

Chapter 7

The i²Flex Methodology: Definition, Praxis, and Conditions for Success

Maria D. Avgerinou

American Community Schools (ACS) Athens, Greece

Stefanos P. Gialamas

American Community Schools (ACS) Athens, Greece

ABSTRACT

This chapter begins with a brief overview of blended learning in the K-12 in order to provide the theoretical framework for the i²Flex methodology and ground it on the larger educational landscape of the early 21st Century. The background, definition, and praxis of the methodology are then presented, followed by the conditions that are critical to its success. Specific reference is made to perspectives, instruments and processes that have served as pillars and guides for i²Flex, such as Boyer's scholarship of teaching (1990), TPACK (Mishra & Koehler, 2006), the Community of Inquiry (CoI) Framework (Garrison, et al., 2000), and the Quality Matters® course design standards and rubric.

INTRODUCTION

Early in the 21st Century, it has been recognized that the world has developed in such diverse directions and created new and particularly complex demands for citizenship, college and careers that it is no longer possible for old learning environments associated with old learning paradigms to accommodate them (Avgerinou, 2014). This realization has led to a pressing need for educational reform, and consequently to the development of a new vision for 21st Century learning (Dede, 2010; LEAP, 2007; NCREL & the Metiri Group, 2003; OECD, 2005; Partnership for 21st Century Skills, 2006; 2009; 2011). The Partnership for the 21st Century Skills framework (2006; 2009; 2011), the most detailed and widely adopted of all aforementioned, emphasizes that in addition to core subject knowledge, such skills as information and communication, inter-personal and self-directional, as well as being well versed with the technologies of this millennium, both from the consumer and the creator's standpoints, are critical in order to prepare

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students as life-long learners to successfully cope with the demands of the ever changing world of the post-industrial era of information revolution.

According to Avgerinou, Gialamas, and Tsoukia (2014), the Business and Higher Education Forum (2005) has proposed that workers of the 21st Century must be educated toward developing science and mathematics skills, creativity, information and communication technologies (ICT) skills, as well as the ability to solve complex problems in order to:

- Successfully overcome the complexity of connecting the digital dots of today's world which "are multidimensional of varying sizes and colors, continuously changing, and linked to other, as yet unimagined dots" (Jones-Kavalier & Flannigan, 2008, p. 14);
- Assimilate information's new set of characteristics (Jakes & Brennan, 2006), namely, digital, networked, overwhelming, immediate, manipulatable, participatory, and visual;
- Implement the change of learning brought about by the participatory media, from the Cartesian view (where knowledge was perceived as some type of 'substance' that pedagogy would transmit) to the social view of learning ('we participate therefore we are') (Brown & Adler, 2008); and
- Redefine the overcrowded curriculum of the past century in alignment with the demands of the new era.

Jenkins (2007) expanded the definition of the 21st Century skills to include:

- **Play:** The capacity to experiment with one's surroundings as a form of problem solving.
- **Performance:** The ability to adopt alternative identities for the purpose of improvisation and discovery.
- **Simulation:** The ability to interpret and construct dynamic models of real-world processes.
- **Appropriation:** The ability to meaningfully sample and remix media content.
- **Multitasking:** The ability to scan one's environment and shift focus as needed to salient details.
- **Distributed Cognition:** The ability to interact meaningfully with tools that expand mental capacities.
- **Collective Intelligence:** The ability to pool knowledge and compare notes with others toward a common goal.
- **Judgment:** The ability to evaluate the reliability and credibility of different information sources.
- **Trans-Media Navigation:** The ability to follow the flow of stories and information across multiple modalities.
- **Networking:** The ability to search, synthesize, and disseminate information.
- **Negotiation:** The ability to travel across diverse communities, discerning and respecting multiple perspectives, and grasping and following alternative norms.

Gialamas and Avgerinou (2015) argue that for these learning outcomes to be achieved it is not sufficient anymore to limit teaching in the intersection between knowledge and pedagogy, that is, solely to apply Pedagogical Content Knowledge (PCK)- a term coined by Shulman (1986; 1987). Schools need to seriously invest in, and systematically capitalize on the affordances of new and emerging technologies, therefore paying specific attention to Technological Pedagogical Content Knowledge (TPACK) which is defined as the interaction of technology with both pedagogy *and* content (Mishra & Koehler, 2006).

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