INNOVATIVE PEDAGOGICAL PRACTICES USING TECHNOLOGY: THE CURRICULUM PERSPECTIVE

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Introduction

Curriculum Rationales

The publication of Tyler’s seminal book on Basic principles of curriculum and instruction (1949) was contemporaneous with the birth of the first electronic digital computers (e.g., Electronic Numerical Integrator And Computer (ENIAC), the first general hi-speed electronic computer, in 1946). About six decades later, the context (at all its possible levels – social, cultural, economical, educational, political, technological, etc.) in which we situate our current elaboration on curriculum-related issues has changed drastically. Yet, the basic questions raised by Tyler still offer a solid framework for our discussion: What educational purposes should the school seek to attain? What knowledge about the learners’ needs, society’s needs and subject-areas-based needs helps in defining these educational purposes and how should it do so? What curricular and pedagogical solutions, and learning experiences, should be devised to attain these educational purposes? How can the extent of attainment of the defined educational purposes be evaluated?

Undoubtedly, the rapid and multi-faceted development of Information and Communication Technologies (ICTs) has played a crucial role in changing the way we learn, work, communicate, create, spend leisure time – in short, the way we live. Within this new context, the attempt to answer the above questions represents a complex endeavour leading to the design of novel and unique models of curricular solutions (Watson, 2001), 163

based on an updated elaboration on social needs, learner needs, the integration of ICT in all subjects and disciplines, and new pedagogical perspectives.

The definition of educational purposes based on a social needs point of view should take into account, among other things, issues such as the drastic transformations in work and workplaces; the rise of new occupational areas and decay of others; economical weight of ICT-based endeavours; perception of the rising status of ICT-based professions; philosophical, moral and ethical issues arising from ICT’s wide-ranging entry into all venues of life and society and inter-societal processes such as the tension between globalization and local-contextualization.

Educational purposes focusing on the learners’ needs should obviously build on the demands – in terms of knowledge and skills – derived from the ICT-saturated environments within which these learners act and live. But less obviously, the definition of learners’ needs requires special attention to the fact that increasingly, learning is no longer confined to the traditional school setting, but takes place in several kinds of settings and from several kinds of resources. In 1949, Tyler claimed that “It is unnecessary for the school to duplicate educational experiences already adequately provided outside school. The school’s efforts should be focused particularly upon serious gaps in the present development of students” (p. 8). These words, written at times when the school still enjoyed the status of main educational agency and information provider present a strong challenge to today’s school, whose potential contribution to the learners’ preparation to function in the knowledge society is perceived as minimal. Learners appear to acquire the knowledge and skills they perceive as essential by informal means, a mode of learning characterized by high personal motivation and noninstructional interaction with ICT tools and knowledge systems. The question is: Will the school be able to identify the current serious gaps in the present development and offer the learners appropriate bridging between their inside and outside school knowledge worlds?

New Curricular Needs

Integration of emerging ICT content, subjects and disciplines into the school curricula leads to new curricular needs. Research supplies comprehensive mapping of the knowledge and skills comprising new disciplines and inter-disciplines, requiring the resolution of specific curricular issues, e.g., definition of multi-layer content, from the conceptual to the practical; thematic re-organization; or novel ways to integrate between ICT content and other disciplines. In addition, new epistemological and knowledge-organizational perspectives that form the basis of hypertext and hypermedia systems (and ultimately the Web) challenge traditional representational templates of the school curricula (e.g., books) and open the scene to new solutions.

Concerning pedagogy and learning experiences, integration of the results of decades of research on learning and on the development of ICT-based instructional environments allows the formulation of a novel repertoire of pedagogical solutions. Learners have stepped into the centre of the scene (as individuals or groups), and have been supplied with powerful learning tools (e.g., tools for information searching, retrieval or processing; for modelling and exploring natural, social and artificial phenomena; for digital-products creation). The fusion between ICT and learning modalities