i²Flex: Integrating a large-scale technology supported educational innovation in a K-12 international school setting

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Abstract— In response to the global educational reform the American Community School of Athens (ACS Athens) Greece has developed its own education paradigm, Morfosis which is defined within the 21st century framework, as a holistic, meaningful, and harmonious educational experience, guided by ethos. The vehicle to implement Morfosis, is the i²Flex (isquareFlex), a non-traditional learning methodology, organically developed by the ACS Athens community of learners. i²Flex integrates face-to-face and internet-based instruction with faculty-guided, student independent learning, and aims at developing higher order cognitive skills within a learning design framework that is flexible in terms of time, pace, place, and/or mode. Ultimately, i²Flex aims at developing students' 21st century skills, while also helping them successfully prepare for their higher education studies and their future careers.

Keywords-component: i²Flex, K-12 blended learning, 21st century skills, disruptive education, innovative leadership, education paradigm, morfosis

I. INTRODUCTION

With the advent of 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. The new reality has led to the development of a new vision for 21st century learning (Dede, 2010), which, among other skills, emphasizes that being well versed with the technologies of this millennium, both from the consumer and the creator’s standpoint, are critical in order to prepare students as life-long learners to deal successfully with the demands of the ever changing world of the post-industrial era of information revolution.

As a result, an unprecedented growth and firm establishment of online and blended learning at all levels of education, including various forms of Virtual Schooling in the K-12 sector (Davis & Niederhauser, 2007; Rice, 2012; Watson, Murin, et al., 2010) has been witnessed. Indeed, online (and blended) learning has been saluted as the disruptive force that can transform the factory-like structure of today’s educational institutions. Clayton Christensen, Harvard Business School Professor who coined the term of art Disrupting Innovation (Christensen, Horn, & Johnson, 2011), argues that by 2019 50% of all high school courses will be delivered online.

II. THE EDUCATIONAL PARADIGM OF MORFOSIS

The American Community School of Athens (ACS Athens) Greece, a K-12 international school, is cognizant of the fact that traditional schooling is not the only avenue for learning. ACS Athens is also a strong supporter of the notion of complete alignment among school learning outcomes, university and market needs. As a result, the school has generated its own education paradigm, named Morfosis (Gialamas & Pelonis, 2009) a central tenet of Classical Greek experience-- and defined within the 21st century framework, as a holistic, meaningful, and harmonious educational experience, guided by ethos.

III. INSTITUTIONAL LEADERSHIP

To successfully implement Morfosis, ACS Athens has strived to operate on Innovative Leadership (Gialamas, 2012; Pelonis & Gialamas, 2010), defined the continuous act of effectively engaging all members of the institution while utilizing their differences, energies, feedback, and diverse qualities primary for the benefit of the students and also for every other constituency of the institution. This type of leadership has three dimensions: (a) interpersonal, (b) setting standards, and (c) serving humanity.

IV. i²FLEX: DELIVERING AND SHAPING MORFOSIS

The vehicle to implement Morfosis, is the i²Flex (isquareFlex), a non-traditional learning methodology, that has been organically developed by the ACS Athens community of learners. The i²Flex methodology integrates face-to-face and internet-based instruction with faculty-guided, student independent learning. The main goal of implementing this learner-centered methodology is the development of higher order cognitive skills as these have been specified in Bloom’s revised Taxonomy (Anderson & Krathwohl, 2001), within a learning design framework that is flexible regarding time, pace, place, and/or mode. i²Flex draws on the research and practice of blended learning
improving teaching and learning
internalize the innovation; (b) a commitment to technology for educational
factors for such a methodology to be successfully adopted.

B. thinking and behavior of its constituents.

policies, management style, and, most importantly, the
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During the 2013-2014 school year, as part of a school-
wide action research, 23 i²Flex classes were piloted across
Middle and High School with participating teachers recurrently attending professional development on blended
teaching and learning, while course design and following
benchmarks for online course design in the K12 that were
developed by Quality Matters® (2011-2013).

In conclusion, it is anticipated that when applied in such
a systematic, pedagogically sound way, i²Flex can empower
ACS Athens students to transform the world as architects of
their own learning (per the ACS Athens’ vision), by linking
high quality teaching and high quality courses with the
collaborative, networked, information-rich environments
that are a hallmark of the information age (Davis, et al.,

V. RECOMMENDATIONS

Despite the fact that the i²Flex methodology is still in the
pilot phase, recommendations may already be attempted with
regard to (a) the process that needs to be in place, but also (b)
the factors that need to be considered so that such a
methodology can be successfully adopted.

A. Process

According to Pelonis and Gialamas (2010), “It is easy to
change policies, structures, curriculum, and management
approach, but it is difficult to change how the members of
the institution think and behave” (p. 76). Thus, the presence
of an innovative institution leader is essential. The leader
must begin with the understanding of the existing culture of
the institution which is typically defined by its history,
policies, management style, and, most importantly, the
thinking and behavior of its constituents.

B. Factors

The following are recommended as the most critical
factors for such a methodology to be successfully adopted:
(a) an institutional culture that is embracing change and
innovation; (b) a commitment to technology for educational
purposes, and, most important, a commitment to thinking
differently; and, (c) a commitment to continuously
educating faculty, students, parents, and administrators to
internalize the adaptive reasoning as the thinking process of
improving teaching and learning.

VI. CONCLUSION

If the goal of education is to successfully prepare
students for the future, we cannot continue educating them
in ways that address education and market needs of the past.
Thus, an educational reform is not only necessary, but also
critical in bringing about drastic changes in educational
curricula as well as the way these are implemented. Within
that context, educational technology should be approached
as an integral part of shifting K12 education to a different
level and trajectory of thinking and learning.

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