

University of Groningen

Teachers' sense of their professional identity

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Document Version

Publisher's PDF, also known as Version of record

Publication date:

2011

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Canrinus, E. T. (2011). *Teachers' sense of their professional identity*. Groningen: PrintPartners Ipskamp B.V., Enschede, The Netherlands.

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Chapter seven: Conclusions and discussion

7.1. Introduction

The overall aim of this dissertation was to contribute to the conceptualization of teachers' professional identity. To do this, various variables which were expected to be relevant for teachers' perceptions of their professional identity were investigated on a large scale using quantitative research methods. Furthermore, the extent to which teachers' professional identity profiles are related to teachers' educational beliefs and teaching behaviours has been investigated. More specifically, the following research questions were addressed:

1. How can the indicators of teachers' sense of their professional identity be defined and measured?
2. How are the indicators of teachers' sense of their professional identity related?
3. Are different professional identity profiles empirically evident in a large sample of practicing teachers? If so, do teachers with different professional identity profiles differ in:
 - a. their amount of experience in education?
 - b. their perceptions of opportunities for professional development?
 - c. their perceptions of their level of autonomy?
 - d. their reasons for choosing the teaching profession?
 - e. The features of their appointments?
4. Do teachers with different professional identity profiles differ in their educational beliefs about the objectives of education and students' role in teaching?
5. Do teachers with different professional identity profiles differ in their teaching behaviours?

This chapter will first summarize the main findings followed by conclusions for each research question and some more general conclusions. Next, these findings will be discussed and their practical implications will be put forward. This chapter ends with the limitations of the study and suggestions for further research.

7.2. Conclusions

7.2.1 Defining and measuring teachers' sense of their professional identity (research question 1)

In chapter 2, the definitions of teachers' job satisfaction, occupational commitment, motivation, and self-efficacy were formulated based on a study of the literature. Likewise, existing instruments were selected for the development of an online survey measuring

teachers' perceptions of their professional identity (see Table 2.1, page 22). A pilot study was performed to test and refine the online survey. It was explored whether the original structure of the instruments used could be observed. It showed that the observed structures resembled the structures of the original instruments used, except for the part measuring teachers' motivation. It was decided to use a measurement of the change in teachers' motivation instead. It can be concluded, based on the findings in chapter 2, that it is possible to measure the four indicators of teachers' professional identity as intended in a reliable fashion with an online survey.

7.2.2 Relating the indicators of teachers' sense of their professional identity (research question 2)

Chapter 3 reports on the data of 1214 teachers who responded to the online survey developed and described in chapter 2. Based on this large sample's data, the structure of the survey was investigated once again. This time, instead of investigating the structure per indicator, the items measuring job satisfaction, self-efficacy, and occupational commitment were simultaneously submitted to a principal component analysis (PCA). The instruments used to measure these constructs had not yet been used together in previous research. To reduce the confounding of constructs, a PCA was conducted to purify the variables. The variable measuring change in teachers' level of motivation was excluded from the PCA, as this variable was measured by one constructed item.

Based on the PCA, five indicators were found. Job satisfaction was split into teachers' relationship satisfaction (containing items about co-workers, support, and autonomy) and teachers' satisfaction with their salary (containing items about salary and fringe benefits). The indicator "relationship satisfaction" furthermore contained self-efficacy items on teachers' relationship with school administrators. Teachers' self-efficacy regarding classroom activities remained as a separate indicator. Occupational commitment was split into teachers' affective occupational commitment (referring to positive emotions towards the occupation) and responsibility to remain in teaching (referring to the sense of obligation to remain in the occupation and the awareness of the costs associated with leaving the occupation). Together with the indicator which measures teachers' change in their level of motivation, a total of six indicators of teachers' sense of their professional identity were identified.

These six indicators were used to construct a preliminary model of the relationships between the indicators of teachers' sense of their professional identity. This model was based on assumptions derived from the literature. The final model of the structural equation modelling revealed that teachers' classroom self-efficacy and teachers' relationship

satisfaction are important indicators, influencing all other indicators. The strongest contributions in the model originated from the indicator 'relationship satisfaction'. This indicator contributed positively to teachers' change in level of motivation, their salary satisfaction, and affective occupational commitment. It contributed negatively to teachers' feelings of responsibility to remain in teaching. Teachers' classroom self-efficacy contributed positively to teachers' relationship satisfaction, teachers' change in level of motivation, and their affective occupational commitment. It contributed negatively to teachers' salary satisfaction. Based on the findings described in chapter 3 it can be concluded that strengthening a teacher's sense of professional identity would be possible by influencing teachers' classroom self-efficacy and teachers' relationship satisfaction, as these constructs influence, in their turn, the other indicators (see Figure 3.2, page 45).

Additionally, it was investigated whether the relationships found in the final model would differ for teachers with different amounts of experience in education. The total group of teachers was, therefore, split into novice, experienced, and senior teachers. The results revealed that the parameter estimates for the overall group fitted the three groups well. Based on these results it can be concluded that the relationships between the indicators of teachers' sense of their professional identity are similar for teachers with different levels of experience.

7.2.3 Identifying professional identity profiles and the differences between them (research question 3)

The same dataset as in chapter 3 was used to investigate whether different professional identity profiles were evident. Three distinct professional identity profiles were presented in chapter 4: 1) an unsatisfied and demotivated identity profile consisting of teachers who scored relatively low on the six indicators, 2) a motivated and affectively committed identity profile consisting of teachers who scored relatively high on the indicators, and 3) a competence doubting identity profile consisting of teachers with a more diverse score pattern.

Teachers' amount of experience was not associated with the professional identity profiles. Likewise, teachers with different identity profiles did not differ in their perceived professional development opportunities and autonomy. Finally, great similarities were found between the profiles regarding teachers' reasons for choosing the teaching profession. Teachers belonging to different professional identity profiles did not significantly differ in their main reason to become a teacher.

Differences were found between teachers belonging to the three professional identity profiles regarding the features of their appointments. Teachers with a motivated and affectively committed identity profile have, compared to the other teachers, more often a

permanent appointment. Furthermore, these same teachers have, compared to teachers with a competence doubting identity profile, more often extra tasks besides teaching. Lastly, teachers with a competence doubting identity profile have, compared to the other teachers, smaller appointments. Based on the results described in chapter 4, it can be concluded that, as three specific professional identity profiles were identified, distinct patterns of professional identity are evident in the Dutch teacher population.

7.2.4 Teachers' identity profiles and their educational beliefs (research question 4)

The study presented in chapter 5 was used to investigate whether teachers, belonging to the three observed professional identity profiles, differ in their educational beliefs regarding the objectives of education and students' role in teaching. An instrument (Denessen, Michels, & Felling, 2000) was selected to measure these teacher beliefs, consisting of the following four beliefs scales: a) importance of qualification and schooling, b) participation and critical reflection of students, c) stimulating personal and moral development, and d) student discipline. It appeared that teachers with a competence doubting identity profile agreed significantly more with statements regarding the importance of qualification and schooling and stimulating personal and moral development than teachers with one of the other two identity profiles.

Based on the results described in chapter 5 it can be concluded that teachers' educational beliefs and their sense of their professional identity are indeed, as hypothesized in the literature, empirically related. Especially, investigating the configuration of the indicators of teachers' professional identity in relation to teachers' beliefs appears to be relevant.

7.2.5 Teachers' identity profiles and their teaching behaviour (research question 5)

External observers and students rated a selection of teachers on the following effective teaching behaviours: 'efficient classroom management', 'creating a safe and stimulating learning climate', 'providing clear instruction', 'providing feedback', 'adaptive teaching behaviour', and 'teaching of learning strategies'. The external observers' data showed no differences between teachers belonging to the three identity profiles regarding their teaching behaviour. Contrary to this, the students of these teachers perceived significant differences between their teachers' behaviours.

Based on the results in chapter 6, it can be concluded that, from the students' perspective, teachers belonging to an unsatisfied and demotivated professional identity profile appear to differ in their efficient classroom management and in the extent to which they provide clear instruction.

7.2.6 General conclusion

Considering the findings presented in this dissertation we conclude that teachers' sense of their professional identity can be measured through the combination of six indicators. Considering the relationships between these indicators, teachers' classroom self-efficacy and their relationship satisfaction play a pivotal role. Teachers can be divided into three groups of professional identity profiles, that is, an unsatisfied and demotivated profile, a motivated and affectively committed profile, and a competence doubting profile. Teachers' sense of their professional identity is related to their educational beliefs and their teaching behaviours as perceived by their students.

7.3. Discussion

This dissertation adds to the existing knowledge about teachers' professional identity and what contributes to teachers' perception of it. Most importantly, it contributes to the conceptualization of the concept professional identity. In 2004, Beijaard, Meijer, and Verloop concluded in their review study that different studies used different definitions of teachers' professional identity. Some studies they investigated even lacked a clear definition of this concept. This problem becomes clear as well in the 2008 special issue of the journal *Teacher Education Quarterly* on 'teacher identity'. Although the authors contributing to this issue mostly draw on socio-cultural theory to describe their definition of teacher identity, they have "[...] their own particular understandings of identity" (Olsen, 2008b; p. 5). Recently, Beauchamp and Thomas (2009) have emphasized that the challenge of understanding teachers' professional identity lies within determining a definition of this concept. Once consensus has been reached in the definition sphere, the more or less uniform operationalization of the concept is the next challenge faced in this field. Unless these challenges are overcome, theory building in this field will remain complicated.

Within this dissertation, we have taken a social-psychological perspective. Teachers' sense of their professional identity has been perceived here as the result of the continuing interaction between the person of a teacher and his/her context. The presented conceptualization of teachers' professional identity, as well as the professional identity profiles found do justice to the interrelatedness of personal and contextual factors as emphasized by, for instance, Akkerman and Meijer (2011) and Olsen (2008a). Furthermore, the position has been taken that teachers' sense of their professional identity is reflected in their self-efficacy, job satisfaction, occupational commitment, and their motivation (see Figure 1.1 in chapter 1, page 14). Although these constructs have been investigated in several

combinations (e.g., Cooper-Hakim & Viswesvaran, 2005), no empirical studies have been conducted relating them all to each other to provide an impression of teachers' sense of their professional identity. Other studies have mostly made claims about the interrelatedness of these constructs and their relationship with teachers' professional identity based on theory and deductive reasoning (e.g., Day et al., 2006). In this dissertation, these constructs have been perceived as *indicators* of teachers' sense of their professional identity and investigated empirically, including their relationships. By using questionnaire data, consisting of teachers' self-reported ratings on the indicators, it was made possible to investigate teachers' sense of their professional identity quantitatively. Most research on teachers' professional identity has been performed using qualitative methods (cf. Volkmann & Anderson, 1998). Findings from such studies are often based on small sample sizes, as qualitative research is used mainly for improving understanding of complex issues and generalizability is not its main focus (Marshall, 1996).

7.3.1 *Teaching experience*

The presented results, based on a large data-set, touch upon the discussion regarding the stability and/or dynamics of teachers' professional identity by having investigated: a) whether the relationships between the indicators of teachers' professional identity would be different for three groups of teachers differing in their amount of experience in education (chapter 3) and b) whether teachers' amount of experience is related to teachers' professional identity profile, using a division of experience into five groups (chapter 4). The final model of the relationships between the indicators was found to be the similar for novice, experienced, and senior teachers. Likewise, no differences between the three professional identity profiles were found regarding the experience, divided into even smaller subgroups, of the teachers belonging to these profiles. Nevertheless, due to the cross-sectional design of this study, we can not confirm or deny the stability or flexibility of teachers' professional identity.

Beauchamp and Thomas (2009) have mentioned that the comparison of studies investigating the stability and/or dynamics of teachers' professional identity is difficult, due to the different terms being used by researchers to refer to the 'shifting and shaping' – as Beauchamp and Thomas call these processes – of a professional identity. Examples of such different terms are: the 'development' of identity (Olsen, 2008), the 'construction' of identity (Coldron & Smith, 1999), and the 'shaping' of an identity (Flores & Day, 2006). Although different terms are used when referring to the stability and/or dynamics of teachers' professional identity, the core question of research on this subject is similar: does a teacher's professional identity change during the course of his/her career? Feiman-Nemser (2001)

states that professional identity construction is an ongoing process. Beijaard et al. (2004) referred to professional identity in itself as an ongoing process, implying dynamics and change during the course of a teaching career. Day, Kington, Stobart, and Sammons (2006) put forward a combination of stability and dynamics in teachers' professional identity during the course of their career. They do not perceive it to be stable in all situations, all the time. Nor do they perceive teachers' professional identity to be continuously in flux. They state that "[the architecture of teachers' professional identities] at certain times or during certain life, career, and organisational phases may be discontinuous, fragmented, and subject to turbulence and change in the continuing struggle to construct and sustain a stable identity" (Day et al., 2006; p. 613). Other researchers (e.g., Nyström, 2009) hint at more stability further on in one's career.

Beijaard (2009) claims that, as teachers obtain more and more experience, the continuing process of interaction between a person and his/her context – which is the core of teachers' professional identity (see chapter 1) – stabilizes. Ibarra (1999), investigating how professional identity develops, found that people use provisional professional identities before their final professional identity evolves through rehearsal and experience. This suggests a distinction in professional identity profiles between teachers with different amounts of experience. Relating the professional identity profiles found in this dissertation to Beijaard's (2009) and Ibarra's (1999) work could suggest that mainly beginning teachers would have the hybrid professional identity profile, as this profile shows diverse scores on the indicators of teachers' professional identity. As this was not the case and no significant differences between the profiles were found regarding teachers' experience, the data do not point into the direction of Ibarra's findings or Beijaard's claim. At the same time, our results do not refute the claims made by Beijaard (2009) and Ibarra (1999). Beginning teachers' provisional professional identities (Ibarra, 1999) could be distributed over the three profiles in the same way as more evolved profiles are distributed. Our cross-sectional data does not allow us to observe or conclude whether transitions occur between profiles and if so, when they do and under which condition this occurs.

7.3.2 The importance of others

Akkerman and Meijer (2011) suggest perceiving teachers' professional identity to be both continuous over time as well as discontinuous depending on the situation at hand. In this dissertation, this situational influence was observed in, for instance, the importance of a teacher's relationship with others. The indicator 'relationship satisfaction' reflects teachers' satisfaction with their co-workers (i.e., colleagues), the support they receive, and the extent to

which they feel competent in dealing with school administrators. As became clear in chapter 3, teachers' relationship satisfaction is a crucial indicator in the relationships between the other indicators of teachers' sense of their professional identity. Thus, the extent to which teachers are satisfied with their colleagues, the support they receive, and the extent to which they feel competent in dealing with school administrators, influence teachers' ratings of the other indicators. Rots, Kelchtermans, and Aelterman (2011) even believe, based on their qualitative study, that more attention should be paid to such aspects in teacher education. Akkerman and Meijer (2011) stress the importance of others and the specific features of the contexts, or situations in which a teacher functions. On the one hand, teachers' professional identity is continuous in the sense that it is maintained through narratives and, more implicitly, through routinized personal behaviour and cultural and historical context. On the other hand, depending on the context in which a teacher functions at a specific moment in time (for example, his/her classroom or a staff meeting) a teacher may choose to take a different position or role (for example, being a strict and critical teacher in the classroom and a relaxed colleague during the staff meeting) (Akkerman & Meijer, 2011; Burke & Stets, 2009).

7.3.3 Teachers' educational beliefs

Not only the context in which a teacher functions affects teachers' sense of their professional identity, teachers' personal features will affect this sense as well. In this dissertation, the three professional identity profiles have been compared to each other regarding several variables. As mentioned above, the amount of experience in education of the teachers in each profile has been compared, but also teachers' educational beliefs have been compared. Teachers' beliefs are thought to be stable (Stipek, Givvin, Salmon, & MacGyvers, 2001) and difficult to change (Borko & Putnam, 1996; Pajares, 1992). According to Pajares (1992), it specifically is this apparently rigid structure of beliefs which is contributing to the understanding of oneself and others as well as one's place in the world. Pajares furthermore claims that beliefs are related to the construction of groups and social systems. Likewise, Cohen (2010) acknowledges the relevance of beliefs for belonging to particular identity groups. The relationship between teachers' educational beliefs and their professional identity has nevertheless remained hypothetical until now (e.g., Fairbanks et al., 2010). The findings presented in this dissertation empirically support such relationship.

Still, the findings presented in chapter 5 were somewhat surprising. Teachers belonging to the identity profiles differing most from each other regarding the indicators of teachers' sense of their professional identity (the motivated and affectively committed

teachers and the unsatisfied and demotivated teachers) did not differ regarding the measured educational beliefs. The limitations discussed in chapter 5 suggest that, although small significant differences were found between these profiles and the competence doubting profile, the educational beliefs measured in this dissertation may have been too broadly defined for teachers belonging to different professional identity profiles to differ regarding these beliefs. Most teachers highly agreed with the belief statements. Thus, there is little variance among the teachers in their educational beliefs, which complicates finding differences between the professional identity profiles. This raises the question whether professional identity profiles make it possible to differentiate between general aspects such as the more general educational beliefs used here, or whether more narrowly defined beliefs should be used.

7.3.4 Teachers' teaching behaviour

A similar question remains for the teachers' teaching behaviours investigated in chapter 6 of this dissertation. Other researchers have made claims about outcomes of teachers' professional identity (e.g., Day, 2002), but studies relating teachers' sense of their professional identity to their teaching behaviours are lacking. In this dissertation this relationship was empirically explored for the first time, using the data of both external observers and teachers' students. The ratings of the external observers and the students' ratings were significantly related and the strength of this relationship resembled the findings of previous authors (e.g., Van der Schaaf, Stokking, & Verloop, 2008). The external observers did not observe differences in teaching behaviours between the teachers who differed from each other in their professional identity profile. Differences were found in the student ratings of the teachers' teaching behaviours; yet, only for the behaviours 'providing clear instruction' and 'efficient classroom management'. Students of teachers with an unsatisfied and demotivated identity profile rated these behaviours higher compared to, respectively, students of teachers with a motivated and affectively committed and students of teachers with either other profile.

The differences between the observer and student ratings may be due to the fact that only two observers rated the teachers, whereas in the case of the student data whole classes rated the behaviours of their teacher and each student functions as an observer. Furthermore, the observers rated these teachers at two moments in time. The teachers' students based their ratings on their experience with their teacher during the whole year. Finally, the more complex behaviours (i.e., adaptive teaching and teaching of learning strategies) were observed in too few cases by the external observers to be included in the

analyses. These behaviours may not only be difficult to perform (Kyriakides, Creemers, & Antiniou, 2009; Van de Grift, 2010), but might also be difficult to observe. The students' ratings of these behaviours were, therefore, extra relevant.

No differences were found between students' ratings of teachers' adaptive teaching behaviours and teaching of learning strategies behaviours across the identity profiles. As little differences were found between the three professional identity profiles, again the question arises whether the observed professional identity profiles make a difference for the more general teaching behaviours as investigated in this dissertation or whether more narrowly defined behaviours should be observed. In the same vein the question can be put forward whether the profiles should be more narrowly specified to fit the suggested narrowly defined measures of educational beliefs or effective teacher behaviours. In other words, the level of specificity of the instruments ought to be matched.

7.3.5 Investigating the concept of professional identity

By investigating the relationships between teachers' sense of their professional identity and teachers' educational beliefs and teaching behaviours empirically, steps have been taken to extend the existing research on the topic of teachers' professional identity. Studies which relate teachers' professional identity to various outcome measures, such as teachers' behaviour, have been lacking. Research on teachers' sense of their professional identity has mainly focused on what affects – the development of – teachers' professional identity (e.g., Hamman, Gosselin, Romano, & Bunuan, 2010). A problem arises, nevertheless. Adequately and univocally defining what is meant by teachers' professional identity is still a relevant problem six years after Beijaard et al. (2004) called attention to this problem in their review study. At present, studies on teachers' professional identity are still difficult to compare as different definitions, different foci, and different measures are used. As mentioned above, Beauchamp and Thomas (2009) noted the difficulty of comparing studies investigating the stability and/or dynamics of teachers' professional identity due to the various terms used to refer to such processes. The research presented in this dissertation has shown that although teachers' sense of their professional identity is an implicit concept, it can be measured through more overt constructs which accurately represent the interaction between a person and his/her context.

7.4. Implications for practice

The teachers who participated in this study have given an indication of their sense of their professional identity. This has been represented by their job satisfaction, change in level of

motivation, their self-efficacy, and their occupational commitment. As much as 20% of the group of teachers in this sample belongs to the unsatisfied and demotivated identity profile (see chapter 4). Their scores on the indicators are worrying. They lack commitment and satisfaction, and their motivation has clearly dropped since they started teaching. These teachers may be at risk for getting burned-out (Nurmi, Berzonsky, Tammi, & Kinney, 1997) and may very well leave the profession completely.

Future research is necessary to warrant this claim, but attention should be paid to these teachers, not only for the risk of their well-being but also because of the growing shortage of teachers (OECD, 2008). The answer to the question how to support these teachers does not appear to lie in enhancing their autonomy or giving them more opportunities for professional development, as this group does not differ from the other teachers regarding these aspects. Even so, it is not a problem solely of beginning or senior teachers as the teachers belonging to the three professional identity profiles do not differ in their amount of experience. School policy should take into account that these teachers are present in their schools and that they may be at risk.

As shown in chapter 3, classroom self-efficacy and relationship satisfaction were found to play a key role in the relationships between the indicators of teachers' sense of their professional identity. This suggests that affecting a teacher's sense of professional identity would be possible by influencing teachers' classroom self-efficacy and teachers' relationship satisfaction, as these constructs influence, in their turn, the other indicators. Relationship satisfaction could be strengthened by providing or enhancing a supportive environment, making sure teachers feel they are listened to by the school board, and developing a strong feeling of relatedness between team-members. Strengthening these aspects will increase teachers' classroom self-efficacy as well (Ashton & Webb, 1986; Lee, Dedrick, & Smith, 1991; Louis, 1998; Raudenbusch, Raven, & Cheong, 1992). Comprehensive induction arrangements incorporate such aspects, thus attending to many of the beginning teachers' needs (e.g., Helms-Lorenz, Slof, Vermue, & Canrinus, 2011). For more experienced teachers as well, solutions might be sought in programmes to strengthen their relationship satisfaction.

Another factor which has been found to influence teachers' relationship satisfaction is the leadership style of a teacher's superior (Bogler, 2001; Dinham & Scott, 2000; Nguni, Slegers, & Denessen, 2006). Bogler (2001) concluded that a transformational leadership style (which includes: intellectually stimulating their teachers, having charisma and a clear vision) contributes positively to, what is called here, teachers' relationship satisfaction. A

transactional leadership style (which includes: giving contingent reward and management by exception, active as well as passive), on the other hand, contributes negatively to teachers' relationship satisfaction (Bogler, 2001). As teachers' relationship satisfaction is an important indicator which influences the other indicators of teachers' sense of their professional identity, principals should employ a transformational leadership style. Principals should abstain from using a transactional leadership style.

By displaying behaviour which gives teachers a feeling of empowerment, principals can influence teachers' motivation (Davis & Wilson, 2000). As the difference between the three profiles is most apparent in the change in teachers' level of motivation, this, as well, may be a factor through which a change in teachers' professional identity profile is achieved. Starting their profession, teachers have a certain perspective on what teaching entails. These perspectives are not always in line with reality. This gap between the ideas trainee teachers have about teaching and their experiences in the field generally has a negative connotation as it often results in a decline in the level of motivation for the profession (cf. Flores, 2001). Explicating these expectations may give others, for instance school leaders or teacher trainers, the opportunity to provide trainee teachers with adequate information about working in the field.

Furthermore, during the course of their teaching career, teachers get older, yet the students they teach remain of the same age-group. According to Beijaard (1995), teachers' relationship with their students is important for the teachers' sense of their professional identity and how this changes over time. As the age-gap between a teacher and his or her students widens as time passes on, maintaining one's sense of motivation each year and all year long may not be that easy for teachers (cf. Beijaard, 1995). This suggests that the decrease in motivation should be monitored in the beginning as well as further on in a teachers' career. Especially, as teachers' motivation is related to their level of job stress (Davis & Wilson, 2000) which in its turn contributes to a higher risk of burn-out (Betoret, 2009).

Thus, the presented professional identity profiles may be used as a monitor to investigate how teachers' sense of their professional identity is actually related to burn-out numbers and attrition rates. The interaction between the person of a teacher and his/her context is represented in the profiles. They represent teachers' sense of their professional identity and possibly an indication of teachers at-risk of burn-out or attrition. By frequently checking where teachers stand regarding the indicators of teachers' professional identity, researchers may be able to determine how teachers' sense of their professional identity is

related to burn-out and attrition risk. In the future, when such relationship is specified, school leaders, using such a monitor, may be able to notice more timely those teachers that may be at risk of dropping out of the profession or of experiencing too much stress. The suggestions made above may help to alleviate or even revert such process.

7.5. Limitations and suggestions for further research

The findings presented in this dissertation should be interpreted while taking into account several limitations of the study. These limitations will be discussed below. First, the limitations considering the participants are elaborated upon. The non-response is touched upon, as well as the sample size in the study presented in chapter six. Second, limitations regarding the design of the research are discussed. The chosen design and methods have implications for the conclusions drawn about, among other things, the stability/flexibility of teachers' professional identity. Suggestions for further research are presented in reply to these limitations and to extend the present study.

7.5.1 Participants

The findings presented in chapter 3, 4, and 5 are based on a large sample of Dutch secondary school teachers. A total of 5575 teachers were asked to participate. Although the teachers who did not want to participate in the research were asked to give some basic biographical data, most teachers did not respond to this request. Therefore, it is difficult to state with certainty whether the teachers that did not participate differ significantly from the participating teachers regarding these biographical features. Non-respondents that did give a reason for not participating most often mentioned having a heavy workload and having too little time for participation as their main reason. This could mean that the teachers that did participate in this research experience a less heavy workload, are able to manage their time more efficiently, or are less often asked to participate in research compared to the non-respondents. Likewise, less experienced or older teachers may be overrepresented in the group of non-respondents. However, a comparison with a report of the Dutch Ministry of Education, Culture and Science (2007) on these figures suggests that the participating group of teachers may be perceived as a representative group regarding their age and experience.

Of the teachers who were asked to participate 21.8% completed the online survey. This appears to be a low response rate. In the last 15 years of the previous century, the response rates of e-mail surveys have declined (Sheehan, 2001). The average response rate in the late 1980's was approximately 50%, whereas in the 1998/9 period the response rate was about 31% (Sheehan, 2001). As the present study was conducted almost a decade later, a

response rate of 21.8% may be seen as average since the response rate may have declined further over the years. Dillman, Phelps, Tortora, Swift, Kohrell, Berck, and Messer (2009) found that response rates improved when non-respondents were contacted through a different mode of inquiry after not having responded to the first mode of inquiry. Unfortunately, their results furthermore revealed significant differences in responses between respondents who differed from each other in the mode of inquiry used to obtain their responses. Besides this important validity issue of comparing responses obtained from different formats, cost and labour issues play a role in decisions, too. Sending out a paper and pencil could have resulted in a higher response rate, yet, costs and labour needed would have been much higher (Cobanoglu, Warde, & Moreo, 2001; Kaplowitz, Hadlock, & Levine, 2004). As the survey was distributed to a very large sample of teachers (N=5575), an online version of the survey was chosen to keep the costs and labour involved manageable.

A second limitation of the data is the sample size in the study relating teachers' professional identity to their teaching behaviour (chapter 6). Of the 100 teachers who were asked to participate in the follow-up study in which their teaching behaviour would be observed, only 18 teachers participated: two teachers with an unsatisfied and demotivated identity profile, nine with a motivated and affectively committed identity profile, and seven with a competence doubting identity profile. This limitation in sample size and distribution across profiles and subjects taught and the tracks involved was due to various reasons. The findings presented in chapter 6 should be perceived as exploratory with limited generalizability.

Future research extending the exploration presented in chapter 6 should take these limitations into account. Instead of departing from the professional identity profiles of teachers, further research may be designed around specific subjects or specific levels and subsequently map teachers' professional identity and the relationship with teachers' teaching behaviour. Such research furthermore creates an opportunity to investigate teachers' professional identity in relation to more content specific educational beliefs (Meijer & Van Driel, 1999).

7.5.2 Design

Investigating the flexibility of teachers' professional identity over a longer period of time was not the aim of the present dissertation. Teachers were asked at one specific point in their career to participate in this study. Therefore, one should be careful to interpret the findings from a longitudinal perspective. The extent to which and the circumstances under which teachers' sense of their professional identity changes should be subject of further and

longitudinal research. Teachers may switch schools or transfer to different districts during the course of a year, or after several years. Likewise, school policy may change, resulting in a work environment fitting better or not at all with a teacher's sense of his or her professional identity.

Furthermore, concerning the context factors teachers were asked to complete a self-report questionnaire. Teachers' personal perceptions of their professional development opportunities and their amount of autonomy were used as measures of teachers' context. Such measures may be coloured by teachers' personal preferences and personal frames of reference. School leaders may have rated questions regarding these aspects differently and even school policy documents may have reported something different compared to teachers' and school leaders' reports. Thus, the presented findings should be interpreted in light of teachers' perceptions of contextual factors and not in the light of how others perceive the context. Besides teachers' perceived level of autonomy and perceived professional development opportunities, data were gathered on teachers' appointments. Other context aspects such as teachers' relationship with their students (cf. Beijaard, 1995), the school leader's leadership style (cf. Bogler, 2001) or the level of self-efficacy of the team of teachers (cf. Chan, 2008) may influence teachers' sense of their professional identity as well. Further research should explore the relevance of these contextual factors in relation to the indicators of teachers' sense of their professional identity used here.

7.5.3 Extending the research further

A point to be mentioned on the methods used in this dissertation is the quantitative character of the studies. The existing research on teachers' professional identity has been expanded with quantitative research as presented in this dissertation, yet, further research is necessary to fully understand these quantitative findings. As mentioned above (see section 7.2), qualitative research is used mainly for improving understanding of complex issues and generalizability is not its main focus (Marshall, 1996). Constructing a mixed-method project may lead to 'more nuanced, authentic accounts and explanations of complex realities' (Day, Sammons, & Gu, 2008; p. 330). In chapter 6, a step in this direction has been taken by using classroom observations. It is advised to continue research in which quantitative methods are used to collect information and, as this field of research is relatively new, findings from such research should be supplemented and enriched by qualitative studies.

Besides extending the research presented in this dissertation with longitudinal and qualitative studies, two additional suggestions for further research need attention. Firstly, in the last two decades, the influence of emotion in teaching has gained attention (see for a

review: Sutton & Wheatley, 2003). Using an ethnographical approach, Zembylas (2004; 2005) has linked teachers' emotions to teachers' professional identity. It would be interesting to relate teachers' emotions to teachers' professional identity on a larger scale, for instance by investigating how emotions are related to – or incorporated within – the specific indicators of teachers' sense of their professional identity presented here. A professional identity is the result of the interaction between a person and the context in which s/he works. Research shows that emotions influence the processing of social information (Dodge, 1991). Possibly emotions influence teachers' perceptions of their environment and subsequently their ratings on the indicators of their sense of their professional identity.

Secondly, additional outcome measures should be investigated in relation to teachers' professional identity. As was shown in chapter 3, teachers' relationship satisfaction is an important indicator of teachers' professional identity by influencing, to a large extent, the other indicators. This indicator included teachers' satisfaction with their colleagues. Recently, Moolenaar (2010) investigated the nature, antecedents, and consequences of social networks in school teams. Relating teachers' professional identity to these social networks may contribute to the further understanding of both teachers' professional identity and teachers' social networks in their schools. Furthermore, Moolenaar (2010) found a relationship between the density of the teachers' network in regard to work-related and personal advice and teachers' perception of the schools' supportiveness of innovation. Teachers' professional identity has been claimed to be related to educational reforms (Day, 2002). Thus, linking the presented findings about teachers' professional identity to teachers' social networks may add to the understanding of effective implementation of reforms at both the teacher and school level.