

## Submissions Abstract Book - All Papers (All Submissions)

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The Knowledge, Action and Identity Project. A Research Design to Understand the Transformation of Students in Higher Professional Education

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**Research Domain:** Learning, teaching and assessment (LTA)

**Abstract:** Students in higher professional education are prepared for high level professional practice. To be able to fulfill their future roles, their educational programmes provide them interaction with professional knowledge, theoretical knowledge and professional practice. These types of interactions are presumed to aid students in their transformation from high school student to a professional in a complex society. However, it still is unknown how the different types of knowledge interact in the transformation of students to professionals through higher professional education, as well as the prerogatives for this interaction. This longitudinal study will follow 4x25 students of four different applied disciplines during their four years of undergraduate education to better understand this role of knowledge. In a mixed-methods design the interaction between the development of their professional identity, professional knowledge-base and notions of just professional action will be investigated. This paper presents an overview of the research design and preliminary findings.

**Paper: Introduction**

This paper presents the design and preliminary findings of a five year project aiming to understand the role of knowledge in the transformation of students to professionals. The higher education system has been given the responsibility of the university to educate citizens who often become high level professionals in society (Ministry of Education, 2015). This is an important responsibility that actively helps to shape society. And at the brink of their educational pathway towards professionalism, students bring their own beliefs and expectations of what it entails to become a professional through higher education (Brownlee, Walker, Exley, & Pearce, 2009). It is however unclear how students' interaction with the systematized body of knowledge which higher education provides, results over time in educated professionals. Hence, the aim of this project is to understand how students' professional identity and professional knowledge handling transforms during their bachelor trajectory.

The design of this project is informed by the notion of higher education as a 'pedagogic device' (Bernstein, 2000 [orig. 1996]). This notion highlights how knowledge needs to be transformed to educate students, as knowledge moves from a research context, to higher education curricula, to the understandings that students' develop of this knowledge (Ashwin, 2014; Aswhin, McLean, & Abbas, 2012). Each step taken requests a transformation of knowledge and therefore a struggle for knowledge. With a focus on professionalism, higher professional education does derive its knowledge from professional practice, and knowledge usage in professional conduct is one of the intended outcomes of higher education. We focus on the perceived struggle for learning by students to make the provided knowledge 'their own'. The presumption is that this personal transformation of knowledge implies a transformation of the students' professional identity (Trede, Macklin, & Bridges, 2012) and also change in their professional knowledge handling (Young & Muller, 2014).

### **Research Design**

This study has a dual focus to consider the transformation of a students' professional identity in interaction with the students' professional knowledge handling in problem solving.

The multi-method, 5 year project will allow us to investigate the transformative relations students develop with knowledge in four discipline areas. We will chart students' progress through their undergraduate degrees, the process by which they develop understanding, the way their professional problem solving strategies develop and the different trajectories they follow. Our approach builds on the approach previously taken in two previous projects in Sociology respectively Chemistry and Chemical Engineering in the UK, South Africa and the USA by Ashwin, Abbas, and McLean (2014). The research sites are 4 disciplinary different programmes in a single applied university in The Netherlands, where previous has mostly focused on research-intensive university settings. The programmes were chosen based on recent research (Griffioen, 2019) in the same setting which showed how that applied has shown how students from life-applied disciplines experience a later inclusion in creating new knowledge through research than non-life-applied disciplines (Biglan, 1973). Following these findings four disciplines are included on two axes:

<i>Hard</i>

### *Data gathering*

Complex data sets are necessary to examine the development of students' transformational relations to knowledge. Insights into these complex processes will be gained by exploring students' experiences and perceptions of their undergraduate education; examples of students' work; students' problem solving experiments; curriculum documentation; and context setting information.

Table 2: Schedule for data gathering.

	2019/20	2020/21	2021/22	2022/23				
	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2
N=4x25								
Interview professional identity	X		X		X		X	X
Problem solving task	X				X			X
Assignment analysis			X		X		X	X
Survey full cohort	X							X

### *Measurement instruments*

#### 1. Longitudinal individual semi-structured interviews with students.

25 students of each programme will be interviewed annually: at the begin of their first, second, third and fourth year and at the end of their fourth year. The interviews will be focused on their expectations of and experiences with their studies and their perceived role of knowledge in the profession they are educated for.

#### 2. Survey of first and final students

To test whether the images given by the 25 students are more broadly applicable, a survey will be distributed to all students of the cohort under study in their first and final year.

#### 3. To test students' knowledge usage in problem solving strategies

Students are asked to take part in an ill-structured problem solving task. At the start of their first year, at the end of their second year and after they finish their studies in the fourth year. The task will be a specific and context rich task relevant for their profession at the level of two years of work experience after study. The change in knowledge usage in problem solving strategies provides insight in how the educational programme provides for this transformation. More generally these tests provide insight in how students' problem solving strategies evolve during their studies.

#### 4. Comparison of the assessed work of students and the criteria used to assess it

Each year at the interview, the students will be asked to provide a sample of their assessed work. This allows a sense of the variation in students' work over the course of their degrees and an exploration of notions of transformation and progression.

#### 5. Analysis of a range of course documentation

Will take place early and facilitate exploration of the relationship between the documentary representation of the programmes and the experiences and perceptions of students and lecturers.

### Findings

This study will yield insight in the transformation in the interaction of students' professional identity and professional knowledge handling as effect of their trajectory through applied higher education. The provided insight will further the curriculum development in higher education practice, as well provide a conceptual base for future higher education research.

In this paper presentation the research design and the preliminary findings of the first measurements will be presented.

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