Abstract

High drop-out rates in higher education combined with an expected shortage of STEM graduates cause concern throughout Europe. In Denmark, this challenge is especially critical and 'student success' in terms of completion rates and time-to-degree is high on the political agenda. When trying to understand why some students choose to leave their studies while others stay, knowledge of students' motivation is essential – *without motivation, persistence is unlikely* (Tinto, 2016). Specific elements contributing to the overall student experience must be investigated in order to understand how these study elements support and/or challenge students' motivation. With a predominantly quantitative research approach, study elements related to the first year of tertiary science studies at the University of Southern Denmark (SDU) are investigated within a theoretical framework of motivation. The five contributing papers examine a broad sample of study elements ranging from concrete courses to the study environment. The papers concern both first year and older students. The papers involving first year students investigate their encounter with a first year of studies characterised by large-enrolment courses, study groups with affiliated mentors (the Study Group Concept), and a project-based research course (the First Year Project). The findings suggest that students struggle motivationally when their courses are perceived irrelevant and it is revealed that the motivational patterns towards learning in the same courses differ among students from different study programmes. It is problematized that first year teachers must respond to a wide range of motivations when teaching large-enrolment courses followed by students from multiple disciplines. The First Year Project is an example of a course able to embrace students' varying motivation and successfully foster students' sense of competence, autonomy, and relatedness as well as subjective task value. Similar positive experiences are reported on the Study Group Concept. The papers involving older, more experienced students revolve around the possible benefits of being employed in a student position e.g. as a study group mentor with regard to development of competences, network, and sense of university belonging. All of these seem to be positively affected and this can potentially induce even better students. Educational institutions are encouraged to include these positive side-effects on mentors and not just the mentees in the equation when considering which initiatives to implement. Joined together the papers contribute to the research fields of motivation and of 'first year experience' with both theoretically founded knowledge of students' motivation and practice-oriented knowledge in the form of two concrete, implementable examples of initiatives able to foster motivation: the First Year Project and the Study Group Concept.