“Self-paced engineering projects as qualification method for lifelong learning”

Learning and teaching in schools been based on very traditional methods. Even at Universities, the possibilities and structures are very traditional. This century started to be very challenging not just for all business but also for all sectors in education. Information is available on a much more intensive range than ever on a permanent accessible basis. The challenge for students is nowadays to select quality of information, structuring it and selecting the most important ones.

Ever since in 2011 the term Industry 4.0 was introduced, companies try to define and understand what it mainly means for their business. It is unclear how it will develop but Industry 4.0 or digitalisation impacts and changes happens more rapidly than ever.

These two streams, endless information and the rapid development with the use of digitalisation are the key challenges for universities, especially university of applied science. The content of specific expert knowledge has to be updated ongoingly and student’s still gain knowledge, which’s half-value period is rapidly declining. These is an opportunity for all professors to be up to date with expert knowledge as well as enabling students to get a solid foundation for their business life. Therefore, the duty is very profoundly to enable the young generation for lifelong learning. It is essential to train
practical methods in a safe environment cross disciplines with a high expectation on intrinsical motivation. So the question remains, how this is possible and which examples can be leveraged for further development of training methods?

Cross-disciplines the method of project-based learning should qualify the students for modern working competences. The basic theories and skills are trained during lectures. The projects self-focus on different engineering skills and supports the students to find their profession based on their interests. The projects are organized similar to the industries, being self-paced by the student groups and only coached by the lectors. The basic idea of the self-paced engineering projects is that the students get a bundle on different hard and soft skills, which they can practice, and transfer to the industry branch and get a qualification for lifelong learning. The students can improve by a try-and-error system in a protected learning space.

This method combines the gain of expert engineering skills as well as soft skills outside everybody’s comfort zone as a qualification for life-long learning.