Collaborative agile learning in online environments: Strategies for improving team regulation and project management

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ABSTRACT

Unsatisfactory prior experiences in collaborative learning influence students’ predisposition towards team-based learning activities. Incorporating strategies for helping teams to effectively regulate group work and enhance planning processes may result in an increase in students’ engagement with learning activities and collaborative processes. Taking into account the benefits of the agile method for teamwork organisation, this study sought to analyse the usefulness of agile strategies for team regulation and project management in online higher education. An iterative process of course redesign was conducted in the context of an undergraduate project-based learning course during two consecutive semesters. The new design was piloted and evaluated based on the students’ and teacher’s views and the learning outcomes. A total of 114 students were surveyed about their satisfaction with the course and their perception of the usefulness of the method. Two interviews were conducted to collect the teacher’s opinions. The results of the study indicate that agile strategies are useful for improving students’ online project management and collaboration. Nevertheless, no significant impact has been observed in students’ satisfaction nor in the overall learning outcomes.

Keywords: cooperative/collaborative learning, teaching/learning strategies, distance education and telelearning, post-secondary education

1. Introduction

Teamwork is one of the key competencies that students must acquire to meet the needs and skills of the labour market, as recognised by the European Higher Education Area (EHEA). The capacity to work in groups is of particular importance, as many jobs are becoming too multifarious for just one person to effectively complete. Research demonstrates that learning in collaboration may increment students’ motivation, persistence, and efficiency due to the exchange of ideas (Liaw, Chen & Huang, 2008; Laux, Luse & Mennecke, 2016). However, just proposing group working does not guarantee effective collaboration (Johnson & Johnson, 2004). Students need to learn how to collaborate effectively and how to self-regulate their collaboration (Tseng & Yeh, 2013; Miller & Hadwin, 2015).

Effective collaboration transcends the notion of grouping students together to learn something and requires that students handle complex skills such as commitment, time management, negotiation, adopting different roles and responsibilities, planning, and taking into account other views (Noguera, 2013). Teams may encounter many challenges for organising teamwork that can be managed through appropriate strategies in a process of socially shared regulation of learning (SSRL), in which behaviours, motivation, and emotions are collectively regulated (Malmberg, Järvelä, Järvenoja & Panadero, 2015). Nevertheless, learners frequently lack the regulatory skills required for complex collaborative tasks and often fail to interact productively in groups (Miller & Hadwin, 2015).

Collaborative learning is highly demanding, and it becomes even more challenging when all collaboration occurs online. Even so, computer-supported collaborative learning (CSCL) has become increasingly widespread. Research evidences that students may feel frustrated when performing online collaborative learning activities due to communication difficulties and an imbalanced commitment among team members (Capdeferro & Romero, 2012). However, social interaction is considered to be one of the critical elements in CSCL (Abedin, Daneshgar & D’Ambra, 2011; Lin, Hou, Wang & Chang, 2013), and research suggests that trust among team members is one of the variables that clearly affects virtual teams’
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