questions.

We need a framework that allows us to develop a learning discipline and problem solving capacity at all levels. Technology will help and ensure its quality, but there are cultural and emotional factors to consider in learning culture beside scientific and technical resources or Howard Gardner's Multiple Intelligences tests (Gardner, 2003). Patience, tolerance, comprehension, and openness are also required. Creative places and spaces have hidden dimensions difficult to appreciate with conventional research methods. Not all researchers are satisfied with the Digital Natives generation and beyond. Some authors argue they are not acquiring any skills nor properly using social media (Bauerlein, 2011). A second group is trying to understand how social media has changed young people (Gardner & Davis, 2013). A third group believes in their potential to become a skilled and proficient generation (Wagner & Compton, 2012).

There is an intense debate on 21st century skills. Mary R. Lea and Sylvia Jones (2011) assert "In order to understand the changes that are taking place for learners in today's higher education; we need to pay more attention to textual practice around learning and focus less upon the technologies and their applications". Not all Digital natives are similar; some are proficient users and gifted makers, while the majority are passive consumers addicted to tech hypes. The Higher education IT learning gap is probably due to technology usage and ". The Open University suggests 7 areas of

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