



Online and hybrid university-level courses with the utilization of Second Life: Investigating the factors that predict student choice in Second Life supported online and hybrid university-level courses



Nikolaos Pellas^{a,*}, Ioannis Kazanidis^{b,1}

^a University of the Aegean, Department of Product and Systems Design Engineering, Konstantinoupoleos 2, Hermoupolis, Syros, Cyclades GR-84100, Greece

^b Kavala Institute of Technology, Department of Industrial Informatics, Ag. Loukas, Kavala GR-65404, Greece

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ABSTRACT

The radical restructure of hybrid and online learning course delivery methods at university-level held in Second Life has been widely and positively acknowledged from a large academic literature body. However, it is still absent the clarification of students' socio-cognitive factors that predict their choice to attend at least in one of these course delivery methods. The main purpose of this study is to examine the relation between several personal factors and students' choice to participate in these contemporary methods. A targeted sample of 325 voluntary students (170 who participated in hybrid sessions and 155 who participated in online sessions) completed a survey to assess socio-cognitive factors (self-efficacy, metacognitive self-regulation and task value), achievement-related emotions (pride, anger, relief and shame) in academic settings (before and after finishing various learning activities) and satisfaction levels of each method with also final grades from their examination processes to be included. Logistic regression confirmed higher levels of students' self-efficacy and satisfaction in learning outcomes for those who took part in (fully) online rather than those who enrolled in hybrid courses. The study results revealed that students would prefer to take further courses in the online course delivery method. Conclusive remarks may provide meaningful information to the educational community in order to understand better how the socio-cognitive constructs of motivation are related to the students' participation in future-driven educational activities held in Second Life by using the online or hybrid course delivery methods.

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1. Introduction

Information and Communication Technologies (ICT) services and transactions are without doubt the most important and worthwhile innovations to date, which have contributed to the enhancement of pedagogical outcomes in universities and other educational institutions to a significant extent. A novel phenomenon of the last decade is the enhanced educational and research interest in the utilization of Web 2.0-based sources, such as blogs, wikis, social networking sites or even social indexing tools (social bookmarking), and withal three-dimensional (3D) multi-user virtual worlds have been acknowledged as alternative options for the implementation of educational activities. Many academics, researchers and instructors (Bennett, Bishop, Dalgano, Waycott, &

Kennedy, 2012; Chen, Hwang, & Wang, 2012) have argued that Web 2.0 sources have the potential to offer increased learning opportunities for students and instructors can also support the Lifelong learning activities.

Web 2.0 as a unique “umbrella” of this open-ended and digitally-infused dimension has many other dynamic characteristics that expect to promote a catalytic effect in the entire e-Education (Pellas, 2012; Salmon, 2009). Some of them are the following: (a) the radical change of knowledge's nature and the access to this one, (b) the transformation of the learning context can offer multiple opportunities for constructivist, collaborative, ubiquitous, and lifelong learning processes and (c) the expansion of e-learning environments can allow users to utilize formal or informal learning approaches or course delivery methods (either online or hybrid) to access on a novel knowledge domain or “edutainment” (education and entertainment) approaches in 3D multi-user virtual worlds.

These circumstances have led instructors and researchers to develop innovative educational models or methodologies with a unique design. Beyond that even as methods have been adapted

* Corresponding author. Tel.: +30 2281097118.

E-mail addresses: nikolaospellas@gmail.com (N. Pellas), kazanidis@teikav.edu.gr (I. Kazanidis).

¹ Tel.: +30 6974733445 (mobile).

to replace the face-to-face (f-2-f), have neither allowed the contact between students and instructors sufficiently nor have contributed positively to the easy acquisition of knowledge. Online and hybrid (blended) are the most eligible and reliable methods which have been recently implemented at university-level courses. Regarding the first method, online learning has a rudimentary structure and the same students can make selection of courses. This method can become a truly successful course delivery method in well-organized settings and inspire the interest of other people who want to continue their education or further practice their skills for professional or personal advancement, since they are (or not) in any academic sector. Indeed, significant solutions derived from the reduction or elimination of various financial costs can be offered, covering many serious educational needs in this contemporary era (Pellas & Kazanidis, 2013a, 2013b, 2013c).

Student engagement in online learning process can be provided by a set of interactive communication tools for instructors and students that may facilitate collaborative activities, even after the mandatory school's hours (Kali, Levi-Peled, & Yudy Dori, 2009). Several studies (Janssen, Erkens, & Kirscher, 2011; Lu, Chiu, & Law, 2011; Sung & Mayer, 2012) in the online learning area with different two-dimensional (2D) platforms have presented positive results from the group comparisons, the construction of learning materials and the effectiveness of course delivery methods in academic performances according to students' attitudes. The advantages were quite enough, however one significant disadvantage was the absence of users' (instructor and student) presence that is needed sometimes during the learning process. This distinction may cause the lack of synchronicity, i.e. all users together in a common place at the same time try to exchange opinions or ideas to solve a problem by utilizing verbal or non-verbal communication tools.

Whilst online could not replace traditional teaching methods, "mixed" modes of learning (hybrid/blended) have been launched and many instructors or administrators have already utilized them in different learning platforms, such as Learning Management Systems (LMS) (Burgess, Slate, Rojas-LeBouef, & LaPraire, 2010; Dziuban, Hartman, & Moskal, 2004). These 2D environments seemed that could fill the gap created by users' presences, both in a natural and artificial environment, in order to replace face-to-face communication or interaction with other users simultaneously. In addition, this option was supported by the combination of traditional classes with the online ones. As Harrington (2010) has pointed out, there is positive impact regarding hybrid delivery of learning material, but significant data concerning the implications of online mainstream content was lacked. In the light of these findings, Tselios, Daskalakis, and Papadopoulou (2011) have shown that the combination of face-to-face interaction based on online instruction could offer an added value to support learner-centered and collaborative learning processes. Other researchers (Gonzalez, Rodríguez, Olmos, & Garcia, 2013; Marttunen & Laurinen, 2009) have stressed that learner-centered approaches can be amplified from the knowledge's construction by promoting higher order thinking skills of students, like collaboration, reflection and of course finally cause their satisfaction. Moreover, in hybrid learning methods the instructor cannot merely use traditional and distance activities; instead he/she should organize an effective approach in which users need to exploit the strengths of collaboration and satisfaction with other peers (Matzat, 2013).

Benefits from the utilization of 2D platforms, like LMS or Web 2.0-based technologies (blogs, social media or wikis) are currently well-known. Although, students could not share synchronously their experiences based on online and hybrid course delivery methods, and many other researchers have found that these benefits cannot outweighed the drawbacks observed, as easily as the face-to-face and specifically in-class supported interactions, due to: (a) technical problems (Rivera, McAlister, & Rice, 2002) that

may produce students' feelings of isolation (Contreras-Castillo, Favela, Perez-Fragoso, & Santamaria-del-Angel, 2004), (b) the lack of students' learning experiences in online courses (Piccoli, Ahmad, & Ives, 2001), (c) the wrong expectations that students have for online courses or differences of their cognitive background leading to lower levels of satisfaction (Kleinman & Entin, 2002), (d) the dissemination of learning material which is not more cost-efficient, enabling instructors to not organize well enough students' coordination in the learning process (Tayebnik & Putch, 2012) and (e) despite the multiple opportunities offered by 2D LMS, students have to learn with other members collaboratively (mainly with asynchronous communication forms), sometimes a meaningful explanation of how personal factors influence their choice to learn in different course delivery methods by using 3D technologically-advanced environments is until recently lacked (Pellas & Kazanidis, 2013a, 2013b, 2013c).

A growing body of academic literature (Pekrun, Elliot, & Maier, 2009; Schunk, Pintrich, & Meece, 2008) has shown a widespread interest in exploring students' emotions in the learning process that is always associated with enjoyment, boredom or frustration emotions, as significant predictors of self-regulated learning and achievements in traditional classrooms. Hitherto educational researchers (Pekrun et al., 2009; Zembylas, Theodorou, & Pavlakis, 2008) have found that students' involvement in 2D LMS may lead to more stressful, frustration or boredom situations and thence a sense of social isolation.

A recent study of Schrader and Bastiaens (2012) has shown that the relationship between virtual presence and non-trivial learning outcomes are partly mediated through an increased cognitive load. Obviously for this reason, future studies may start to shift into innovative 3D interactive learning environments, like 3D multi-user virtual worlds. Instructional technologists and educators should explore the dynamic dimension of emotions or motivational constructs, such as self-regulation and academic-related achievements, in online and hybrid learning processes, contributing to more meaningful and comprehensive understandings of how students can learn in both course delivery methods.

At the beginning of the 21st century, 3D multi-user virtual worlds have become an integral part for fans of social networking (Web 2.0) sources and students who already preferred to acknowledge them as candidate platforms for visually-rich interactive activities through online or hybrid course delivery methods. 3D multi-user virtual worlds have rapidly become a key part of the modern global culture, and actually representing a new social phenomenon. Beyond this notion, the effective use of 3D interactive and multi-user virtual environments can adequately motivate learners to participate more easily in collaborative or self-regulated learning processes, obtaining a better relationship among students with the knowledge and better cooperation in their activities. Learners in these dimensions can interact with a common 3D virtual world, where each one in front of his/her computer screen, individually and dispersed from the others exposed in a pre-constructed virtual place (grid) that can offer extremely broad educational opportunities. This situation has been radically started to change the current "status quo" of e-Education and mainly online and hybrid course delivery methods.

As long as the popularity of 3D multi-user virtual worlds for educational activities may continue to grow at an exponential rate (Pellas & Kazanidis, 2013a, 2013b, 2013c), there should also be growing scholarly interest in achievement-related emotions through hybrid or online course delivery methods (Artino & Jones, 2012; Schutz & Pekrun, 2007). Recent studies (Pekrun et al., 2009; Schunk et al., 2008) have shown that in traditional (face-to-face) classrooms students' affective factors, motivations and emotions are directly linked to their ability to self-regulate or achieve learning objectives. Artino and Jones (2012) have suggested students'

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