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Shaping Learning Ecosystems

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SUMMARY

Our new digital reality creates and continues to reshape connections that transcend borders and time zones in ways that were unimaginable just a few decades ago. Young people today are spending more and more time in front of screens. While recognizing the downsides of digital life: loneliness, insecurity, emotional pressure, restlessness, reduced physical exercise, and sleep disruption, there are also opportunities. Educators are now shaping learning experiences that align with the digital mind and enable these young people to realize their potential for achieving personal and academic success. In the past we have concentrated heavily on academic learning. Now leading-edge teachers are focusing on the emotional dimension of the student and finding new pathways to achieve academic learning outcomes. Drawing on experience of developing schools as innovative learning ecosystems, this presentation describes practical actions that can be taken to create and sustain exciting, relevant, healthy and successful learning experiences.

This paper draws on Marsh, D. & Díaz Pérez, W. (2018). Shaping the Future: A KDI Framework for Building CLIL Environments in Higher Education. Guadalajara: University of Guadalajara

PROLOGUE

An objective of this presentation is to engage you, the conference participant, in thinking about young people, learning and life.

You may be a parent, educator, employer, or someone else who wants to know more about the digital generation.

You may be someone who is resigned to focusing on all the negatives said to result from how people interface with technologies.

You may be someone who trusts that every cloud always has a silver lining and that things will turn out better in the end.

Or you may be a person who recognizes that to create the future we have to confront the realities of the present, and design the future according to not what is, but what could be.

This presentation is in the form of a story that describes how young people are affected by their immersion in the world of technologies, and how we, in education, should respond.

CHAPTER 1: THE TIME OF OUR LIVES

This period is one of exponential change. Scientific enquiry attempts to keep up with events and trends, but sometimes there is little evidence available to prove something one way or another. This is particularly true of the digital lifestyles of young people and education.

In education, what we need are complementary processes that critically evaluate what is widely claimed alongside reflective and intuitive reasoning of what we hear, see, sense and feel.

Some of us have been thinking about the impact of technology on young people for some years. Even if we work in different educational levels, sectors, regions and countries we are confronted with the same dilemma. How do you design educational change management processes when the real world is changing so rapidly, and when education is so firmly rooted in the old world? How do you make decisions about good practice when there are so many myths and misinterpretations about the impact of digital lifestyles on young people?

One answer is to seize the opportunity to identify the energies and dynamics of these real worlds of young people, and create learning solutions that are relevant, resourceful, and rich in evidence-based positive impact.

CHAPTER 2: THE EMERGENCE OF A GLOBAL COUNTERCULTURE

A counterculture is a social way of perceiving and behaving in the world that is different to what is considered typical for a society, or social group, or otherwise thought of as normal.

There is now a global digital generation counterculture. It has not surfaced as specifically anti-establishment such as the counterculture of the 1960s. In the 1960s we witnessed protest movements around the World where people expressed the wish to change the political, social, religious, economic, or human rights status quo. These movements often involved anti-authoritarianism, and were re-active, attempting to address faults, reduce harm, or otherwise enable freedoms to flourish that previously failed to exist.

This counterculture is different because it is largely pro-active. It does threaten the status quo but is powered by supranational capital invested in the technology-based innovations and the super-powerful high tech industries. It is energized through exponential levels of connectivity through digital media. It is catalyzed by emergent lifestyles, norms, social and individual identities, a sense of life empowerment, experimentation, and the spawning of sub-cultures.

It involves the convergence of people (from all countries of the world where access to connectivity is widely available), technologies, ideas, actions, and new realities. This leads to individuals sharing a common experience whether they be in Abu Dhabi or Amsterdam, Nuuk or New York. It is happening at a time when technological advances are providing catalysts for change in an even more profound way than what has been in seen in the last decades. We are witnessing a quantum generation leap.

In this presentation, we focus on the Generation born during 1993-2013. This has widely been called Generation Z. Alternative terms used include Generation C, Post-Millennials, New Millennials, IM Generation, Net Generation, Homo Zappiens, iGeneration, Digital, and Internet Generation.

So how should those of us working in education, respond?

CHAPTER 3: EDUCATIONAL INNOVATION THROUGH INTEGRATION

One of the major features of educational innovation in the past decade has been a shift from fragmentation towards integration, and the subsequent creation of new approaches for teaching and learning.

Integration often means breaking former boundaries, inviting controversy, and re-examining discipline-specific territories in education. The demand for innovation has firmly put the spotlight on integration within the curriculum and placed demands on researchers and educators to create, test, and cascade quality practices.

A unique combination of circumstances resulting from digital lifestyles continues to bring substantial challenges and opportunities. The decisions we make now will determine the success or failure of schools in the very near future. At the heart of this decision-making is the role of the individual students and teachers in the educational ecosystem in which they study and work. There may be zero use of digital devices in classrooms, but the influence of the out-of-class igeneration lifestyle is linked to key circumstances.

There are six critical factors in this chain of circumstances. These are competition, competences, consolidation, commitment, communication and capabilities.

Competition includes the expansion of private sector schools, pressure on public sector schools to maximize quality even with limited financial resources, and the pressure of national and regional school ranking systems.

Competence building (combining knowledge and skills), a concept previously associated with vocational and professional education, has now deeply permeated K-12 education. Building knowledge and skill is now a key educational goal expected and demanded from an early age.

Consolidation involves the unification of previously separate entities, like subject courses. It is often done to closely gear what is learnt in courses to the current and forecast needs of working life. This leads to the formation of innovative inter-disciplinary (across-the-curriculum) methodologies and programmes.

Commitment often requires a personal view that something is worthwhile. In high performing educational systems there is a large respect for teachers and schools by families, the general society, and students themselves.

Communication modes and patterns have been deeply affected by advanced technologies. Processes for information transfer, interaction platforms systems, and the human expectations and dynamics of how and when we communicate have changed.

Capability, may be present within an individual or organization, but not active. Informed and committed school leadership is essential for a school to develop as a healthy ecosystem. Utilizing the potential of capability means using distributive leadership to realize the potential of different members of the teaching staff, gain advantage from different individuals working in teams, and involving students in assuming meaningful responsibilities in making the school a quality learning system.

CHAPTER 4: THE SCHOOL AS A LEARNING ECOSYSTEM

The authorities that control schools can be dysfunctional, resistant to change, and subject to short-term political interests. Typical to some countries and regions is a history of exciting announcements of political initiatives and declarations followed by slow incremental change, inertia and stagnation. Rather than operating as engines for progress creating value creation for the wider societies, schools can be reduced to evolving through first order change. First-order change (Ertmer, 1999) is where small adjustments are made slowly over time that do not have a significant impact on existing power structures, teaching and learning traditions, and attitudes. But the speed of change in our societies now requires second-order change.

Second-order change involves transformative actions that require new ways of thinking and interacting, and the exploration of new vistas of opportunity.

This brings us to the concept of the school as an ecosystem. The term ecosystem was introduced in 1935 (Arthur Tansley) to describe the interaction of living and non-living factors that enable an environment to be balanced, or out-of-balance. Like an ecosystem, a school is an environment usually consisting of a network of interdependent living and non-living entities that interact to a greater or lesser extent (Willis 1997). The term is helpful in looking at the broader picture when considering introduction of innovative practices.

In an ecosystem competition often competes against collaboration. Think of the metaphor of a fish farm in a natural lake. Competition for food between fish in dysfunctional enclosures may satisfy short-term gain, but work against the needs and advantages of long-term sustainability and balance. History is full of cases where human interference with natural ecosystems has led to long-term degradation and imbalance.

In the 21st century efficiency and sufficiency are dependent on collaboration, which is as true of the natural world ecosystems as with schools. In a period of change, the forces of human collaboration, and recognition of dependency, need to be recognized and integrated for long-term progress to be achieved that is balanced, strong and sustainable. Some schools have long-standing processes which prevent collaboration, and which encourage internal and other forms of competition that lead to systemic dysfunction. Collaboration is now recognised as a key 21st Century competence for maintaining the balance of an educational ecosystem.

Introducing innovation often requires change management. Rapidly developed educational systems share certain change management characteristics (Moujaes 2012) where people:

- Recognise that the demand for change now requires a response as significant as the setting up of basic education systems which occurred at least a century ago, and that these systems have changed little in this time (see Mourshed et al. 2010)
- Adopt a holistic view of education which shifts towards learner-centricity
- Identify key success factors such as equity and competence-based education involving problem-solving skills and pattern recognition, as opposed to rote learning and rewards for memorization
- Leverage quality education through focus on creativity, critical thinking, communication and collaboration (see Hattie 2015)
- Change curricula from emphasis on what to learn towards how to learn and activating this in rich learning environments which extend beyond the confines of a classroom and school hours
- Recognise the relevance of the newly emerging literacies that are now indisputable with respect to the impact of technology on the lives of young people (see Marsh 2013)

Evidence-based transformation, such as that reported by Moujaes et al. (2012) and Pearson (2012) reiterate that we are now in the middle of the greatest global challenge in education for a century where teaching, schooling and learning, are at a crossroads in enabling countries to redefine how young people should be supported and prepared for this new age. The world in which young people live has already been transformed though accelerative processes due to the availability and impact of technologies, mobility, and the changing working life landscape.

CHAPTER 5: FUTURE HORIZONS

We have entered an age where non-invasive procedures enable us to look inside the brain on a scale never experienced before in the history of humankind. This is happening at a time when human skills and competences are viewed as key drivers for social and economic success in the Knowledge Society. The shift towards introducing an alternative ways of teaching and learning is now the hallmark of a quality school.

Future development and research will probably be both proactive and reactive. Pro-active factors are likely to include focus on educational technologies particularly with respect to knowledge gained within the neurosciences on learning processes and the emergent new literacies; how innovation contributes to making

schools more effective; the use of mobile devices to enhance educational performance; and the development of media-rich environments that enhance learning.

Reactive factors are likely to include strategic and policy decision-making with respect to migration and diversity of students in schools; inclusion of students with special and specific needs; maintaining and enhancing quality of educational operations during periods of economic and social stress; the demand for English language and possibly other emerging major languages. A systemic approach to maintaining balance within the ecosystem is likely to extend from primary through to higher education (see, Marsh & Díaz 2018).

Integrated technologies and curricula (largely driven by the need for competence-based standards) are increasingly affecting how educational environments are designed (see Díaz et al. 2018). The main disciplines driving change are principally drawn from educational science and neurosciences; subject disciplines, architecture and design, engineering and technology, and psychology. The more we learn about learning spaces, the more we see how the ecosystem is a fragile environment which, when healthy, can realise the potential of the widest possible group of young people in our societies.

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