Students' goal preferences, ethnocultural background and the quality of cooperative learning in secondary vocational education
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Citation
Hijzen, D. M. (2006, September 19). *Students' goal preferences, ethnocultural background and the quality of cooperative learning in secondary vocational education*. Retrieved from https://hdl.handle.net/1887/4563

Chapter 1

INTRODUCTION

Nowadays, having a diploma is almost a necessary condition for having access to any job. Therefore, good education is essential for the future of each and every adolescent. Society has a major interest in well educated adolescents, to enhance the prosperity of a country. Unemployed people cost society a lot because of unemployment benefits, but also because unemployment leads to an increased risk for delinquency and health problems, which in addition lead to major expenses for society. In the Netherlands full-time education is compulsory for adolescents up to the age of 16. Partial education is compulsory up to the age of 18. Recently, the National Council of Education advised to extend compulsory education up to the age of 23 (National Council of Education, October 2005), for youth who did not achieve a so-called starter-qualification, which is the presupposed minimum level of competency development required for entering the job market. Some local initiatives to implement this advice already have been initiated. In the city of Rotterdam adolescents are forced to follow an educational program up to 23 years. In Amsterdam, adolescents under the age of 23 do not receive unemployment benefits, unless they go back to school, or are prepared to enroll in an on-the-job-training program. The project is so successful that a discussion was started to consider applying the project to adolescents up to the age of 27. These examples illustrate the importance that the government and local authorities assign to a qualified population. Schools hope to contribute to the development of competencies which adolescents need to be successful in modern society. Secondary vocational education is one of the places where students should be prepared for the challenges entailed in the modern knowledge society. This knowledge society requires schools to adapt their traditional knowledge transmission goals to goals as learning to cooperate, teaching students to learn to use the knowledge they are taught and prepare them for life-long learning. These new educational aims coincide with the introduction of many new educational methods. Cooperative learning methods are part of these. One of the building blocks of many of these methods is the development of communication skills and practicing all sorts of social skills such as the skills for communicating and networking. While working in cooperative learning settings, students learn to use the knowledge they are taught, and at the same time practice social skills that are required for working in teams. This thesis aims to uncover leads for future interventions directed at improving students preparation for the new society through

cooperative learning (henceforth CL) methods in accordance with changing educational goals.

Secondary vocational education: Aim, problems and challenges

The aim of secondary vocational schools is to bridge the gap between formal learning in school and practice, between working and learning, in order to realize an optimal form of knowledge circulation (Ministry of Education, Culture and Science, 2005). Legislation for this type of schools was established in 1996 [Education and Vocational Training Act] (WEB, 1996). This act emphasized the value of the implementation of a nationwide qualification structure aimed at the development of curricula that are mainly vocationally oriented (Rozendaal, 2002). The value of having an important practical component in the curriculum is emphasized in this act (Slaats, 1999). This act highlighted the development of a new educational and instructional approach that prepares students for the wide range of requirements being set by employers. In that sense, the function of education has shifted from knowledge transmission to teaching students how to use knowledge as a tool and how to self-regulate their learning process.

Apart from emphasizing the practical component of learning in secondary vocational schools, the Ministry of Education, Culture and Science (2005) has recently recognized the importance of social skills and coping with emotions as important for personal development. In the labor market such skills are highly valued. The labor market is asking for employees who are emotionally stable, who are able to manage their own careers, are able to cooperate, communicate in teams, and cope with changes and conflicts.

Problems in secondary vocational schools

Secondary vocational education has to cope with severe problems; high drop-out rates (Batenburg, 1998), motivation problems and maladaptive social behavior (Neuvel, 2004). Approximately 40 % of students starting a study program is secondary vocational education do not finish their study program (School Inspectorate, 2002). Several of these students start a new study program at the same school or at another school. The number of students that actually leave school without a diploma is not exactly known, but estimations vary between 12 and 25 %. Research has shown that a lack of motivation is often the reason for students to quit school. Voncken, Van der Kuip, Moerkamp, and Felix (2000) assessed 'push and pull

factors' for students to quit their study program in secondary vocational education. The three reasons that were mentioned most frequently by students all referred to a lack of motivation, namely 'the study program is not interesting', 'I do not like to go to school any more', and 'the study program lacks the connection with the job'.

A part of the explanation for these problems in secondary vocational education can possibly be found in socioeconomic, ethnic and cultural background factors. The background of the students in secondary vocational education often is not very favorable for completing a successful educational and professional career. Many students have an immigrant background, an educational history with little successes, and parents with a low education level (Angenent, 1997; van den Dool & Janssen, 1994). Several researchers have shown the relationship between economic deprivation and problem behavior (Bradley & Corwyn, 2002). Especially immigrant families have - on average - a lower social economic background than national families. Moreover, due to a relatively high rate of unemployment, immigrant families in the Netherlands have to cope more with poverty. Another explanation for the occurrence of maladaptive social behavior is related to the developmental phase of the students in secondary vocational education. Most students are in their late adolescence and several researchers have shown that maladaptive social behavior peaks in this phase (e.g., Compas, Hinden & Gerhardt, 1995; Maughan & Rutter, 1998; Moffitt, 1993). Moreover, as will be explained in the following section, the problem is reciprocal. The reason why more immigrant students are enrolled in this type of schools is also a consequence of culturally dependent career courses. Some immigrant students already enter the Dutch educational system with a lower educational level – mainly due to language difficulties - and the selective Dutch educational system determines that they only have access to the lower sections of vocational education.

Figure 1 represents a broad image of the Dutch educational system. The Dutch educational system is divided into three sections: primary, secondary and tertiary education. School starts with primary education, which lasts eight years and starts for children at the age of four (voluntarily) or five (compulsory) and ends at the age of 12. At the end of primary school children are advised as to which type of secondary education they should pursue. Based on this advice they continue with pre-vocational education, senior general secondary education or pre-university education. Pre-vocational education, which is the lowest level, lasts four years and leads on to secondary vocational education.
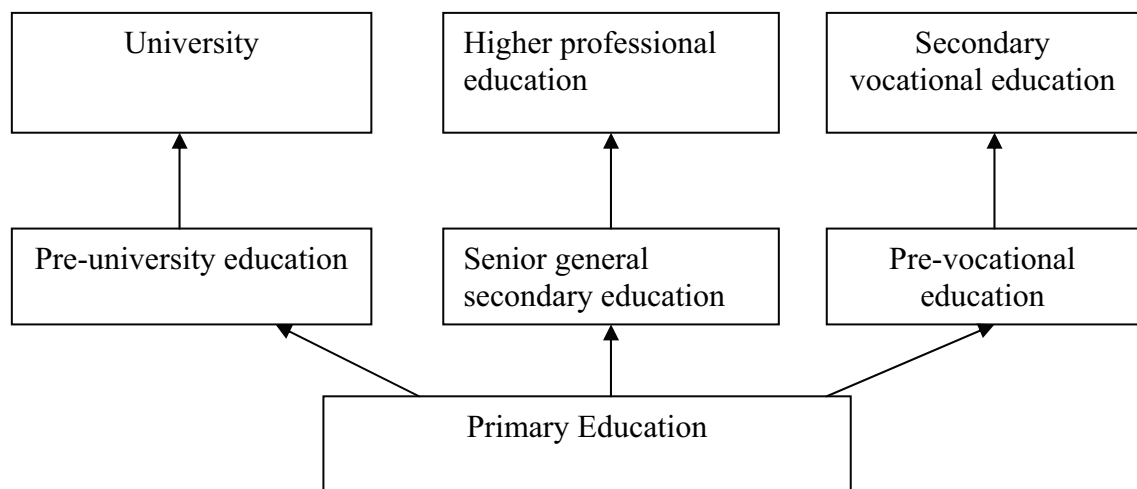
University	Higher professional education	Secondary vocational education
Pre-university education	Senior general secondary education	Pre-vocational education

Primary Education

Figure 1: The Dutch educational system.

Senior general education is a five-year program and leads on to higher professional education. The duration of a pre-university study program is six years and leads on to university. Interestingly, only a pre-university diploma gives direct access to university. However, there are alternative routes to get there. Pre-vocational education has four levels and only the highest level gives access to senior general secondary education, from which students can enter pre-university education. Students in the two highest levels of secondary vocational education may continue studies in higher professional education and from there they move on to university. However these are very long and difficult routes and not many students take these. Most students choose the direct route. The complexity of diversity is due to the selective nature of the Dutch educational system. In other words, students' study program is

determined, basically, at the age of eleven or twelve, when they receive the recommendation about their future education. As a result of language problems, students with an immigrant background often have had a learning delay in primary school. This implies that at the time they were tested, their ethnocultural background resulted in a low advice. This selectivity seems particularly detrimental for immigrant children. As compared to national students, they start their school careers with limited national language proficiency and limited competencies in other skill domains relevant for success in primary school. In recent years they started catching up, however due to the selectivity of the school system they continue their school career at secondary levels; levels that may reflect their actual levels of performance but not necessarily their potential or competency. It will cost these students a lot of willpower to undo the negative effects of the selectivity of the system.

Structure of secondary vocational schools in the Netherlands

Most of the students in secondary vocational schools are between 16 and 21 years old. Secondary vocational school begins for most students, after they completed a pre-vocational school. Senior vocational school is divided into four levels. At the first level students are trained to become assistants (6 to 12 months). At the second level they follow two to three year courses for basic vocational training. At the third level students are enrolled in professional training and at the fourth level they participate in middle-management training (3 to 4 years) or in a specialized training course (1 to 2 years). Apart from the distinction of levels, also a distinction in study type is important. In vocational schools a distinction is made between theoretical vocational training and theoretical apprenticeship training. In the former type students spend between 20 to 60 percent of their time at the working place while in the latter type they spend at least 60 percent of their time at the workplace. In the present study we mainly focused on students enrolled in the second type of program.

Most students finishing secondary vocational school prefer to enter the labor market and do not proceed with further studies (for further information on secondary vocational education in the Netherlands, see Euridice database on education, 2004 website). Approximately 435.000 youngsters in the Netherlands choose a vocational education program (website Ministry of Education, Culture and Science), which is the highest percentage of all students. The second largest proportion consists of students in higher professional education.

Because of changing educational goals and changing student and teacher roles that accompany these developments, students need to become self-regulated learners. Nowadays students are expected to be able to work autonomously, provide social support to their peers, take responsibility for their own learning processes, and share resources. CL instruction methods are designed to promote these capacities. Cooperative learning refers to a set of instruction principles that together describe *how* students might learn from and with each other and, through working together, accomplish academic tasks. The term usually refers to alternative ways of organizing classrooms that contrast with individualistic and competitive classroom organizations (Webb & Palinscar, 1996). We use this broad definition of CL, because it captures the broad range of settings of CL in secondary vocational schools. CL settings may promote students' involvement with and motivation for school and learning as well as facilitate integration and prevent discrimination, by functioning as an activity setting where students are able to connect with each other and learn from each other's abilities and skills. This seems particularly important for immigrant students in vocational schools. An earlier study in the Netherlands showed that lack of a sense of belonging characterized by a poor relationship with teachers and fellow students is an important reason for immigrant students to quit their study program (Hofman & Vonkeman, 1995; Voncken, Van der Kuip, Moerkamp, & Felix, 2000).

In this thesis we will distinguish between four important components that a successful cooperative learning situation requires. In the first place, students need a number of *cooperation skills*, such as the skills to be able to express their own opinion, stimulate each other, provide and receive help, listen to each other, and clarify their understanding of the task (Cohen, 1994; Ros, 1994; Webb & Palincsar, 1996). A second important component of successful cooperative learning is that students perceive some sense of *group cohesion*. They need to feel part of their CL teams and feel at ease with each other. Chin, Salisbury, Pearson, and Stollak, (1999) and Cohen (1994) pointed out that the activity level in the group is at its best when students feel at home in the group. Thirdly, there has to be a sense of *interdependence within the group* (Johnson & Johnson, 1994; Ros, 1994). Team members have to feel responsible for each other's learning process and in some way have to depend on each other. Students in a team should rely on each other and provide each other with academic and emotional support. Fourthly, students' *attitudes towards* CL instruction methods should be positive. Students need to be motivated in order to be successful cooperators.

Motivation and the quality of cooperative learning

In the preceding section we defined the quality of CL. In this section we focus on variables that affect the quality of CL. The focal point of this dissertation is formed by two foci in exploring CL processes in secondary vocational schools, namely goal preferences and contextual factors.

Students need to be motivated in order to be successful cooperative learners. Without the appropriate motivation, failing cooperative learning processes may be the result instead. For instance, students might continue to work individually instead of in teams (Vedder, 1985; Veenman, Kenter, & Post, 1999), or some students might reduce effort by letting other team members do all the work (Gagné & Zuckerman, 1999), or simply disturb each others' learning (Salomon & Perkins, 1998: Shanahan, 1998). Forms of failing CL processes are explained by ineffective motivational self-regulation strategies. We view motivational processes as an intricate part of students' self-regulation, namely that part that is steered by students' values and goal preferences. It is generally assumed that students' steer their behavior in the direction of valued goals and away from non-valued goals (Boekaerts, Pintrich, & Zeidner, 2000). Therefore, we expect that students' motivation depends on the connection between students' personal goal preferences and the school goals, a person incorporation or acceptance of school goals will have a positive impact on the quality of CL in schools, whereas an aversive relationship between personal and school goals will likely result in problematic school adjustment. When we relate this to the aforementioned four components of successful CL, it is expected that only with a positive connection between personal and school goals, students will invest in building a sense of group cohesion, in being supportive to create interdependence and they will invest in learning the appropriate CL skills. Generally, their attitudes towards CL will be positive. Hence, we expect that to a certain extent, students' goal preferences predict the quality of cooperative learning processes.

Contextual factors and the quality of CL

We expect that contextual factors will also predict the quality of learning processes to an important extent. The way CL is organized, the way the teacher guides the CL process and the availability of social support from teachers and peers will affect the quality of CL. Also, characteristics that are related to students' ethnocultural background are expected to influence the quality of CL processes. Even though the school achievements of immigrant students who were born in the Netherlands (second generation immigrants) has considerably improved over

the last 15 years, they are nevertheless not leveling Dutch students' performance and are characterized by higher levels of grade repetition and drop-out (Glenn & De Jong, 1996). Many studies report a relationship between school performance and students' ethnocultural background, but only few studies analyzed the underlying processes that explain immigrant students' educational position in the Netherlands (e.g., Boekaerts, 1998; Teunissen & Mathijssen, 1996). The present study addresses this latter question by exploring to what extent and through what processes students' ethnocultural background influences the quality of students' learning in settings inviting them to get involved in cooperative problem solving. The focal point of this dissertation is therefore the exploration of cooperative learning processes in secondary vocational schools from the point of view of students' goal preferences and contextual factors. Here, we want to emphasize that the study is not an intervention study, but a descriptive one. In our view, it is a prerequisite of an intervention to have a thorough understanding of the complexity of factors that determine students' engagement in cooperative learning.

Aim and design of the study

The main aim of this thesis is to define the role of goal preferences in the quality of CL processes and to identify factors in the classroom context that teachers can manipulate in order to promote effective CL processes and to prevent forms of misregulation. Special attention will be paid to differences between students that are related to their gender, program type, and ethnocultural backgrounds. By gaining more insight into these relationships we hope to be able to provide some leads for future interventions that aim at improving students' motivation for CL and the quality of their learning processes as well to help in preventing drop-out in the long run.

The first wave of data-collection took place from January till May of 2002. The second wave took place from October 2002 till January 2003, and the third wave started in April and ended in June 2003. During each wave of data collection students completed several questionnaires. During the first data-wave teachers also filled in a short questionnaire. Eighteen CL teams were video-taped and interviewed during the second and third data-wave. During the first data-wave students were halfway their first year. The second data-wave took place halfway their second year, and the third at the end of their second year.

Research questions

Four broad questions are central to this study, namely:

1. *What is the relationship between the quality of CL and students' goal preferences and contextual factors in the classroom?*

Do goal preferences add to the prediction of the quality of cooperative learning, or are other variables, such as the way CL is organized (e.g., the way the teacher instructs the CL process and the availability of social support) more important variables in predicting the quality of CL? What is the effect of gender and program type on these relationships? We predict that belongingness, social support and mastery goals are positively and superiority goal preferences negatively related to the quality of CL. Furthermore, we hypothesize that the students' perception of the quality of CL will be poor when they score low on the context and social climate variables.

2. *How can effective CL teams be distinguished from ineffective ones, and what distinguishes them in terms of the students' goal preferences and perceptions of contextual factors in the classroom?*

We expect that in effective CL teams, students' social and mastery goals will be dominant. We expect that effective CL teams perceive contextual factors as promoting mastery and social goals as these are challenging, hands-on, and promoting interdependency. These teams are preferably not too big so that effects of social loafing are minimal and team members get along and support each other in a beneficial way. Team members of effective teams are also expected to evaluate their teachers as specialists who are guiding the learning process sufficiently, and they evaluate the school climate as transparent and supporting.

In ineffective teams we expect that team members' social, superiority and affective goals are more important than their mastery goals. These students are expected to be preoccupied with their well-being and therefore less involved with the learning process. Furthermore, we expect these team members to be less involved in goal planning, and less conscious of their goals than effective team members. We anticipate that members of ineffective teams evaluate the group task as boring and too theoretical. They might

experience difficulties in getting along and perceive teachers as controlling or lacking compassion.

3. *Which teacher related conditions are related to the quality of CL processes, and are these relationships stable in the course of a year?*

We expect that the extent that students were taught skills, knowledge and rules for CL best predicts the quality at all three data-waves best. Also, we expect to find differences between effective and ineffective cooperators with respect to whether the stability of particular teacher related conditions for CL is beneficial or not to their CL.

4. *Can we distinguish between separate profiles of person variables (Dutch language proficiency and goal preferences) and context variables (social resources and school belonging) that account for variations in the quality of CL and does ethnic background play a role in explaining differences in these profiles and the quality of CL?*

We expect students that have profiles characterized by high values on social support, belongingness, and mastery goals, negative or low scores on superiority goals, high values on Dutch language proficiency, high scores on perceived availability of teacher and peer support, high scores on school and peer identification and negative scores on school and peer alienation, to report high quality of CL and vice versa for students who report low quality of CL.

Structure of the thesis

The rest of this thesis consists of four studies that read as articles. In the final Chapter we will formulate general conclusions, based on the findings of the four studies. The Chapters were intended as independent articles. Therefore each Chapter starts with an abstract and a short introduction about the relevant theories. Each Chapter also has its own conclusions and discussion section and list of references. Some of the texts overlap because of this reason. The first Chapter deals with the first research question, namely the relationship between students' goal preferences, their perceptions of contextual factors and the quality of CL. In this Chapter we will also present the investigation of the role of students' gender and their

program type in predicting the quality of CL. This Chapter functions as a broad context for the other three Chapters, because it deals with all the variables (except for the role of students' ethnocultural background) that were expected to be related to the quality of CL, and are explored into more detail in the rest of the thesis. In Chapter 3, an in-depth study on profiles of effective and ineffective CL teams is presented. Students were interviewed and took part in a stimulated recall setting where they were interviewed about their CL processes. This study serves as a qualitative clarification of the quantitative findings of the first study. Those findings are contextualized into more detail, by focusing on real-life observations and stimulated recall sessions. In Chapter four, the third research question is answered. The study has a longitudinal design and deals with conditions for effective CL, in the course of a year. We attempt to identify conditions that predict effective CL processes and conditions that predict failing CL processes, in the course of a year. In Chapter 5, the role of students' ethnocultural background in the relation between goal preferences and the quality of CL is investigated. Chapter 6 deals with general conclusions and implications that are based on the conclusions from the four articles.

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