

## E-rubrics to facilitate self-regulated learning.

There seems to be agreement that our societies are turning into knowledge societies. In these societies knowledge is becoming the most valuable good, and lifelong learning, i.e. the acquisition of knowledge and skills over the life span, is becoming increasingly important. In November 2001, the European Commission issued a communication titled "Making a European Area of Lifelong Learning a Reality" (Commission of the European Communities, 2001). In this document, lifelong learning was defined "as all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment related perspective" (Commission of the European Communities, 2001, p.9).

While lifelong learning refers to formal as well as to informal learning, learning in higher education institutions has received special attention in recent years. In 2010, the European Higher Education Area (EHEA) was launched with the aim to "to ensure more comparable, compatible and coherent systems of higher education in Europe" (<http://www.ehea.info/>). Two years later, in the Bucharest Communiqué, ministers of 47 European countries agreed on the following priorities for future work in the EHEA: (1) to provide quality higher education for all; (2) to enhance graduates' employability; (3) to strengthen mobility as a means for better learning (EHEA Ministerial Conference, 2012). In this document, it was stated "We reiterate our commitment to promote student-centred learning in higher education, characterised by innovative methods of teaching that involve students as active participants in their own learning" (EHEA Ministerial Conference, 2012, p. 2).

Allowing students to be active participants in their learning presents a shift from teacher-centered learning to student-oriented learning. This gives more autonomy to learners, but also requires that they take more responsibility for their learning, i.e. that they self-regulated their learning to a higher degree than used to be the case. In fact, the competence for self-regulated learning has been listed as one of the 21st century key competences (Delors, 1996; World Bank, 2003; European Council, 2006).

According to Zimmerman & Schunk (2008), students who know how to self-regulate their learning "set better learning goals, implement more effective learning strategies, monitor and assess their goal progress better, establish a more productive environment for learning, seek assistance more often when it is needed, expend effort and persist better, adjust strategies better, and set more effective new goals when present ones are completed".

Although a number of models for self-regulation were proposed (Boekaerts et al., 2000), the best know model is probably the one developed by Zimmerman (2000). According to Zimmerman (2000) self-regulation consists of cycles of (1) forethought, (2) performance or volitional control, and (3) self-reflection. There seems to be agreement that self-regulation involves "cognitive, affective, motivational and behavioural components that provide the individual with the capacity to adjust his or her actions and goals to achieve the desired results in light of changing environmental conditions" (Zeidner et

al., 2000, p.751).

While most students exhibit some competence in self-regulated learning (SRL), it is important to improve these (Zimmerman et al., 2003; Delfino, Dettori & Persico, 2010). This may be achieved in a cognitive apprenticeship approach (Brown et al., 1989) where skills are first demonstrated by an expert and then students receive scaffolding which is then gradually reduced (Van de Pol, Volman & Beishuizen, 2010; Azevedo & Hadwin, 2005).

The development and improvement of SRL competences depends greatly on the feedback students receive on their learning activities. Rubrics have a great potential of fostering SRL and subject-specific competences. The advantage of working with rubrics is that they remind us that competences are theoretical constructs which cannot be observed directly. What we can observe is behaviour in specific situations, and from observing this behaviour we infer that the behaviour was enabled by an underlying competence. In using rubrics, we make this inference explicit by listing behaviour which we consider to be indicator of a specific competence.

In the contributions to this issue, the different authors analyse the potential of rubrics to facilitate students' self-assessment and assessment by peers and teachers and thereby help them to improve their learning. Gabriela de la Cruz Flores y Luis Felipe Abreu Hernández point out that rubrics may support the self-regulation in all the three phases which Zimmerman (2000) suggested: (1) planning, (2) monitored execution and (3) evaluation. Strategies that these authors suggest to improve self-regulated learning are reflexive practice, collaborative learning and feedback provided by peers and teachers.

Electronic rubrics (eRubrics) are a rubrics that are presented online. Students are increasingly working in technology enhanced learning environments (TELEs). From a technical point of view, it is relatively easy to integrate eRubrics in this kind of environments. Using eRubrics has the advantage that feedback can be given much more quickly than in traditional learning environments with traditional paper-and-pencil versions of TELEs. Since they are easy to use, it is likely that they will be used more often and the more frequent feedback that is thus provided may help students to better self-regulate their learning than would be the case in traditional learning environments. As Cebrián (2007) points out, eRubrics provide for more interaction and help students to become more autonomous in evaluating their competences.

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