



HEInnovate @ the Department of Mechanical Engineering of the University of Aveiro, Portugal

The will is the limit. To be a better professional every single day is the mission. HEInnovate is the catalyst to achieve it.

The journey started in 2014 with one person at the University of Aveiro, when attending the first HEInnovate National Workshop in Lisbon (November 18th). This raised awareness of the full potential of the tool.

Following the first experience of HEInnovate at the National Workshop in 2014, using HEInnovate became crucial to understand myself as a professional, and to position innovation and entrepreneurship within the Department of Mechanical Engineering, my working place as a Science and Technology Manager/Researcher.

HEInnovate was first used in the Department via a pure bottom-up approach, an exercise that was fully supported by the Dean of the Department. It was used as a tool for change under the scope of innovation and entrepreneurship in higher education institutions.

The setup of HEInnovate revealed the importance of personally explaining the tool and its potential, with people's resistance initially being the major barrier for its implementation. It is important to ensure that the impact on the people involved, their professional lives (and position) within the Institution were explored within the in-person debates promoted before and after the utilization of HEInnovate.

HEInnovate was applied with two distinct target audiences within the Department of Mechanical Engineering ecosystem: members of the Research Unit Centre for Mechanical Technology and Automation (TEMA), and the Students Association of the same Department. With an average of 47% of completed surveys, the analysis of the results was debated during in-person sessions with the two groups. Having innovation and entrepreneurship in Higher Education as a pillar, the following items were highlighted:

- HEInnovate is a powerful tool for personal and institutional dynamic diagnoses;
- HEInnovate guides the pursuit of excellence and effective involvement of people intra-HEI and with stakeholders;
- HEInnovate provides legitimacy, based in its statements, to strategic actions;
- HEInnovate promotes debates and further actions on emergent issues within the Institution's dynamic.

One major outcome was identified as a key-element for action: the proper profile of the academic staff in HEIs for teaching, for leadership and management within the institution and an effective cooperation with Society.

Following the workshop, a research/working group entitled Science and Engineering Education (SEE) was created at the University of Aveiro, and a National Forum of Engineering Education was promoted in June 2016 with approximately 100 stakeholders from Higher Education in Portugal to understand and debate potential actions. One of the outcomes reinforced the role of academic staff in the classrooms and in the overall dynamic of the institution.

Due to the journey started with the identification of an emergent priority focused on teachers in higher education, a major initiative is currently being promoted. Since January 2017, at the Rectory level of the University of Aveiro, the project "Excellence in Engineering Education @

University of Aveiro” (E3@UA) involves all engineering courses – by means of their academic staff and students – of the University, focused on the profile of teachers in higher education. As a deliverable, a new analysis tool HEAT (Higher Education Enhancement Tool) is being developed based on a 3D Kano model, to infer the profile of higher education teacher based on three main pillars: personal, institution and community, supported by three dimensions of HEInnovate. This is being carried out as illustrated in the figure below, where the relevant dimensions are shown, together with their interrelation within E3@UA.



Additionally, a new certification system is currently being developed as an added layer to the HEAT tool that can “label” higher education teachers. The idea is to certify higher education teachers based on a number of distinctive and key competences, and aligned with a number of dimensions (namely those addressed by HEInnovate: innovation, entrepreneurship, leadership, collaboration with the Community), towards the establishment of a quality standard certification to the excellence of higher education teaching and teachers.

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