

Digital Badges in Initial Technology Teacher Education: A Method for Grading Explicit Soft Skills

*Niall Seery, Adrian O'Connor, Donal Canty and Jeffrey Buckley
University of Limerick, Limerick, Ireland*

Abstract

Soft skills encompass personality traits, social graces, communication, language, personal habits, friendliness, and optimism that characterise one's relationships with other people. Soft skills complement hard skills, which are about a person's skill set and ability to perform a certain type of task or activity. In education, the term 'soft skills' is often used interchangeably with transversal (cross-curricular) competences, i.e. those that are horizontal, cross-disciplinary, and not subject-specific. The European Commission (EC) Eurydice Network identifies a number of soft skills, such as problem solving, social and civic competences, cultural awareness and expression, collaboration, innovation, etc. Strategically targeting the development of these skills requires the recognition of key qualities, the capacity to discriminate between these qualities and a mechanism to validly and reliability grade acquisition. Teachers and students alike must take cognisance of the sophisticated relationships between acquiring content knowledge and soft skills through specific ways of working and thinking.

This study, which is part of a 3-year longitudinal research project financially supported by the European Union, is being developed with the support of the Lifelong Learning Programme (LLP), the flagship European funding programme in the field of education and training. Using digital badges, this study focuses on representing explicit soft skills of undergraduate students in Initial Technology Teacher Education (ITTE) in a quantitative, measurable way, so that these skills can become the subject of formal validation and recognition. The study took place in the University of Limerick during a 12 week module over one semester of the academic year. The soft skills under investigation in this study are two of the most common predictable features of high functioning learning communities: participation and contribution.

In an effort to provide continuous development, measurement, assessment, grading and recognition of soft skills, the methodology integrated a popular learning management system supported on both stationary computers and mobile technologies (e.g. students smartphones, tablets, etc.). Central to the delivery of the approach was the design of the adaptive educational transaction - an educational experience which focuses on the cognitive interplay of teachers and students and is situated in the context of socially-mediated activity. This took the shape of a formative design brief which required students to demonstrate evidence-based progress of both their learning process and the product of their learning by working iteratively, posting annotative comments, engaging in collaborative discourse with their teacher and peers, and uploading subsequent data files to their learning management system.

In response to the adaptive nature of the educational transaction and the idiosyncratic disposition of the participants within the learning management system, this study designed and accredited bronze, silver, and gold badges for individual participation and contribution. This resulted in a standards-referenced continuum of soft skill acquisition ranging from low proficiency to high proficiency that describes student's performance in terms of the tasks performed or competencies displayed. The interpretation of assessment data using this method allowed each badge to be mapped to different sets of multiple criteria, or standards, creating levels or stages along an increasing continuum of soft skill achievement indicated by student's behaviour and evidence of learning displayed during the educational transaction.