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Project title: Challenge based learning in Industrial Design

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Research team

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Study 1: Coaching practices in Industrial Design (January 21- August 21)

Coaching is a core value and one of the pillars of the education model of the department of Industrial Design (ID). ID department has long experience and tradition in coaching students to become self-directed learners within the context of design-based learning and challenge-based learning projects; to develop competencies; to create own Professional Identity & Vision; and, to enhance learning in the design research processes (DRP). During the past twenty years, ID teaching staff have coached students and collected a lot of experience in coaching learning processes. However, these experiences have not been documented yet nor translated in a professionalization program to prepare less experience teachers. In addition, current innovation developments at the TU/e request for evidence-based practices to inspire other teachers to make a paradigm shift from teaching to learning and how to coach students as self-directed learners. It becomes essential to document ID coaching practices that can be disseminated and can serve to inspire other teachers.

Research Question

What are the characteristics (indicators of behavior) of coaches, when coaching students to support different levels of learning, i.e. knowledge acquisition, knowledge and skills application, process knowledge and deep learning?

Study 2: CBL in squads (September 21- February 22)

Industrial Design has almost 20 years of experience with organizing small-scale and challenge-based education. The important organizational structure for ID has been the formation of educational communities. ID calls their educational community 'squads'. 'Squads' are defined as 'collaborative communities that share an interest in a specific application domain. In the squads, vertical learning takes place where students from different bachelor and master years exchange experiences in a community of practices, [Lave and Wenger, 1991].

The aim of this research is to investigate the context of the organization and structure of the squads in ID and understand how the different stakeholders, i.e. coaches in the different squads, have aligned the intended learning outcomes (ILOs), with the learning activities, and the assessment. Research will focus on two different squads with different organization.

Research Questions

- What are the perceptions of the different stakeholders regarding the constructive alignment within the squads but also within the curriculum alignment and the EAs?
- What are the characteristics of the organization and structure of the squads Vitality and Everyday Crafting Soft Things?
- How do squads support vertical learning?
- What activities support self-directed learning (SDL) within the squads?

- How do the organization of the squads support the concepts of peer coaching and cross-coaching organization?
- To what extent does this organization of the squads support the students' development?