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## **ASSESSMENT OF TRANSVERSAL SKILLS: THE CASE OF UNIVERSITAT POLITÈCNICA DE VALÈNCIA (SPAIN)**

*This paper summarizes the actual state and “in progress” results of an ambitious project based on transversal skills that has been created at Universitat Politècnica de València (UPV) – Spain. One of the last initiatives of this project has been the proposal of rubrics for assessment, with a double purpose: to prove the acquisition of transversal skills through several checkpoints along the degree (and master) study plan; and to establish a systematic assessment strategy by defining in which courses is acquired every competence, and how should be evaluated.*

### **1. Introduction**

As a result of the ideas that built the spirit of the European Higher Education Area, the main objective of teaching is the acquisition of a number of competencies. Competencies are defined in different levels of achievement according to Bloom's taxonomy (for more information, see Armstrong (2015)).

Several authors have defined the word *competence*. Lasnier (2000) defines competence as a result of *know how* complex integration, mobilization and adaptation of knowledge, attitudes and skills (cognitive, affective, psychomotor and social skills) effectively used to perform certain functions in similar situations. In short, competences are knowledges, attitudes, experiences, etc., that contribute to the development of certain tasks and activities, as well as the outstanding achievement of certain results. It is obvious that skills acquired in the Spanish diplomas must respond to the real demand; examples of this can be seen in Santandreu and Canós (2014) and Santandreu, Canós and Pons (2012).

University education is rapidly evolving towards a skills acquisition based model. These skills, especially the transversal ones, serve for incentivizing the students to continue their education after completing formal studies, i.e. learn throughout life (Long Live Learning) (Mourtos, 2003). Thus, the student acquires skills and instrumental, interpersonal and systemic skills that are key to success and allow them to be richer both as professionals and integral persons.

## 2. How can we assess competences?

Following this trend, an ambitious project based on transversal skills has been created at Universitat Politècnica de València (UPV), organized by its Instituto de Ciencias de la Educación (ICE). One of the last initiatives of this project was the proposal of rubrics for assessment, with a double purpose: to prove the acquisition of transversal skills and to establish a systematic assessment strategy by defining where they are acquired and how they should be evaluated (ICE, 2015: 3).

In fact the first challenge of the *UPV2020 Strategic Plan* is stated as "UPV aims to move towards training models that let their students acquire the necessary skills to have an adequate employment". Therefore, UPV defined 13 transversal skills that are presented in all the study plans of the university, whatever their specialty (see a brief definition of each one of them in Table 1 below).

Table 1. UPV transversal skills

01. Understanding and integration	Demonstrate understanding & integration of knowledge
02. Application and practical thinking	Apply knowledge to practice, based on the available information, and establishing the process to follow to achieve objectives effectively and efficiently
03. Analysis and problem solving	Analyze and solve problems effectively, identify and define their significant elements
04. Innovation, creativity and entrepreneurship	Innovate to satisfactorily respond, and in original way, to needs and personal, organizational and social demands, in order to add value, with an entrepreneurial attitude

05. Design and project	Design, manage, develop and evaluate effectively an idea to concretize it in a service or product
06. Team work and leadership	Work and effectively lead teams to achieve common goals of a group of people contributing to their personal and professional development
07. Ethical, environmental and professional responsibility	Act ethically, environmentally and professionally
08. Effective communication	Communicate effectively and properly, both orally and writing, and using the resources that better adapt to the characteristics of the situation and the audience
09. Critical thinking	Develop critical thinking that cares about the grounds on which ideas, actions and judgments are settled
10. Knowledge of contemporary issues	Identify and interpret contemporary problems in a field of specialization as well as in other fields of knowledge
11. Lifelong learning	Use learning in a strategic, independent and flexible way over lifetime, depending on the desired objective
12. Planning and time management	Plan and schedule the available time to develop the required activities to achieve academic, professional and personal objectives
13. Instrumental	Use updated tools needed for the practice of the profession

*Source: Own elaboration from ICE-UPV working reports.*

We consider different elements to define each rubric (ICE, 2015: 6-7):

- The first one is the level of achievement, always growing. According to this criteria the student should be assessed at least once during the first two years of the Bachelor (level I). This is a guided learning process in which all the work is scheduled.
- Then, another assessment is developed in third and fourth course of the degree (level II), through a guided learning process that allows some autonomy to the student.
- Finally, in master level (level III) learning is autonomous.

Furthermore, indicators are another important element, defined as concretions of learning outcomes of each level, along with descriptors that define the student's behavior with respect to each indicator. Thus, for assessment, a four-point scale has been established according to the level of development of each student in each transversal skill:

1. A → Excellent
2. B → Appropriate
3. C → Developing
4. D → Not reached

In this context, UPV has defined three paths to get transversal skills assessed (ICE, 2015: 5):

1. In the training process: subjects are checkpoints.
2. At the end of studies: TFG (Bachelor Thesis) and TFM (Master Thesis).
3. Through extracurricular activities that demonstrate the level reached in any of the transversal skills.

### 3. Discussion and conclusions

Assessment of skills is not easy or trivial, teachers training is fundamental, since many of them have shortcomings and ignorance on this subject. Then, as a result, sometimes evaluation systems that are not useful to do an appropriate assessment are defined, or the difficulty in assessing some skills deters teacher to perform this task, or is intended to encompass such an amount of skills included in a subject that is not possible to treat it (coordination among subjects is essential to achieve the desired results among all, not particularly).

The financial crisis in Spain has been also a crucial factor, as the ratio of number of students per course has been raised. Therefore, even with the best assessment tools and methods, it's really difficult to evaluate objectively some of the transversal competences with such big groups in the hall. The personal touch and the daily contact with the students during the semester becomes really narrow, and sometimes seems not sufficient to confirm or complement (or neglect) the results of certain assessments. Moreover the fact of evaluating the transversal competences of the student with a longitudinal perspective through many years is very interesting, but at the same time really difficult to state it objective. Many environment factors and side-effects are difficult to isolate from the whole process, making the evolution tracking system even weaker.

In any case, and even with the weaknesses exposed, Universitat Politècnica de València is really committed with the inclusion of transversal skills as part of the body of knowledge and competences that the students should acquire.

### Literature

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