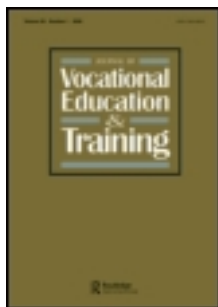


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The influence of teachers' career guidance profiles on students' career competencies

Kariene Mittendorff^{a*}, Douwe Beijaard^b, Perry den Brok^b and Maaïke Koopman^b

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In this article, we examine the relationship between different career guidance styles of vocational education teachers and vocational education students' career competencies (i.e. career reflection, career exploration and networking). Questionnaires on students' perceptions of the career guidance of their teachers during career conversations, and students' career competencies were issued to 579 vocational education students. By using multilevel analyses, the relationship between different career guidance styles of vocational education teachers and students' career competencies was investigated, while controlling for student variables such as locus of control and career decision-making self-efficacy. The results showed that very little variance could be explained at the teacher level. Most of the differences between students' career competency levels were related to differences between the students. Still, two of the four existing teacher profiles were positively related to career reflection of students.

Keywords: career competencies; career guidance; vocational education; teacher profiles

Introduction

Internationally, in reaction to the changing demands of the society and the labour market, schools for vocational education increasingly acknowledge their responsibility towards guiding young people in lifelong learning and career development (Mittendorff et al. 2008; Kuijpers and Meijers 2009; Schaap et al. 2009). Educational innovations related to competence-based education include stimulating the development of career competence (e.g. the capacity to direct one's own career) (Jarvis and Keeley 2003; Perry and Ward 1997). In the Netherlands, a similar development is noticeable which coincides with the implementation of competence-based education in secondary vocational education. In competence-based education, capacities needed for the actual working context rather than academic disciplines are taken as the starting point for curriculum development (Mittendorff et al. 2008). Competence-based learning environments typically stimulate a more self-directed, student-centred approach in which the learner is made responsible for his or her own career path, and in which teachers are seen as coaches guiding students along their way (Biemans et al. 2004).

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The implementation of competence-based learning environments encouraged many schools to implement a system of integral career guidance (Mittendorff et al. 2008), used to guide students in planning their personal development and to supply a context in which students can explore their ambitions, strengths and weaknesses, and spell out future plans (Meijers 2008). An integral career guidance system in this context is composed of a series of interconnected instruments and accompanying activities for teachers and student, including assessment methods, intake procedures, personal development plans and career conversations (Meijers 2008). The overarching goal is to help students develop the necessary career competencies (Kuijpers and Meijers 2009), by reflecting on the activities and experiences undertaken in school (or outside school).

The present article reports on the degree to which differences in teachers' career guidance profiles during career conversations are related to career competencies of secondary vocational education students in the Netherlands, in order to provide more insight into the contribution of guidance practice of teachers.

Career guidance in Dutch vocational education

For a few years, integral career guidance has been introduced and implemented in many Dutch senior secondary vocational schools (Geurts 2006; Kuijpers and Meijers 2009). This type of career guidance differs from the traditional career guidance practice in the Netherlands in which the *school's career counsellor* guides students in their career development. It is part of the everyday educational practice of *teachers* who are given direct responsibility for the career guidance of students. Secondary vocational education schools implement integral career guidance voluntarily, but based on the changed notions about students' self-directed learning related to competence-based education one could suppose it to be necessary. Integral career guidance consists of a series of interconnected instruments such as portfolios, reflection reports and personal development plans, along with activities such as career conversations between teachers and students. These career conversations are 'formal' conversations, planned in the yearly schedule or curriculum of students, and usually take place every two months.¹ The students have a career guidance teacher who is formally assigned to have these conversations with them. During these career conversations, teachers are expected to guide students in using instruments such as a portfolio and to stimulate a process of reflection and meaning-making that helps students to gain more insight into themselves and the labour market, and guide them in taking control over their own learning and career development process (Mittendorff, den Brok and Beijaard 2010; Winters et al. 2009). In almost all secondary vocational education schools, all teachers are expected to participate in career guidance and normally they receive training and guidelines to help them carry out this new task.

Stimulating career competencies

In the Netherlands, the goal of integral career guidance is to guide students in developing career competencies. The Dutch government formulated three different career competencies all schools in the Netherlands are required to aim at: career reflection, career shaping and networking (The Netherlands Association of VET Colleges 2007). Career reflection is the degree to which students reflect on their motives, talents and ambitions. Career shaping is characterised by proactive

behaviour; students are active in investigating possibilities in relation to their career and are taking actions accordingly. Networking has to do with whether students are interactive in relation to their career; for example, whether they are able to build and retain contacts useful for their future career development (Kuijpers and Meijers 2009). These three competencies align with the career competencies as found in the different definitions and frameworks described in the international literature (Haché, Redekopp, and Jarvis 2000; MCEETYA 2009; Perry and Ward 1997). Although these frameworks use different definitions or names for the competencies formulated, they are all related to three different aspects: namely, *personal exploration or self-knowledge*, *exploration in work and education* and *career planning*. Some authors refer to the second component as *career exploration*, a concept about which numerous studies have been carried out (see e.g. Blustein 1997; Patton, Bartrum, and Creed 2004; Taveira et al. 1998). Recently, scholars and practitioners have started to embrace the idea of career exploration being a ‘career competence’ that is important throughout a person’s life span. It entails a lifelong pursuit occurring across life roles as a means to cope with a variety of career transitions (Blustein 1997). Although career shaping (or exploration) is defined in various ways, ranging from a type of information seeking behaviour or career problem-solving activity, to a life-span process underlying career learning and development (see for a more extensive discussion: Taveira et al. 1998), in the present study, career shaping is considered a competency, in terms of the degree to which students are capable of investigating possibilities in relation to their career and are taking actions accordingly (Kuijpers and Meijers 2009).

One of the few studies on the effectiveness of the new integral career guidance in terms of career competencies of Dutch students was undertaken by Kuijpers and Meijers (2009). They found that (even though almost all schools expect their teachers to participate in career guidance) very few schools were contributing to students’ career competencies through career guidance. Another conclusion was that career conversations between teachers and students seemed to be essential, because the individual guidance during these conversations helped students to actively reflect upon their own learning processes or to construct meaning about themselves and their future career (Mittendorff et al. 2008; Kuijpers and Meijers 2009). Kuijpers and Meijers (2009) did not examine the contribution of these *career conversations* in great detail and argued that further research into the characteristics and effectiveness of career conversations was required. The present study focuses on the relationship between career conversations and students’ career competencies, and, more specifically, on the degree to which different career guidance styles of teachers are related to students’ career competencies.

Career conversations and career guidance profiles of teachers

In earlier studies, Mittendorff and colleagues (2008, 2010) investigated career conversations in Dutch secondary vocational education by means of qualitative research to gain more insight in the way teachers guide students during career guidance activities. Authors, for example, performed observational research in which they examined three aspects of the conduct of career conversations: the *content*, the *activities* undertaken by teachers and students and the *nature* of the relationship between teacher and student (cf. Watzlawick, Beavin, and Jackson 1967). The categories that were investigated within the three aspects included for example ‘talking

about career issues' or 'talking about the portfolio of the student' for *content*, 'active listening' or 'stimulating agency' for *teacher activities* and 'showing dominant behaviour' for *relationship*. The categories developed and used for coding were based on those categories from the literature that were indicated as good counselling behaviour (Bimrose et al. 2004; Bullock and Jamieson 1998; King 1999).

The observational study (Mittendorff, den Brok and Beijaard 2010) as well as a questionnaire study on student perceptions (Mittendorff, den Brok and Beijaard 2011) revealed similarities between career conversations and perceived teacher behaviour as well as many differences within and between schools and teachers. The study of students' perceptions of career conversations showed the existence of *four* different profiles identified through cluster analysis with the Statistical Package for the Social Sciences (SPSS) (Mittendorff, den Brok and Beijaard 2011). These profiles comprised three diverse scales for *content* (planning and instruments, career issues and personal issues), four scales for *teachers activities* (questioning, providing information, being personal and stimulating self-directedness) and two scales for *relationship* (influence and proximity). The four profiles included *mainstream teachers* (profiles 1 and 2), *personal teachers balancing directive and non-directive behaviour* (profile 3) and *non-personal, directive teachers* (profile 4). In Figure 1, a graphic representation of the four profiles is displayed.

As can be seen in Figure 1, the overall pattern of the four profiles found was relatively similar and there were even statistically non-significant differences between some of the elements. However, there were several statistically significant differences in the elements (scales) considered important for competence development in the literature, especially those related to two content variables, 'planning and instruments' and 'personal issues', as well as to three teacher activities, 'being personal', 'questioning' and 'stimulating self-directedness'. It should be noted that all of the investigated elements were significantly and positively related (Mittendorff, den Brok and Beijaard 2011). Hence, many of the small and

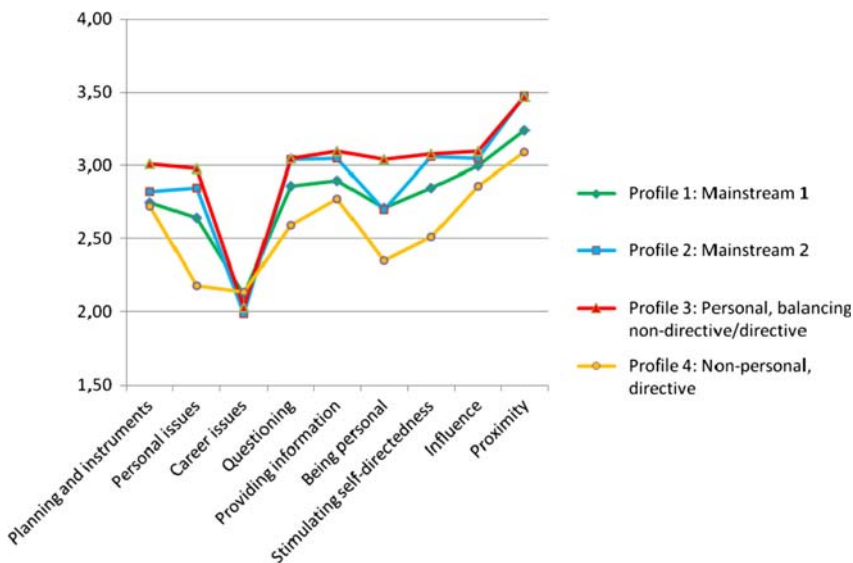


Figure 1. Graphic display of the four profiles and the different career guidance variables in the questionnaire on career conversations (Mittendorff, den Brok and Beijaard 2011).

sometimes even non-significant differences at the scale level together add up to much larger differences on an overall profile level. As such they also have practical significance. The fact that – for example – teaching styles only differ marginally at the level of (sub)activities but much more at an overall profile or style level is a common finding in the literature (Wubbels et al. 2006).

Profile 3 teachers were rated significantly higher with regard to talking about ‘planning and instruments’, ‘being personal’ and ‘influence’ than teachers from the other three profiles were. These teachers were therefore labelled as ‘*personal teachers balancing directive and non-directive behaviour*’. They were perceived in some way to be controlling or directive (high student ratings for ‘influence’ and ‘providing information’), but were also perceived to show non-directive behaviour (high student ratings for ‘questioning’ and ‘stimulating self-directedness’). Profile 4 teachers were rated significantly lower than the other three profiles with regard to talking about ‘personal issues’, and the teacher activities ‘questioning’, ‘being personal’ and ‘stimulating self-directedness’. These teachers were therefore labelled as being ‘*non-personal and directive teachers*’. It seems that they were directive towards the students, offering them little opportunity to introduce topics or issues and seldom allowing personal issues to enter the agenda. Teachers in profiles 1 and 2 scored highly moderately, which made these profiles harder to interpret in terms of a typical style or pattern. The teachers had medium or less extreme profiles and were therefore regarded as ‘*mainstream teachers*’, with teachers from profile 1 having slightly lower scores on most of the scales than profile 2 teachers. Profile 1 teachers were perceived to talk significantly more about personal issues, and were rated higher on questions, on ‘being personal’, and on ‘stimulating self-directedness’ than profile 4 teachers, but significantly lower on these variables than profile 2 and 3 teachers.

The four profiles seem to align to some degree with other profiles reported in the literature, such as the distinction between *non-directive, non-interventionist* teachers (encouraging students to explore their own thoughts/feelings with minimal comment and feedback) vs. *prescriptive tutor-dominated* teachers (giving instructions and concrete suggestions to students) described by Bullock and Jamieson (1998). An example mentioned in the literature on the mentoring of student teachers is the distinction between *initiators* (introduce topics but are non-directive), *imperators* (introduce topics and are directive), *advisors* (are directive but do not introduce topics) and *encouragers* (do not introduce topics and are non-directive) made by Henissen et al. (2008).

Student factors affecting career competencies

In this study, an effectiveness perspective was chosen to investigate the relation between career conversations and students’ career competencies (cf. Scheerens 2000). Although little research exists on the direct effects of teacher variables on career competencies or the career development of students, there are many studies of student characteristics that affect career development (Boone, Olffen, and Roijackers 2004; Lent, Brown, and Hackett 1994; Luzzo and Ward 1995; Patton Bartrum, and Creed 2004; Taylor and Betz 1983). If we want to investigate the relationship of career conversations with students’ career competencies, it is important to control for these characteristics. The extent to which students develop their careers depends, for example, on gender and age (Patton, Bartrum, and Creed 2004). The older the students get, the better they prepare themselves for career

choices (Patton, Bartrum, and Creed 2004) and the more confident they are in relation to their career (Rowland 2004). Males tend to be surer of their future ambitions in terms of employment and females are more competent in terms of making career choices (Patton, Bartrum, and Creed 2004).

In addition, career planning or career shaping has often been related to locus of control (Boone, Olffen, and Roijackers 2004; Phillips and Gully 1997). Locus of control refers to relatively stable individual differences in the extent to which events are believed to be under personal control or not. Individuals believing in internal control feel they can govern the occurrence of events in their lives by applying their effort and skills. Individuals believing in external control, by contrast, regard themselves as passive agents and consider the occurrence of events in their lives to be due mainly to forces beyond their control, dependent primarily on chance, luck, powerful individuals or institutions (Luzzo and Ward 1995).

Another student variable often mentioned as an important explanatory construct is self-efficacy or self-esteem (Fouad 1995; Luzzo and Ward 1995) or, more specifically, career decision-making self-efficacy (Boone, Olffen, and Roijackers 2004; Osipow 1999; Phillips and Gully 1997; Rivera et al. 2007). Self-efficacy pertains to one's judgement of one's own capabilities to organise and realise certain actions in order to perform or to achieve something (Bandura 1991; Lent, Brown, and Hackett 1994). Whether students can or will reflect on their individual career is related to their own self-efficacy in terms of career decision-making (Osipow 1999). Research has shown that low levels of self-efficacy in career decision-making will lead to an avoidance of career development or career decision-making tasks and behaviour, and that high levels of self-efficacy in career decision-making are related to aspects of career development such as career planning or career decisiveness (Luzzo and Ward 1995; Taylor and Betz 1983).

Research aims

The present study aims to contribute to a better understanding of the effectiveness of career conversations in terms of the development of students' career competencies. This was done by collecting data on three career competencies of students (career reflection, career shaping and networking) and combining these with the data of the study by Mittendorff, den Brok and Beijaard (2011) in which four career guidance profiles of teachers were identified. In the present study, the following research question was at the forefront: *To what degree are differences in teachers' career guidance profiles related to differences in career reflection, career shaping and networking of students?*

Method

Participants

A total of 579 students participated in the study. The students were selected from four secondary vocational education schools and four different courses: Car mechanics ($N=105$), which educates students for occupations such as car mechanic or salesperson in the car industry; Juridical Service ($N=257$), which educates students for occupations such as desk employee at a law office; Agriculture ($N=86$), which educates students for occupations such as gardener; and Social and cultural work ($N=123$), which educates students for occupations such as youth

worker. The schools were selected to cover the four main areas of Dutch secondary vocational education (technology, care and welfare, economics and agriculture) and because of their indication of using career conversations as part of an integral career guidance system in which they used instruments such as a portfolio and a personal development plan. Through interviews with school leaders, documents on school policy, and guidelines for career guidance, the policy and intended practice of these schools became visible. Juridical service and car mechanics courses had a clear weekly curriculum for integral career guidance and used manuals for all teachers in which weekly assignments and instruments were incorporated. Agriculture and social cultural work courses did not use manuals and did not have a weekly curriculum for career guidance, but both used an existing book as a source for guiding students. The schools providing the social and cultural work and juridical services courses had approximately four years of experience in conducting career conversations; the school providing an agricultural course had approximately two years of experience, and the school offering a car mechanics course had just begun to conduct career conversations.

The students represented several years and levels of education within the schools.² The mean age was 17.8 (SD=1.64) with a range of 15–25 years; 46% were female and 54% male; 21% of the sample had a non-Dutch ethnic background (student or at least one parent of student born outside the Netherlands). Three schools were located in the southern part of the Netherlands (two in a large city and one in a rural town) and one was located in a large city in the northern part of the Netherlands.

Students' perceptions of their teachers' career guidance pertained to 28 teachers in total (Mittendorff, den Brok and Beijgaard 2011): 14 male and 14 female. Their teaching experience ranged from 1 to 20 years. All teachers were of Dutch nationality. At each school, permission was sought to conduct the study and at each school, the management, teachers and students gave their consent. In Table 1, details of the participating students and teachers are shown.

Table 1. Details of teachers and students participating in each course.

Course		Car mechanics	Juridical service	Agriculture	Social and cultural work
Teachers	<i>N</i>	8	9	6	5
	<i>Gender</i>	6 male 2 female	1 male 8 female	4 male 2 female	3 male 2 female
Students	<i>N</i>	105	257	86	123
	<i>Gender*</i>	101 male 2 female	92 male 155 female	66 male 15 female	39 male 83 female
	<i>Level*</i>	1 (<i>n</i> =8) 2 (<i>n</i> =22) 4 (<i>n</i> =70)	4 (<i>n</i> =257)	2 (<i>n</i> =13) 3 (<i>n</i> =16) 4 (<i>n</i> =50)	4 (<i>n</i> =123)
	<i>Year*</i>	1 (<i>n</i> =65) 2 (<i>n</i> =33)	1 (<i>n</i> =124) 2 (<i>n</i> =69) 3 (<i>n</i> =55)	1 (<i>n</i> =44) 2 (<i>n</i> =19) 3 (<i>n</i> =10) 4 (<i>n</i> =6)	1 (<i>n</i> =47) 2 (<i>n</i> =38) 3 (<i>n</i> =35) 4 (<i>n</i> =1)

*The numbers for these variables do not always add up to the total *N* of each course, because of missing data.

Measures

Questionnaire on career competencies

For the present study, we used an adapted version of the career competencies questionnaire constructed by Kuijpers and Meijers (2009). The document is a self-report questionnaire used to assess students' career competencies along three scales: reflection, shaping and networking. The *career reflection* scale assessed the degree to which a student reflects on his or her own motives, talents and ambitions. The *career shaping* scale assessed the degree to which a student could be active in planning in relation to his or her career or in taking actions that would help that career. The *networking* scale assessed the degree to which a student is active in networking in relation to his or her career, such as whether the student talks with people in the field the student is interested in, or is active in creating a network that is useful for his or her future career development.

The existing questionnaire was tested using 25 students randomly chosen from different courses in Dutch secondary vocational education schools. The initial questionnaire constructed by Kuijpers and Meijers (2009) consisted of 11 items for career reflection, 14 items for career shaping and 7 items for networking. After piloting with the 25 students and discussion regarding the face validity, clarity and understandability of the items within the team of researchers (e.g. authors), five items were added to the career reflection scale and three career shaping items were deleted. The five items were added to increase the face validity of the career reflection scale and were based on suggestions provided by the students. The three items for career shaping were deleted because this increased the reliability of the scale. This led to a final questionnaire of 16 items for career reflection, 11 items for career shaping and 7 items for networking. For each scale, students were asked to rate themselves on a 5-point Likert scale ranging from (1) totally disagree to (5) totally agree. Exploratory factor analyses of the items of the three competencies resulted in three factors with an Eigenvalue larger than 1, explaining 51% of the variance. Inspection of factor loadings (not reported here) suggested that items fitted in their a priori scales. These findings converge with those reported in the study of Kuijpers and Meijers (2009) who also provided evidence for the presence of three separate, though associated factors. Cronbach's alphas for the three scales were 0.88 for career reflection, 0.83 for career shaping and 0.81 for networking, which corresponded to the Cronbach's alphas reported in the study by Kuijpers and Meijers (2009), which were, respectively, 0.82, 0.83 and 0.82. Correlations between the scales ranged from 0.63 to 0.71 and can be considered relatively high (de Jong & Westerhof 2001). This also corresponded to the study of Kuijpers and Meijers (2009), who found correlations ranging from 0.56 to 0.68.

Questionnaire on career conversations

To investigate career conversations and teachers' career guidance profiles, as perceived by students, we used data from the previous study by Mittendorff, den Brok and Beijaard (2011) collected using the Questionnaire on Career Conversations (QCC). Data were gathered from the same students that completed the questionnaire on career competencies. The QCC measures how students perceive career conversations with their teachers in terms of content, teacher activities and relationship. Students rated items in terms of the frequency of content and teacher activities using a 4-point Likert scale ranging from (1) almost never to (4) very

often, and for relationship using a four-point Likert scale ranging from (1) totally disagree to (4) totally agree. To investigate construct validity, an exploratory factor analysis was done for each element to verify the existence of possible scales within the three elements. The *content* element resulted in three scales (with an Eigenvalue larger than 1); based on interpretation of factor loadings (not displayed in this manuscript) the factors could be labelled as ‘planning and instruments’, ‘career issues’ and ‘personal issues’. The three scales explained 44.8% of the variance. *Teacher activities* resulted in four scales (with an Eigenvalue larger than 1); factor loadings indicated that these scales could be labelled as ‘questioning’, ‘providing information’, ‘being personal’ and ‘stimulating self-directedness’. The four scales explained 52.5% of the variance. The factor analysis for *relationship* resulted in two scales (with an Eigenvalue larger than 1): influence and proximity. The two scales explained 45.9% of the variance. Cronbach’s alphas ranged from 0.68 to 0.86, so all scales were reliable (above 0.65). To further investigate construct validity, scale inter-correlations were investigated. Correlation coefficients ranged between 0.19 and 0.71. High correlations exist between questioning and stimulating self-directedness; questioning and talking about personal issues; influence and proximity; and between talking about planning and instruments and talking about personal issues. The scales are thus interrelated, though sufficiently distinctive (de Jong and Westerhof 2001).

Demographic information, locus of control and career decision-making self-efficacy

Students completed a seven-item demographic questionnaire that assessed their age, gender, ethnicity, course, whether they had full- or part-time student status,³ their level of education and their year in school. Additionally, a short questionnaire on locus of control (four items) was used, derived from Kuijpers and Meijers (2009). This measure, based on the earlier research of Skinner, Zimmer-Gembeck, and Connell (1998), was adapted to Dutch vocational education students by Kuijpers and Meijers (2009). Because it was already translated into Dutch and proved to be reliable, the measure was used in this study as well. Finally, a short Dutch seven-item questionnaire on career decision-making self-efficacy was developed by the authors based on the work of Taylor and Betz (1983). After piloting with the 25 students from the pilot study (see Questionnaire on career competencies) and conducting a discussion of face validity, clarity and understandability of the items within the team of authors, one item was deleted for the career decision-making self-efficacy scale. The locus of control questionnaire remained the same. Students were asked to rate themselves on a five-point Likert scale ranging from (1) totally disagree to (5) totally agree. Both scales were reliable, with Cronbach’s alphas of 0.71 for locus of control and 0.81 for career decision-making self-efficacy. In Table 2, the scales, Cronbach’s alphas, number of items and item examples of all questionnaires are displayed.

Procedure

Teachers were instructed how to administer the questionnaires and were asked to distribute them in selected classes. The questionnaire on demographic information, locus of control and career decision-making self-efficacy was administered at the

Table 2. Scales, Cronbach's alphas, number of items and item examples in the different questionnaires.

Questionnaire	Scale	α	Number of items	Item examples
Career competencies	Career reflection	0.88	16	'When I find something interesting, I think about why I find it interesting'
	Career shaping	0.83	11	'I think about the things I am good at' 'I do or learn things outside school to create possibilities in terms of future work' 'I will arrange for extra guidance in relation to my career when I think it is necessary'
	Networking	0.81	7	'I talk to people in the working practice about my future plans' 'I ask people I know to help me find a job or apprenticeship place'
Career conversations	Planning and instruments	0.78	8	'During the career conversation I talk with my teacher about my progress at school' 'During the career conversation I talk with my teacher about my portfolio'
	Career issues	0.75	6	'During the career conversation I talk with my teacher about my future plans' 'During the career conversation I talk with my teacher about my previous education'
	Personal issues	0.75	4	'During the career conversation I talk with my teacher about my character' 'During the career conversation I talk with my teacher about how I'm feeling'
	Questioning	0.80	7	'My teacher asks me for information' 'My teacher asks my opinion'
	Providing information	0.76	5	'My teacher informs me and explains things' 'My teachers gives me suggestions'
	Being personal	0.78	3	'My teacher gives me compliments' 'My teacher tells me what he or she thinks of my character'
	Stimulating self-directedness	0.73	5	'My teacher encourages me to tell or explain things' 'My teacher stimulates me to take own initiative'
	Proximity	0.86	8	'My teacher is very friendly towards me' 'My teacher understands me'
	Influence	0.68	9	'During the conversation I need to follow my teacher's rules' 'My teacher sees everything I do'
Locus of control	Locus of control	0.71	4	'My life is controlled by my own behavior' 'If I try very hard, I will succeed'
Career decision-making self-efficacy	Career decision-making self-efficacy	0.81	6	'I am capable of making decisions in relation to my career' 'I believe I can solve career-related problems on my own'

beginning of the school year (September 2007). The questionnaire on career competencies (Kuijpers and Meijers 2009) was administered at the same time (September 2007) to measure initial competencies. Initial competencies were measured because educational effectiveness studies in general education (see e.g. Townsend 2007) and recent studies in vocational education (see e.g. Mittendorff, den Brok and Beijaard 2010) have shown that initial achievement and learning outcomes are the most important determining variables for achievement and outcomes at the end of the year. The questionnaire on career competencies was administered again at the end of the school year (June 2008) to measure end competencies. The questionnaire on career conversations was administered at the same time (June 2008), and involved the same students who had completed the questionnaire on career competencies (see also Mittendorff, den Brok and Beijaard 2011). Students were asked to provide their names and student number so that data from different measurements could be related. The measurements were administered in the same classes, but the missing data occurred at random. A missing value analysis (MVA) using the SPSS 'MVA' command was performed to estimate missing values for all students, on the basis of all other variables available for the sample and for the individual students.

Data analysis

The scales on career conversations were transferred into the four career guidance profiles, as analysed earlier (Mittendorff, den Brok and Beijaard 2011). All teachers ($N=28$) about whom the students reported were assigned to one of the four identified clusters (see theoretical framework section for description).

In order to test whether career competencies had indeed developed over the course of the year, descriptive analyses and a paired *t*-test were conducted on the three competency scales. Next, a hierarchical or multilevel analysis of variance (using MLwiN) was undertaken to investigate whether (1) the career guidance of teachers affected the level of career competencies of students; (2) whether student variables affected the level of career competencies of students and (3) whether certain profiles showed higher competency scores than others. The effect of these profiles was thus investigated, taking the overlapping effect of other student-related variables into account (initial career competencies, demographic variables and student variables).

Analyses were carried out separately for the three career competencies: career reflection, career shaping and networking. For each analysis, two levels (student and teacher) were distinguished, and an empty model was compared with a final model, which consisted of the initial career competencies of the students (to correct for differences between students and teachers that were already present at the start of the year), the student variables (age, course, level of education, grade level, ethnicity⁴ and gender,⁵ locus of control and career-decision-making self-efficacy) and the four different profiles of career guidance⁶ (Mittendorff, den Brok and Beijaard 2011). Effect sizes (Snijders and Bosker 1999) were computed in order to compare the effects that different variables exerted on the outcomes. In addition, the amount of variance explained at the two levels in the model was established. In the following section we will discuss the results of the analyses for the three competencies separately.

Results

Descriptive results showed that students indeed increased in career competencies during the year. The level of career reflection of students increased from 3.58 to 3.96 (on a scale from 1 to 5), the level of career shaping from 3.14 to 3.39 and the level of networking from 3.20 to 3.35. Paired *t*-tests showed that these differences were statistically significant; *t*-values (and *p*-values) were 7.59 ($p < .01$), 13.15 ($p < .01$) and 6.20 ($p < .01$) for career reflection, career shaping and networking, respectively.

In Table 3, the multilevel analyses for the three competencies are displayed, and show the relationships between the career competencies and different student and teacher variables. We will discuss the multilevel analysis for each career competency separately.

As for *career reflection*, the results showed that almost 94% of the differences in career reflection were related to differences between students, and only 6% to differences between teachers. The final model shows that the initial career reflection of students is strongly related to career reflection at the end of the year, with an effect size of 0.64. Career-decision-making self-efficacy was negatively related to career reflection on the part of students (effect size -0.10). Also, being a full-time or part-time student or being a male or female, affected the level of career reflection: part-time students reflected more on their career than did full-time students (effect size 0.12) and female students reflected more than did male students (effect size 0.08). Finally, profile 1 and profile 3 teachers achieved more career reflection with their students than profile 4 teachers. Profile 3 teachers achieved the highest level of career reflection compared to profile 4 teachers, with an effect size of 0.24. The final model is a statistically significant improvement compared to the empty model: the $-2 \times \log$ likelihood to df ratio, which is an indicator of model fit improvement, was 516.05–13 ($p < .01$).

The results for *career shaping* showed that almost all differences in career shaping at the end of the year were related to differences between students (over 97%). This means that teacher (or school) level variables in the present sample had little effect on career shaping. Initial career shaping, again, had the strongest effect on career shaping at the end of the year with an effect size of 0.48. ‘Locus of control’ and ‘career-decision-making self-efficacy’ were related positively to the scores on career shaping, with effect sizes of 0.08 and 0.10. The final model also shows that no statistically significant differences in career shaping could be attributed to different guidance profiles. The final model was a statistically significant improvement compared to the empty model: the $-2 \times \log$ likelihood to df ratio was 555.31–13 ($p < .01$).

The results for *networking* showed that over 99% of the differences in networking at the end of the year appeared to be related to differences between students and only 0.8% to differences between teachers. Initial networking had the largest effect size; 0.48. ‘Career decision-making self-efficacy’ was the only variable significantly related to networking, with an effect size of 0.16. When students had more self-efficacy in terms of career decision-making, they were more likely to be active in networking for their career. The final model also showed that for career competency no statistically significant differences could be related to the guidance profiles. The final model again was a statistically significant improvement compared to the empty model: the $-2 \times \log$ likelihood to df ratio was 560.03–13 ($p < .01$).

Table 3. Results of multilevel analysis on career reflection, career shaping and networking.

Level	Variables	Career reflection			Career shaping			Networking		
		Empty model	Final model		Empty model	Final model		Empty model	Final model	
			Estimates (std. err)	Eff. size		Estimates (std. err)	Eff. size		Estimates (std. err)	Eff. size
Student	Constant	3.96 (0.03)	1.05 (0.35)	0.64	3.39 (0.03)	0.88 (0.37)	3.35 (0.03)	1.79 (0.44)		
	Initial competence		0.51 (0.03)	0.64		0.43 (0.03)		0.40 (0.03)	0.49	
	Loc of control		n.s.			0.09 (0.04)		n.s.		
	Career dm se		-0.08 (0.04)	-0.10		0.09 (0.04)		0.16 (0.05)	0.16	
	Age		n.s.			n.s.		n.s.		
	Course		n.s.			n.s.		n.s.		
	Level		n.s.			n.s.		n.s.		
	Year in school		n.s.			n.s.		n.s.		
	Full/Part-time		0.27 (0.10)	0.12		n.s.		n.s.		
	Ethnicity		n.s.			n.s.		n.s.		
	Gender		0.07 (0.03)	0.08		n.s.		n.s.		
Teacher	Profile 1		0.22 (0.11)	0.19		n.s.		n.s.		
	Profile 2		n.s.			n.s.		n.s.		
	Profile 3		0.24 (0.11)	0.24		n.s.		n.s.		
Variance	Teacher	6.42%	1.83%		2.72%	1.17%	0.8%	0.57%		
	Student	93.56%	41.74%		97.28%	40.08%	99.2%	45.27%		
	Explained	-	56.43%		-	58.75%	-	54.16%		
	-2 × log(like)	706.55	190.50		806.95	241.64	985.79	425.76		
	Difference with df		-516.05 with df=13			-555.31 with df=13		-560.03 with df=13		

Notes: std. err=standard error. Eff. size=Effect size.

Discussion

The most important outcome of the present study is that differences in teachers' career guidance profiles are only partly related to differences in career competencies. Most variance in career competencies of students was located and explained at the student level, which means that the individual differences between students are of greater influence than career guidance style during career conversations. Before we discuss the career guidance profile that was related to the highest career competencies scores of students, we will elaborate on the considerable influence of student characteristics.

Similarly, a significant influence of student characteristics is usually found in school effectiveness research (Scheerens 2000). In this study, we measured only a few student variables (related to school-context variables) that could be influential, and there might be much more to investigate such as socioeconomic status (Hawley 2001), school performance (see e.g. Taveira et al. 1998) and even personality factors such as shyness (Hamer and Bruch 1997). Further research may provide insight in which students characteristics, besides student variables that were taken into account here, influence their career competencies.

As the results of this study show, the student characteristics 'age', 'year of study' or 'vocational field' did not have a significant influence on differences in career competency development. This could be partly related to the general nature of the instrument used (for measuring career competencies). However, it could also be the case that whether you are 16 or 19-years-old is not so important for career competency. Since the results also indicate that individual differences are important, it could be that personality traits for example are stronger influential factors for career competency than someone's age or vocational field. The study also revealed that being a part-time or full-time student was significantly related to students' career reflection. Part-time students reflected more on their career than full-time students. Part-time students work about four days in a week as an apprentice and go to school one or two days a week, so they experience practice a great deal. Earlier studies have shown that experiencing practice is an important element of the learning environment contributing to career development and career competencies (Geurts 2006; Kuijpers and Meijers 2009), besides career conversations. It could be that the work practice they experience, 'forces' them in a way to reflect on themselves and their career.

The study also shows that constructs such as career decision-making self-efficacy or locus of control are utile constructs to explain differences in people's career considerations and activities (for similar conclusions see Boone, Olffen, and Roijackers 2004; Phillips and Gully 1997; Rivera et al. 2007). Interestingly though, career decision-making self-efficacy was *negatively* related to career reflection, and *positively* related to career shaping and networking. This outcome demonstrates that students who are confident about their career decision-making skills reflect *less* and explore and network *more*.

The finding that only career reflection was influenced by teachers' career guidance corresponds to the earlier findings of Kuijpers and Meijers (2009). They discovered that career guidance in schools was focused mostly on students' reflection skills, and limitedly on shaping and not at all on networking. The results also showed that teachers hardly talk about career issues such as the future ambitions of the student or professional practice, and seldom stimulate the self-directedness of student (this

corresponds to the findings of Mittendorff, den Brok and Beijaard 2010). Teachers often controlled the conversation, explained and gave instructions, thus behaving in the manner of 'traditional' teachers. It seems clear that a student in such an environment cannot easily develop the competence for career shaping (the degree to which a student is active in *directing one's own* career and taking actions accordingly) or networking (the degree to which a student is interactive with others who may be useful). A major difference between the present study and previous studies, such as the study by Kuijpers and Meijers (2009), is that initial (starting) competencies of students were taken into account in the analyses. Hence, the results found in the present study suggest that prior studies may have overestimated the effect that teachers and schools have on students' career competencies. Moreover, the fact that initial competencies largely affect competencies at the end of a year is a common finding in educational effectiveness research (Snijders and Bosker 1999).

The conclusion that, in this study, individual differences are of greater influence than the guidance style offered to students, indicates that teachers (or career guidance practitioners in general) should be aware of these differences between students and provide tailor-made guidance based on such variables. Students, for example, could be guided differently with regards to their background and career development needs. That means teachers need to have real dialogues with their students, and to form relationships in which individual-tailored guidance can be given. Because career conversations are organised individually, this tailor-made guidance is fairly easy to realise (provided that teachers take the time and effort to invest in individual interest and guidance).

This also indicates that teachers' guidance does not have the effect that is presumed or desired. Does this mean teachers should withdraw from providing career guidance to students? Although the results show that individual differences of students are causing the largest effects, we believe that it is too early to reach this conclusion. While in this study, the effects of differences in teachers' experience with this new role were not studied, it is very likely that when teachers develop more distinguished routines in guiding students in their careers, the outcomes could be quite different. In our sample, however, the fact that schools indicated they are providing career guidance for some years does not imply that every participating teacher was experienced in providing career guidance. Some teachers who have been giving career guidance for several years, for example, cannot yet be considered competent. All schools in this research indicated that they realised and used career conversations to guide students in their careers, but this is still a very new aspect of the educational practice of teachers. More time and effort could be put into the training and facilitation of teachers to fulfil this new task. Teachers, for example, should learn how to talk to students about career issues, besides school issues. When we look at the four profiles, we see that career issues are seldom on the agenda of career conversations, a finding identical to what we observed in an earlier observational study (Mittendorff, den Brok and Beijaard 2010). Earlier studies have already shown that teachers often 'stick' to talking about school subjects (progress at school, making action plans, etc.) and find it difficult to broaden their perspective to discuss the possible careers of students and the professional practice students will be working in (e.g. Mittendorff 2010; Winters et al. 2009). Teachers are not used to talk with students about future ambitions or to make connections with the professional practice (as is reflected in the results of this study), but when the goal of career guidance is to help students develop a vocational identity and

plan their learning process and career development, career issues such as future ambitions of students or reasons for participating in the course, should definitely be on the agenda (Geurts 2006). Furthermore, career guidance is not restricted to teacher–student conversations and schools have to (keep) focus on several elements important for integral career guidance. Guidance in work practice for example, and conversations between teacher, student and apprenticeship (work) are also important factors that contribute to career competency development of students (Winters et al. 2009). Also, teachers should be trained in acting less teacher-centred while providing guidance. When they want to realise a learning environment in which students learn to initiate actions for their career and become more self-directed, teachers should demonstrate less directing behaviour and enable students to learn to control and to plan their own career and personal development (Bullock and Jamieson 1998). Further research may contribute to how this training and facilitation of teachers can best be shaped.

Finally, the results show that the ‘personal teacher’ profile seems to be related to the highest student competencies scores. Although the influence is very small, it does indicate that creating a personal relationship with your student can contribute to career guidance that leads to a higher level of career competencies of students. This corresponds to the arguments of other scholars in the career counselling field, that a personal relationship is of significant importance (e.g. Blustein, Schultheiss, and Flum 2004; Patton and MacMahon 2006; Peavy 2000). Blustein et al. (2004), for example, argue that research evidence suggests that teachers or counsellors should offer a kind of relational support in educational and counselling contexts as a basic condition for self- and environment-oriented exploration. Schools and teachers should be aware of this and consider possible improvements discussing these issues with the teachers and providing them with enough time to have personal conversations. For teachers, it means it is important to focus on building a relationship with the student, for example by creating an environment of trust and understanding.

Certain limitations of the present study warrant consideration and suggest possibilities for further research. Firstly, the study investigated the influence of career guidance profiles during career conversations, a variable situated and constructed at the teacher level. However, students obviously differed in their perceptions of the same teacher (Mittendorff, den Brok and Beijaard 2011), which may have been a result of individual differences in beliefs, sensitivity to cues from the environment but also to differences in treatment by the same teachers (Mittendorff et al. 2008). Future research could take both overall style as well as local practices with individual students into account in the design and analyses. Secondly, data were gathered within only four schools. Thus, results can only limitedly be generalised to all secondary vocational education schools in the Netherlands and to an even lesser degree to other school types nationally and internationally. The sample size also did not allow for analyses at the school level or for other multi-group types of analyses. Future research should further refine analyses on career guidance during career conversations and career competencies of students by using larger and more widespread data-sets. It would be interesting to investigate how other countries use these kinds of guidance efforts in their educational systems, and compare the results of our studies with other studies on effects of teachers’ guidance efforts. Thirdly, we measured only direct effects of student and teacher variables on career reflection, career shaping and networking. Indirect effects are likely to occur because of the relatively high correlations between the three career competencies. Fourthly, the study focused only

on outcomes in terms of career competency levels while students were still at school. Other student outcomes such as the development of a vocational identity or drop-out rates could be considered (Wijers and Meijers 1996), as well as long-term effects with regard to skills for career development, to be measured when students are entering the labour market. Are students really effective in terms of finding a job that suits their ambitions and are they able to survive in the rapidly changing labour market? Research by Morris (2004) has shown that students with high career exploration skills were more likely to make transitions within the labour market that indicated progression than students with lower career exploration skills. Further research, however, should investigate the effectiveness with respect to career development after school for which more indicators of desired effects remain to be developed (see Bernes, Bardick, and Orr (2007) for the need to investigate the effectiveness of career guidance and counselling, and Hughes and Gratton (2009)). Finally, the quantitative measurement instruments provide only a few broad general trends. More qualitative research in the future could help to explain why certain teacher profiles are more effective or why schools and teachers seem to have little effect.

Notes

1. One might argue that career conversations are present in other situations as well (e.g. during apprenticeships of students or in normal class situations). We underline the importance of these conversations, but in this article we focus on the formal career conversations taking place between career guidance teacher and student at school, usually planned every two months, as part of the career guidance of the student.
2. Senior secondary vocational education in the Netherlands consists of four levels: level 1 (assistant worker – one year), level 2 (junior worker – two years), level 3 (vocational training – three years), level 4 (middle-management training – four years).
3. Full-time students in Dutch vocational education spend four days of the week at school, and approximately one day of the week at their apprenticeship. Part-time students work four days of the week, and go to school one day of the week. There is not a difference in age, but in amount of time being in school or at work/apprenticeship.
4. Being Dutch was taken as baseline.
5. Being male was taken as baseline.
6. Profile 4 was taken as a baseline for interpretation purposes (and is therefore not shown as a teacher variable in Table 3), it scored lowest on all variables of the questionnaire.

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