Knowledge recipients' proactivity as a determinant of knowledge absorption in cooperative learning experiences in higher education

OUTLOOK

Higher education in most European countries has undergone major changes in the last few years (Masjuan and Troiano, 2008). The homogenisation guidelines that stemmed from the Bologna declaration to create the European Space for Higher Education have forced national university educational systems to adapt to the new context. In some countries, this has entailed a change in traditional teaching processes to foster knowledge absorption and competence development by the students by using new teaching/learning methods with a student-centered approach (De Juan et al., 2011).

One of the most cited approaches to implement student-centered strategies in the classroom is group learning. In the literature on education there is strong scientific support of the benefits of students learning and working in groups (e.g., Gillies and Boyle, 2010; Chiriac and Grönstrom, 2012). Cooperative learning can be defined as an instructional technique in which students work together in small structured groups in order to accomplish shared goals (Jonson et al., 1984; Hennessy and Evans 2006; Doymus 2008; Karacop and Doymus, 2012). Through the active role that students take in those activities and the social environment where it is developed, learning results can be very positive in the cooperative activities designed under this perspective. In fact, Yi and LuXi (2010) state that the goal of the implementation of cooperative learning models in higher education should be to promote more interdependent relationships among students, to arouse their interest and to produce better learning outcomes.

Numerous studies on cooperative learning have documented its benefits, but fewer have examined the influence of variables on achievement (Gillies and Ashman, 2003). The application of cooperative learning techniques in higher education can be a challenge (Millis, 1990), especially in the context of massified groups of students that are traditional in some programs in universities of several European countries. The interest to identify factors that affect success and knowledge absorption in the implementation of cooperative learning is then highlighted. The goal of this work is to analyse the relevance of the influence of several factors related to students' proactivity or proactive behavior on knowledge absorption in the context of cooperative learning in universities.

In the psychological and business fields, scholars have become increasingly interested in active performance concepts. As a result, various proactivity concepts have been identified in the past two decades (Tornau and Frese, 2012). In the business context, Grant and Ashford (2008) state that proactive behavior refers to anticipatory action that employees take to impact themselves and/or their environments. These authors address proactivity as a process that can be applied to any set of actions through anticipating, planning, and striving to have an impact.

Since specific proactivity concepts that are well established in the literature are proactive personality, personal initiative, voice, and taking charge (Tornau and Frese, 2012), proactive behaviour can encompass several aspects. In this study, we have viewed several factors as leading or defining a student's proactivity in university studies. Thus, creativity, the locus of control, self-effectiveness prior to the learning experience, and motivation towards cooperative learning techniques has been selected as factors directly related to the concept of proactivity.

Creativity can be related to the production of novel and useful ideas or solutions (e.g., Amabile 1988; Zhou and George, 2003). The locus of control refers to the sense of control that one has over outcomes (Fielding and Head, 2012). For Bandura (1986), self-efficacy is one's judgment of capabilities to organise and execute courses of action required to achieve a certain level of performance. And the traditional concept of motivation focuses on the disposition to exert high levels of effort for the achievement of goals, mediated by the ability that this effort meets some individual need (e.g., Robbins, 2001). Based in the literature review, the analysis of these four elements have led to the presentation of four research hypotheses about their potential positive influence on students' knowledge absorption.

As part of the empirical approach, a cooperative learning experience was designed at a Spanish university to teach the contents of a selected unit in two courses of basic management concepts and principles for undergraduate students in the programmes of the Bachelor in Physical Activity and Sport Sciences, and Bachelor in Economics, respectively. That learning intervention was based in the jigsaw technique (Aronson et al., 1978) to teach topics related to structure and organisational design. The jigsaw method provides a cooperative learning environment which fosters learner activity, joint acquisition of content and mutual explanations (e.g., Karacop and Doymus, 2012). At the end of the experience the students had to take an individual test which consisted of an analysis of a case study where knowledge of the contents was required to solve the questions.

The research design was developed as to have two data sources to test the hypotheses. On the one hand, the grade of the case study test was obtained from the lecturers of the course as a proxy of the student's knowledge absorption. On the other hand, a survey was conducted to obtain the data of independent and control variables at the beginning of the intervention. The questionnaire contained scales to measure the variables of interest, and it was self-administered under the supervision of a research assistant. 165 valid questionnaires paired with the respective grade on the test were obtained for this study.

After reducing the dimensionality of the scales of the independent variables with factor analyses, a standard regression analysis on the grade was conducted. The regression model also included control variables: the student's gender, the fact that he/she worked during the studies, and whether the student was participating in the course for the first time or had failed the course in the previous academic years. The results show the positive impact of the internal locus of control and the self-effectiveness, along with the fact that the student is attending the course for the first time. However, motivation towards cooperative learning techniques also exerts a relevant influence on the grade, but in a negative way although with a lower level of significance. These results entail implications to apply cooperative learning in business courses in higher education.