I. EUROPEAN AND NATIONAL STANDARDS OF E-LEARNING QUALITY EVALUATION

EDUCATION, CULTURE AND TECHNOLOGY: TRIANGLE FOR DEVELOPING HIGHER EDUCATION

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Abstract: *As ICT infrastructures increase and saturate, a new dimension for evolution in Higher Education 'knocks on the door': International Student Exchange. What horizons emerge for university students and teachers the next decades? Will the curricula incorporate multi-cultural perspectives so that local and foreign students are needed in each of the academic assignments? Will diversity and multi-perspective replace national criteria? In how far can students participate via MOOCs and virtuality in courses abroad even before they land at an international campus. These are the questions to be addressed in this lecture.*

Keywords: Education, Multi-Culture, Technology, Higher Education

INTRODUCTION

Especially for the period 2017-2020 we may expect that education technology will have a role that exceeds the needs of pure intellectual outcomes. The larger topics world-wide are mutual cultural recognition, understanding, acceptance, tolerance and cooperation. Symptoms of this agenda are threatened international harmony, the need for fairer and more sustainable trade opportunities for developing countries, the need for citizens' awareness that refugees need the opportunity to assimilate in the receiving countries and not at least finding the balance between industrial, agricultural and service economies so that food and health get optimal attention and effect the coming years.

Higher Education in a Self-Propelling Evolution

In my view, the transition from the current to the next generation of ICT in Higher Education is the articulate presence of multi-culturality. This step can only be understood through discussing the next dimensions:

1. Current large-scale societal challenges/trends at the global level: Restructuring economies, large scale migrations and the growing need for multicultural understanding.

2. Reorientation from instructional into pedagogical targets: The combination of the transfer and transformational function of education needs to be clarified so that both policy makers, designers and the actual teachers can find the optimal balance in the very context they are working in.

3. The shift from reductionist ICT models into the larger scale (big) data and its subsequent potential for meaningful learning analytics. As big data and the meaningful combination of public monitoring like in the "smart cities" grow, the issue of privacy and human rights increase. For education it implies the guarantee that learners face a fair chance to develop and do not unnecessarily suffer from learning underachievement before.

4. The fuller acceptance of teacher competencies as key asset for arranging learning scenarios at the very moment of didactic decisions even when no anticipated curricular design is at hand.

5. Envisioning the need for more agile assessment methods like portfolios and evidence-based design agreement. The goal is to allow learners to exceed the ongoing learning goals and get reinforced to contribute to the standard curriculum. School achievement tests should acknowledge this on-the-fly added value processes and encourage critical thinking and constructivist learning.

Seen the magnitude and complexity of the shifts above, it looks inevitable to focus on the coming teacher skills, competences and attitudes towards autonomy-based upon self-efficacy, self-regulation and a continuous lifelong learning in communities of practice (Lave & Wenger 1991).

Web-Communities for Virtual Distance and Presence

Web-based communities and social media provide flexible, transparent and pervasive ways to integrate learning, working and playing. The two journals that I am leading in this respect are IJWBC and IJCEELL. Their Its main target is to demonstrate how ongoing research proves that learning and societal evolution need to go hand in hand. Its continuous conclusion is that teachers face the need for lifelong learning, both in didactic, pedagogical and domain expertise. Social media and web-communities have great potential, not only for sharing best practices, but also to collaborate in designing and implementing new educational methods and evaluations.

Similarly, there is the teachers' need to a find sufficient density of face-to-face meetings with peer teachers from various countries. For this reason, I have instigated the next conferences during the last decade:

1.   Web-based Communities and Social Media

2.   ICT, Society and Human Beings

3.   International Conference on Educational Technologies

4.   E-Society

Mobile learning: In terms of concrete teacher skills, knowledge and attitude, we may expect a further penetration of learning via mobile devices.

Mobile Learning and the Need for Local Context

One trend is to accept that instead of desktops and laptops, students will continuously use their smart phones to access learning resources. The other trend is that teachers search for sound rationales to limit the mobiles in the classroom as the natural full face-to-face interaction among students and the teacher might be hampered like recently claimed by Sherry Turkle in her newest book and the New York Times bestseller, "Reclaiming Conversation: The Power of Talk in a Digital Age" (Penguin Press October 2015), which investigates how a flight from conversation undermines our relationships, creativity, and productivity.

Future Vision

My vision on the transition from the ICT Competency Framework (ICT CFT) Version 2 to Version 3. Version 2 has been welcomed by the educational field, as it delineated the two dimensions: 1) Technology Literacy via Knowledge Deepening to Knowledge Creation and 2) Understanding ICT, Curriculum, Pedagogy, Administration to Teacher Professional Learning. By bringing both dimensions in a matrix it gave the message that for its real-school implementation and integration, all transitions need care and support. Version 3 still need the same operational precision in my view. On top of that it needs a number of dimensions that I already mentioned in my introduction:

Consequence for Teacher Training

1.   ICT in education will continuously face its role in societal, (multi-)cultural, emancipatory and ecological value transformation. Teachers' ICT competences need to orient to these more recent agendas that go beyond the pure academic and intellectual priorities. One can also say that these new value transformations soon need to be embedded in the curricular install base. However, ICT competences will have a decisive role in it as teachers need to be nurtured by ready-made best practices so that they can complement their improvisations with templates of proven lessons and classroom exercises.

2.   Especially in societies undergoing large in- and outgoing migrations of its population, the function of social media becomes vital in connecting with one's motherland, but also in facilitating the assimilation in one's new country. Social media have that potential but also the risk of social segregation, bullying and exclusion. Teachers need the awareness, skills and tools to monitor social media in order to help students to benefit rather than suffer from its possibilities.

3.   As large data streams can be combined and interpreted in terms of learning progress, teachers need the awareness, knowledge and skills to use its signalling function towards students' learning progress, but also to interpret the symptoms towards threatening drop-outs. The big-data technologies are expanding quickly and courseware publishers use the longer-term logging of learner interactions with tests and even their web excursions. While essentially Learning Analytics based upon Big Data offer teachers suggestions for needed didactic and pedagogical interventions, there is a threat of privacy violation and unwanted commercial use.

4.   Teachers face the new modalities of governance in which school federations tend to grow in size and contrive efficiency instead of the quality of learning. Social media and social networking enable teachers to find and join existing teacher communities in order to mentally survive in their job. Social media have already helped the transformation towards 'servant-based leadership'; It helps to create the pedagogical atmosphere in schools in which the management and the pedagogical climate are compatible.

5.   Teachers need to keep up in awareness, knowledge and skills in new technologies like Mobile Learning, 3D immersive experiences like Virtual Reality, exploratory learning with elementary programming tools like Scratch, 3D Printing, Learning Games, Simulations, etc.

The Need for Updated Teacher ICT Competences

As overall strategy to build the transition from the ICT Competency Framework (ICT CFT) Version 2 to Version 3, I think that Version 2 stays a valid message and intact for several years. Version 3 will cover the new phenomena like the five dimensions above. However, we see a large diversity in the educational field in terms of infrastructure, ideological priorities and ambitions. So I propose Version 3 to offer road maps that allow teachers and school organizations to 'pick-and-mix' ingredients from the ICT competence menu. Version 3 of the ICT Competency Framework (ICT CFT) should help its readers to self-orient and tune its message to the actual state of art in one's own situation. Also, it might be a good idea to bring the new ICT Competency Framework (ICT CFT) Version 3, not only as a web document, but as a social media entity like Web-Community including blog and repository with best practice examples. However, this last option needs an extra planning in terms of ongoing projects like the IRNet and similar ongoing EU projects.

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