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Communities of learners for vocational orientation

Optimising student learning and engagement in initial vocational education

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Chapter 1

GENERAL INTRODUCTION

This dissertation focuses on communities of learners for students enrolled in initial vocational education. Many European school systems offer initial vocational education alongside general education, its main objective being to prepare students for a particular range of jobs. As such, it is distinct from general education (OECD, 2010). Still, initial vocational education has elements of general education. Today's knowledge-based economy relies on initial vocational education to equip students with a broad base of knowledge and skills (Sapir et al., 2004; Hogarth, De Hoyos, Gambin, Wilson, & Brown, 2008) as well as to enable and encourage students to continue their education until they have attained the highest qualification possible. The study described in this dissertation focused on the early years of the Netherlands' initial vocational education, known as 'pre-vocational secondary education', which aims to develop general knowledge and skills, basic vocational knowledge and skills and to promote a vocational *orientation*. The development of a vocational orientation helps students make informed choices with regards to their further education. This, in turn, increases their chances to complete their initial vocational education with a diploma, thereby being qualified to enter the labour market.

In the Netherlands, students are placed in either general or pre-vocational education at the age of twelve. After a core curriculum of general secondary education in the first two years, students in pre-vocational education choose from one of four vocationally contextualised sectors to study for the next two years: Engineering & Technology, Care & Welfare, Business and Agriculture. In these two years, teaching and learning are mainly organised in (simulated) workplaces inside and outside the school to allow students to experience working in a particular vocational area ('competence-based learning', Koopman, Teune, & Beijaard, 2011). It is assumed that work as a context for learning provides the students with the opportunity to develop general competencies, basic vocational competencies and a vocational orientation.

Work as a context for learning, however, does not in itself lead to the development of basic vocational expertise (Tynjälä, 2009) nor to an initial vocational identity. In the Netherlands, employers and schools for senior secondary vocational education are generally not satisfied with the level of knowledge and skills of students who have completed their pre-vocational education. Moreover, in the Netherlands, almost half of the students at the threshold of their senior secondary vocational education have still only developed a partial perspective on a future vocation and on the occupational sector they plan to study (Kuijpers, Meijers, &

Gundy, 2011). This can contribute to disappointing learning results and the students entirely dropping out of school. Effective pre-vocational education requires learning environments in which workplace learning is incorporated in a carefully planned way. In this dissertation it is argued that the concept of a community of learners offers a starting point for a better theoretical understanding of the teaching-learning processes intended and, subsequently, for the design of innovative learning environments in pre-vocational education.

Besides suboptimal learning in work-related contexts, schools offering Dutch pre-vocational education must also tackle motivational problems of students. Although almost 50% of all students who finished primary school are selected for pre-vocational education, the programme is in many cases not the students' or their parents' first preference. They are often convinced that the selection reflects the teachers' convictions that general education would be out of the students' league. They often feel that they are at the bottom of the ladder and that pre-vocational education will not help them climb to a higher rung. The strategies that students develop to cope with this situation are often destructive. Paulle (2005), for example, demonstrated how students in lower school tracks undermine the course of events in the classroom, which ultimately undermines their own opportunities. In pre-vocational education, learning problems and co-occurring behavioural problems occur more frequently than in general education (Peetsma & Van der Veen, 2015). For the teachers and schools offering pre-vocational education, engaging students in learning is an immensely challenging task. It thus seems important for them to help broaden the students' image of their current and future selves. This dissertation investigates whether and how teaching and learning as a community of learners stimulates students' personal development and related engagement in learning.

This dissertation in particular explores the potential of the concept of a 'community of learners' for use in pre-vocational education. There is extensive literature about communities of learners, especially in general education (e.g. Brown & Campione, 1994; Scardamalia & Bereiter, 1991; Roth & Lee, 2006). These studies show that fostering communities of learners in the classroom can enhance student learning and student engagement (e.g. Engle & Conant, 2002). Students enrolled in pre-vocational education who often have to deal with situations that negatively affect their learning and engagement might also benefit from learning environments that foster communities of learners. To our knowledge, this topic of fostering communities of learners among students enrolled in pre-vocational education has never been explored before. This dissertation aims to contribute to filling this gap in the research. The central question of this study is as follows:

How can a 'community of learners' be used to enhance student learning and engagement in pre-vocational secondary education?

1. THEORETICAL FRAMEWORK

The concept of a 'community of learners' is popular and inspiring. The term was coined by Ann Brown in the early 1990s, when the nature of learning was increasingly seen as inherently social instead of individual, and the focus of learning shifted from mere cognition to students' overall development. In Brown and

Campione's (1996) model known as 'Fostering a community of learners', the basic activity comprised science-based research on the so-called 'big ideas' of an academic subject (e.g. evolution). Students learn that big ideas represent ways of thinking about practical situations. They are stimulated to reflect i.e. to distance themselves from practical situations and to solve a problem derived from real-life situations by using big ideas as 'tools for thinking'. In this way, the students are stimulated to develop an inquisitive stance.

Many educationalists have built on this model (see, for example, Shulman & Sherin, 2004; Beishuizen, 2008) to design learning environments in general education. However, the concept of a community of learners also encompasses important elements for design in initial vocational education. The provision of ways to stimulate students to distance themselves from practical situations and use the subject matters as 'tools for thinking' is especially important. However, it also raises some questions. Is it possible to find big ideas in vocational subjects? Moreover, are students enrolled in initial vocational education able to connect these rather abstract ideas to the societal and cultural practices in which they themselves may become engaged?

A sociocultural perspective on learning and development, and specifically the concept of a 'community of practice', provides a way forward. Lave and Wenger (1991), adopting a sociocultural approach, described learning as an activity situated in the cultural practices of various communities in society, from tailors to recovering alcoholics. They explained how people learn by participating in the actual practice of an expert, initially only to a limited degree, and with little responsibility for realising the ultimate goal of the practice as a whole, but moving towards full participation. From a sociocultural perspective, learning is assumed to occur due to the fundamental intertwining of individual development and the cultural context. People participate in a social setting that in itself has historically and culturally evolved and that requires particular knowledge and skills. Their development is driven by the requirements of the activity. People actively negotiate the meanings of cultural tools, which are in this way acquired ('appropriated'). Moreover, cultural tools are not only acquired but can also be transformed by people—this constitutes the dynamic nature of cultural practices.

Wenger (1998) further elaborated on this line of thinking and posed the notion of a 'community of practice', which was defined as a group of people who share a certain domain, such as interests, a set of problems or a passion. The group explores and develops its specific knowledge and experiences within that domain, thereby creating a joint perspective and a sense of group identity. Simultaneously, every member develops his or her own speciality and unique identity with respect to the community. In a community of practice, learning can be perceived as the process of becoming a core member of the community.

More generally, learning can be seen as participating increasingly more competently in the practices of one or more communities, or as a process of the transformation of participation, in which responsibility and autonomy are increasingly adopted. This is where the notion of a community of practice provides a way forward. Instead of introducing students to the big ideas of academic subjects, teaching-learning processes in pre-vocational education might be organised in the way that these processes are evoked in a community of practice. This requires work as a context for learning to be organised in a specific way. Real workplaces are

usually not designed for learning, and simulations are often not based on a thorough knowledge of the actual aspects of the workplace. Workplaces should introduce students to all aspects of the work needed to move towards full participation and not just those aspects needed for the acquisition of particular vocational knowledge.

The concept of communities of learners and the concept of communities of practice are both useful in conceptualising a community of learners in pre-vocational education. The concept of a community of practice led to the idea of learning as participating in an increasingly competent way in vocational practices. The concept of a community of learners focuses on more deliberate learning that offers students the opportunities to distance themselves from practical situations and develop an inquisitive stance. We combined the main features of both concepts to create the concept of a 'community of learners for vocational orientation'. An ideal learning community for vocational orientation stimulates students to participate in vocational practices that are represented in such a way that their essential elements are maintained, while enabling actual peripheral participation by non-skilled participants like students. While participating, students are confronted with the necessity to make quick decisions that have both technical and ethical aspects. Their actions are guided and enabled by material and mental 'instruments' that reflect the experiences of the actual vocational community. Critical reflection on the nature of the practices and the students' participation in them enables the students to explore their affinities, abilities and possibilities regarding the vocational practices they are being introduced to. It enables them to identify directions in which they are willing and able to develop themselves in order to become professional workers. From a theoretical perspective, communities of learners thus contribute to the goal of pre-vocational secondary education by supporting students in developing basic vocational knowledge and skills as well as an initial vocational identity.

As demonstrated by the large number of studies on communities of learners, the concept has clearly become increasingly popular in educational discourse. This may be because of its inspiring connotation, since communities of learners invoke images of harmonious collaboration, vivid dialogue and highly motivated students who are actively shaping deep and meaningful learning. A community of learners has been proposed as an avenue for designing a more meaningful and engaging curriculum (Campioni, Shapiro, & Brown, 1995; Engle & Conant, 2002; Matusov, Von Dyke, & Han, 2012). Despite this, there is limited evidence of enhanced student engagement through organising teaching and learning in learning communities.

According to sociocultural approaches, engagement is the result of the interaction between a student and the activities in which he or she participates (Hedegaard, Edwards, & Flear, 2012; McInerney, Walker, & Liem, 2011). Although other theories, such as the self-determination theory (Ryan & Deci, 2000), the self-regulation theory (Boekaerts, 2006) and the achievement goal theory (Harackiewicz, Barron, Pintrich, Elliot, & Trash, 2002) also refer to both the student and his or her learning environment, the aspect of meaningful participation is a typical aspect of sociocultural theory. Instead of improving students' willingness to attend school, stimulating perseverance or promoting effort regulation, the focus is on the meanings that a student can attach to what is learnt when participating in learning activities.

In the relevant research literature, various arguments can be found for the assumption that working in communities of learners will prove engaging for

students. First of all, in a community of learners, students are shown where their learning is supposed to guide them (see, for example, Daniels, 2001). The teaching-learning process is designed in such a way that students learn to use the knowledge they acquire to attain goals that are meaningful and authentic (i.e. knowledge-in-action; see, for example, Whitcomb, 2004). Thus, students can attach meaning to knowledge as a tool to pursue particular goals. Second, the participation of students in a community of learners gives them the opportunity to work on realistic goals in a manner that enables them to explore how they relate to the concomitant practice. In this way, learning becomes personally meaningful (e.g. Wertsch, 1998). Third, learning in a community of learners is assumed to contribute to the experience that learning need not occur by definition in a vertical, hierarchical, one-way relationship but also through horizontal interactions (Daniels, 2001). Having a say in the teaching-learning process enables students to attach personal meaning to what they learn. Finally, it is emphasised that students are enabled to achieve the knowledge, insight and skills that they are not yet capable of achieving on their own (see, for example, Daniels, 2001), while keeping in mind an image of the objectives to be achieved (or so-called ‘prolepsis’; Stone, 1993). Students may thus experience the ability to contribute to objectives that have societal meaning, which in turn makes learning personally meaningful for them. These arguments are applicable to communities of learners for students in general education but may also apply to communities of learners enrolled in pre-vocational education.

In this dissertation, it is argued that a community of learners for students enrolled in pre-vocational education can enhance learning and engagement by encouraging the students to participate in activities related to different vocational practices and by stimulating them to explore the personal and societal meanings of these practices. Teaching and learning in such a community of learning is assumed to support students to develop a vocational orientation and acquire the basic knowledge and skills that are required to participate in the activities of vocational practices. Since the goal of pre-vocational education is to develop a vocational orientation, the community of learners in this context will be referred to as ‘a community of learners for vocational orientation’.

2. RESEARCH QUESTIONS

The aim of this study is threefold: to conceptualise ‘communities of learners for vocational orientation’, to find ways to foster these communities of learners and to evaluate their influence on the quality of student learning and engagement in the early years of initial vocational education. In order to pursue this aim, teachers, school middle managers and researchers collaborated on redesigning learning environments in Dutch schools offering pre-vocational secondary education. The research questions central to this dissertation therefore focus on:

1. How can a community of learners for students enrolled in pre-vocational education be conceptualised? To what extent and how are elements of this conceptualisation manifest in actual teaching and learning in pre-vocational education?

2. To what extent and how do students experience their learning as intended in the learning environments that were designed to foster communities of learners for vocational orientation?
3. To what extent and how does working as a community of learners for vocational orientation contribute to students' engagement in learning?
4. Which characteristics of communities of learners for vocational orientation contribute to student engagement in learning?

3. STUDY DESIGN

The main objective of the present study was to *conceptualise* communities of learners for vocational orientation, *find ways to foster* these communities of learners and *evaluate* their influence on the quality of student learning and engagement in the Dutch pre-vocational education. A design research study seemed to serve this purpose best. Design research aims to develop research-based interventions as solutions for complex problems in educational practice on the one hand, and to generate or validate theories on the other hand (Plomp, 2013). The present design research study combines these aims. The first aim is addressed through the development of learning environments. The twofold yield of this effort should be learning environments that foster communities of learners in order to enhance student learning and engagement in pre-vocational education and the construction of heuristics for the design of these learning environments. The second aim was pursued by examining the quality of learning and engagement in the designed learning environments. The yield of this pursuit is insight into the quality of learning and engagement in communities of learners as conceived from a sociocultural perspective.

The design research study was set up in cooperation with two schools offering pre-vocational education. At each school, three teachers of the vocational subject Care & Welfare were involved. In order to complement the existing knowledge on communities of learners in the literature, the teachers were expected to provide practical knowledge and experience derived from school practice. In addition, a design research study conducted in the richness of school practice was assumed to result in ecologically valid designs, because it would have to respond to the fact that teaching and learning is situated and highly contingent on contextual factors. Finally, by engaging teachers as co-designers, they were expected to apply the designs with fidelity, which is essential for drawing valid conclusions regarding the influence of working as communities of learners on students' quality of and engagement in learning.

The study entailed three phases: 1) a preliminary phase, which included the development of a conceptual framework of communities of learners for vocational orientation, and the validation of the framework by applying it in an analysis of current teaching-learning processes at the schools; 2) a development phase, consisting of eight iterations, each being a cycle of research in which a curriculum unit was designed or redesigned and implemented in two classes, followed by a formative evaluation of the learning environments that had been realised during the unit. A formative evaluation was done to improve and refine each learning environment towards one that fosters one or more communities of learners for

vocational orientation; 3) an assessment phase that entailed a summative evaluation to conclude whether and how teaching and learning in communities of learners for vocational orientation enhanced the students' engagement in learning.

In the preliminary phase, communities of learners for vocational orientation were *conceptualised* (Research Question 1). After an initial analysis of the context and the problems of pre-vocational education, the concept of a community of learners was elaborated for use in pre-vocational education. A community of learners for vocational orientation was conceptualised on the basis of past literature on communities of learners and subsequently applied in a collective instrumental case study on teaching-learning processes in four ninth-grade classes of the vocational subject Care & Welfare in the two participating schools. In this way, the theoretical framework was developed and validated as a useful instrument to map out actual teaching-learning processes in pre-vocational education and to identify starting points for moving towards the proposed ideal of the early years of initial vocational education.

The development phase focused on Research Question 2 regarding the extent and way in which the design of learning environments led to communities of learners for vocational orientation. In order to *find ways to foster* communities of learners for vocational orientation, learning environments were developed on the basis of a set of heuristics for design. The heuristics were derived from past literature on the theoretical framework of a community of learners for vocational orientation. In the first year, the participating teachers of each school and the researchers jointly designed two curriculum units for the ninth-grade vocational subject Care & Welfare. Each curriculum unit was implemented in two classes at each school (28 students at school A and 40 students at school B in total). Subsequently, the teachers and researchers formatively evaluated the learning environments that had been realised during the units. In the second year, the first year's units were optimised on the basis of the formative evaluation outcomes of the first year and carried out in two new ninth-grade classes at each school (with a total of 38 and 26 students each). Afterwards, the optimised learning environments were formatively evaluated again. For the formative evaluation, quantitative and qualitative data were collected. The quantitative data entailed a longitudinal student questionnaire intended to assess the extent to which the students experienced their learning as intended in a community of learners for vocational orientation. The qualitative data comprised reports of the design efforts made by the teachers and researchers, the resulting lesson materials, video recordings of all lessons, interviews with the teachers and interviews with the students. These data were analysed to determine how the students, according to the teachers and the students themselves, were stimulated or inhibited to learn as intended during the implemented curriculum units. The results of this analysis could be used to refine the heuristics for the design of learning environments that foster communities of learners for vocational orientation.

During the evaluation phase, a summative *evaluation* was conducted in order to answer Research Question 3 regarding the influence of working as a community of learners on student engagement in learning. To do so, additional data were collected on student engagement—a longitudinal student questionnaire assessing student engagement, video recordings of all lessons, interviews with the teachers and interviews with the students. These data were analysed with regards to the extent to

which and how working as a community of learners for vocational orientation contributed to the students' engagement in learning.

The data regarding one curriculum unit were used to investigate characteristics of communities of learners for vocational orientation that appeared to have contributed to student engagement in learning during the study (Research Question 4). The data could be used to develop a theoretical understanding of student engagement in a community of learners for vocational orientation. The data comprised video recordings of a small group of students, interviews with these students about their perceptions of the teaching-learning activities, their engagement in learning related to these activities as well as the products and assessments they completed during the unit.

Finally, data were collected for a reflection on the design process (the joint efforts put in the design of the curriculum units by the teachers, researchers and the middle manager) in relation to the resulting curriculum units in the first year of the study at one school. All design efforts made by the teachers and researchers as well as all lessons of the implemented units were observed, and teachers and students were interviewed.

4. OUTLINE OF THE DISSERTATION

After this introductory chapter, *Chapter 2* elaborates on how a community of learners for students in pre-vocational secondary education can be conceptualised and reports on a collective instrumental case study on teaching-learning processes in four vocational subject classes in two schools related to the sector Care & Welfare (Research Question 1).

As described in the Methodology section, researchers and vocational subject teachers from the participating schools developed curriculum units by means of tentative heuristics for design that were drawn from the conceptual framework. *Chapter 3* explores the extent to and the way in which the students found themselves learning as intended in the community of learners through the curriculum units (Research Question 2).

Chapter 4 aims to provide insights into how working in learning communities affects student engagement (Research Question 3). Three specific assumptions about how working in communities of learners for vocational orientation might create student engagement were explored—working in a community of learners for vocational orientation helps students to appreciate the value of what they learn, is valued by students as a way of learning that fits them, which altogether stimulates students to invest in school.

Chapter 5 elaborates on the insights presented in *Chapter 4* in order to identify the characteristics of communities of learners for vocational orientation that explain the enhancement of student engagement in such communities (Research Question 4).

Chapter 6 reflects on the joint efforts of the researchers, teachers and school middle managers to design curriculum units that foster communities of learners for vocational orientation. It provides a detailed review of the joint efforts made during the process of design and of the resulting curriculum units in the first year of the study at one of the two participating schools for pre-vocational education.

In *Chapter 7*, the research findings of all the phases have been summarised. Furthermore, the contributions and limitations of the reported design research study, directions for future research and implications for educational science and school practice are discussed.