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Teachers' sense of their professional identity

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Chapter two: Investigating teachers' perceptions of their professional identities: The construction of an instrument

Abstract

This chapter presents the development of an online instrument contributing to the understanding of teachers' sense of their professional identity. Teachers' motivation, job satisfaction, occupational commitment, and self-efficacy were measured, as were personal and context variables. These constructs function as indicators of teachers' sense of their professional identity. The instrument presented has been developed using data from 122 secondary school teachers from the Netherlands. Using Principal Component Analysis and by calculating Cronbach's Alpha, the structure and reliability of the instrument are analysed. The presented findings suggest that by using this online instrument it is possible to measure the constructs as intended in a reliable fashion.

2.1. Introduction

During the last two decades the concept of 'professional identity' has gained interest in the field of teaching and teacher education (cf. Beijaard, Meijer, Morine-Dersheimer, & Tillema, 2005; Korthagen, 2001). Nevertheless, the concept of teachers' professional identity has been poorly defined according to Beijaard, Meijer, and Verloop (2004). In line with Reid and Deaux (1996), professional identity is viewed here as a result of the continuing interaction between person and context and it is constructed in discourses and practices (Beijaard et al., 2004; Canrinus, Helms-Lorenz, Beijaard, Buitink, & Hofman, in press). Teachers' professional identity generally pertains to how teachers see themselves as teachers based on their interpretations of their continuing interaction with their context. In reality, this interrelated process of person and context in identity construction is complex and characterized by continuous interpretation and reinterpretation of experiences and encounters (Beijaard et al., 2004; Nias, 1996). Olsen (2008) states that influences from many internal and external sources shape teachers' perceptions of how they view themselves as teachers.

It is argued here that the interaction between person and context, from which teachers' professional identity is the result, is manifested in teachers' job satisfaction, occupational commitment, self-efficacy, and teachers' motivation. According to Day (2002), teachers' sense of their professional identity coincides with these constructs. A similar conclusion was drawn by Puurula and Löfström (2003) in their study on the development of professional identity of employees in small and medium sized enterprises. These constructs are often described in the literature as being important to teacher behaviour (cf. Ashton & Webb, 1986; Firestone, 1996; Toh, Ho, Riley, & Hoh, 2006; Watt & Richardson, 2008) and they represent a personal perspective on how teachers view themselves as professionals in their work. Through investigating these four constructs in their combination within a framework of personal and contextual variables, an indication of teachers' sense of their professional identity can be acquired.

To accurately investigate these constructs in their combination, it has to be determined first what is exactly meant by these constructs (DeVellis, 2003). The first aim of this chapter is, therefore, to determine these constructs' proper definitions by searching the literature. Next, an online survey is constructed, based on existing instruments measuring these constructs. It is investigated whether the internal structure of the separate parts of the composed survey correspond to the internal structures found in the literature. It is, for instance, investigated if the structure of the self-efficacy part of the composed survey

corresponds to the structure found in the literature on this construct. Finally, this study investigates the possibilities to improve the constructed survey.

2.2. Defining the constructs

2.2.1 Occupational commitment

The focus was put on occupational commitment as the more general term ‘commitment’ appeared far too broad. Although, as Lee, Carswell, and Allen (2000) stated, occupation, profession, and career have been used interchangeably in the literature, there is a distinction. The term ‘occupational’ commitment is used instead of ‘professional’ commitment, for professionals as well as non-professionals can be committed to their job/occupation (Lee et al., 2000; Meyer, Allen, & Smith, 1993). ‘Occupational’ commitment is selected instead of ‘career’ commitment to avoid confusion, for ‘career’ can be interpreted as the series of work-related activities over an individual’s lifetime (Lee et al., 2000). This chapter focuses on commitment to the current occupation and ‘occupational commitment’ best represents this idea.

How one feels about his/her occupation affects the willingness to stay in that occupation (Lee et al., 2000). Therefore, the definition of occupational commitment of Lee et al. (2000) is followed: “a psychological link between a person and his or her occupation that is based on an affective reaction to that occupation” (p. 800). This definition is in line with earlier definitions (e.g., Meyer et al., 1993).

2.2.2 Job satisfaction

Job satisfaction has been defined in various ways in the past (European Foundation for the Improvement of Living and Working Conditions, 2006). Roughly speaking, these definitions can be divided into three types: a) job satisfaction as a simple affective variable in terms of you like or you do not like (certain aspects of) your job (e.g., Ololube, 2006; Spector, 1997), b) job satisfaction as a degree of fulfilment of one’s needs or desires regarding the job (e.g., Mottet, Beebe, Raffeld, & Medlock, 2004; Oshagbemi, 2003), and c) job satisfaction as a weighing of input and output or a weighing of the current job versus a different job (Davis & Wilson, 2000; Levy-Garboua, Montmarquette, & Simonnet, 2007; Sousa-Poza & Sousa-Poza, 2000).

The definition of job satisfaction used by Van der Ploeg and Scholte (2003), “An attitude based on an evaluation of relevant aspects of the work and work situation.” (p. 277), is followed here. This definition takes into account all above mentioned types of definition. Furthermore, it focuses on the evaluation of aspects of the work itself as well as on aspects

of the context in which one works. Additionally, it shows the importance of the person who evaluates and acknowledges the importance of the context in which the job takes place.

2.2.3 Motivation

In search for a definition of motivation, it became clear that ‘motivation’ is a complex construct. Locke and Latham (2004) expressed their concern for the lack of clarity in definitions used for motivation and the concepts related to motivation. Latham and Pinder (2005) define motivation as “[...] a psychological process resulting from the interaction between the individual and the environment” (p. 486). They do not further specify what kind of psychological processes they exactly mean. The topic of their article is ‘work motivation’ and they specify this construct more precisely. They define work motivation as “[...] a set of energetic forces that originate both within as well as beyond an individual’s being, to initiate work-related behaviour and to determine its form, direction, intensity, and duration” (p486). This definition is more elaborate than the definition used in most papers in which motivation is said to be that what starts, sustains, and concentrates behaviour (e.g., Sinclair, Dowson, & McInerney, 2006; Steers, Mowday, & Shapiro, 2004). As Latham and Pinder’s (2005) definition is more elaborate and takes into account factors within as well as outside the individual, it is used here as the working definition of motivation.

2.2.4 Self-efficacy

Generally, Bandura is credited for providing the theoretical framework of teacher self-efficacy (Coladarci, 1992). Bandura (1977) makes the distinction between outcome expectations and efficacy expectations. In current definitions of teacher self-efficacy some authors focus on teachers’ perceived ability to affect student outcomes (e.g., De la Torre Cruz & Casanova Arias, 2007; Dellinger, Bobbett, Olivier, & Ellett, 2007), while others focus exclusively on the efficacy expectations, but extend this with paying attention to the context in which the teacher works (Friedman & Kass, 2002; Tschannen-Moran, Hoy, & Hoy, 1998).

As their definition takes various levels of context as well as relational aspects into account, which play an important role in the work teachers do, Friedman and Kass’ (2002) definition of teacher self-efficacy is followed in this paper: A teacher’s perception of his or her ability to (a) perform required professional tasks and to regulate relations involved in the process of teaching and educating students and (b) perform organizational tasks, become part of the organization and its political and social processes (p. 684).

These four constructs, teachers’ occupational commitment, job satisfaction, motivation, and self-efficacy, are viewed in this dissertation as *indicators* of teachers’ sense of their professional identity. These constructs play an important role in teachers’ work and

lives and represent the result of the interaction between the teachers working as a specific person in a specific context.

2.3. Constructing the survey

After selecting the definitions of the constructs, four questionnaires were identified to measure the constructs. Table 2.1 (page 22) gives an overview of the questionnaires used for each part of the survey, as well as the number of scales and items per used questionnaire.

The English questionnaires, measuring teachers' occupational commitment, motivation, and self-efficacy, were translated. Two open questions were added to the motivation scale, asking the teachers for their reason to become and their reason to remain a teacher. This way, teachers who could not completely identify with the statements in the scale could formulate their reasons in the open questions. Additionally, teachers were asked to reply on a five-point Likert scale to the questions "How motivated were you when you started teaching?" and "How motivated are you currently?" Furthermore, for development purposes, three open-ended evaluation items were added at the end of the instrument. These items asked the teachers what they perceived to be the strong points of the instrument, as well as what they perceived to be points for improvement

2.3.1 Personal variables

Besides asking teachers for their demographic information, personal variables in the form of their educational beliefs were measured (see Table 2.1 for the instrument used). Teachers' beliefs play an important role in teachers' professional development and can be viewed as a lens through which teachers perceive and filter external information (Kagan, 1992). In her qualitative analysis of four pre-service teachers' experience in teacher training, Mayer (1999) points out that prospective teachers have had their own experiences as students and that they are influenced by educational views existing within their culture. Thus, before starting their teacher training, pre-service teachers already have certain beliefs regarding education and ideas about what constitutes being a teacher (Mayer, 1999). These core beliefs, as Mayer calls them, are of great influence on pre-service teachers' identity. When functioning in education as a teacher instead of a student, these beliefs appear inadequate. To expand these beliefs, teacher educators should stimulate the explication and examination of pre-service teachers' existing beliefs (Mayer, 1999). Flores repeated this advice in 2001. By use of reflection upon their beliefs, pre-service teachers will have the opportunity to "[...] build up (and re-frame) their professional identity" (Flores, 2001; p. 147).

Table 2.1 Content, origin, features, and example items of the questionnaires used for the seven parts of the survey

Content	Origin	Original no. of scales	Original no. of items	Example item
Occupational commitment	Based on Meyer, Allen & Smith (1993)	3	18	To what extent do you agree with the statement: I'm proud to be in the teaching profession.
Job satisfaction	Job satisfaction index (ASI) of Van der Ploeg & Scholte (2003)	5	30	To what extent do you agree with the statement: I like the work I do a lot.
Motivation	Orientations on Teaching Scale (OTS) of Ferrell & Daniel (1993)	6	57	To what extent does this sentence apply to you: I decided to enter teaching because I like to work with young people.
Self-efficacy	Classroom and School Context teacher self-efficacy scale (CSC teacher self-efficacy scale) of Friedman & Kass (2002)	2	33	To what extent do you agree with the statement: I think I can be very creative in my work with students.
Personal variables	Denessen (1999)	6	25	To what extent do you agree with the statement: Good education is the key to social success.
Context variables	Based on Geldens (2007) and Witziers (1992)			To what extent can you determine the amount of homework assigned?
Evaluation items			3	How can this instrument be improved?

Here, we focus on teachers' *educational* beliefs. Van Driel, Bulte, and Verloop (2007) give a short outline of the history of research on teachers' educational beliefs which can be summarized as follows: "Research on teachers' educational beliefs has often led to the identification of groups of teachers adopting qualitatively different belief structures, which are described in terms of ideologies, orientations, conceptual frameworks, or functional paradigms" (p. 158). Thus, teachers distinguish themselves (partly) through their educational beliefs. Pajares (1992) has emphasized to specify the object of the beliefs under investigation. In this dissertation, the focus lies on teachers' educational beliefs about the objectives of education and students' role in teaching. These beliefs are related to the core of education.

2.3.2 *Contextual variables*

The selected contextual variables were largely based on Van Veen's (2008) description of teaching as profession. Firstly, teachers' autonomy contributes to teachers' professionalism (Anderson, 1987; Hargreaves, 2000; Van Veen, 2008). Van Veen (2008) states that teacher autonomy is increasingly lacking, even though it is critical for teachers to function professionally. The amount of autonomy given to teachers may change over time as Hargreaves (2000) has put forward in his conceptualization of the development of teacher professionalism in the past decades. Hargreaves describes that presently, education is approached more and more from a market perspective, and rules and regulations are being imposed on teachers. According to Hargreaves, this does not contribute to professionalism. Moreover, for teachers this results in less autonomy regarding classroom judgement. Hargreaves (2000) pleads that teachers should maintain and reassert many parts of the "modernistic project of teacher professionalization that were most prominent in the age of the autonomous professional" (p. 169). During the age of the autonomous professional, teachers guarded their autonomy.

Likewise, professional development opportunities contribute to teachers' professionalism (Dijkstra, 2009; Evans, 2008; Van Veen, 2008). Nixon (1996) states, in his paper on professional identity in higher education, that teaching should be recognised as an "important area of professional expertise in its own right" (p. 14). To strengthen this expertise, professional development opportunities are deemed important (Nixon, 1996; Van Veen, 2008). According to Kwakman (1999), professional development of teachers not only implies quality improvements in the school, but also opportunities for the development of teachers, personally and professionally.

The last aspect mentioned by Van Veen (2008) when describing teaching as a profession, is the recognition of an occupation. For this part we asked teachers about how much respect they receive for being a teacher from their family, students, and friends.

2.4. Method

2.4.1 Respondents

Three university based teacher trainers and one former teacher were given the survey to comment on its content and structure. For reasons of planning, the survey was simultaneously distributed among 567 teachers spread over 13 secondary schools in the Netherlands. The teachers' e-mail addresses were retrieved from the websites of their schools. The schools that were selected are a representative sample of the different levels of secondary education offered in the Netherlands. Each teacher received, by e-mail, an invitation to participate. The survey was personalized by giving each participant a link in the e-mail with which s/he could enter the survey. If teachers did not want to participate, they were asked to reply to the mail, stating their reason for not participating, their age, gender, subject, and total years of experience in teaching. Teachers who did not respond or who only partially completed the instrument were sent a reminder e-mail after two weeks.

Of the 567 teachers approached, 122 (21.5%) completed the survey. The distribution of male and female respondents was 61.2% and 47.0% respectively, which is representative for Dutch secondary education (Dutch Ministry of Education, Culture, and Science, 2007). The teachers' average age was 44 years (SD = 12.3) and the average amount of experience in education was 16 years (SD = 11.6).

2.4.2 Statistical procedures

The structure of each part of the survey was separately checked using Principal Component Analysis (PCA). The number of factors extracted was based on Kaiser's eigenvalue rule (Kaiser, 1960), the factor loadings of the items (Stevens, 2002), and Cattell's Scree test (Cattell, 1966). Using item-total correlations, each item was checked for its use within the factor it belonged to and within its part of the instrument.

By combining the information of the item-total correlation with the factor loadings, some items were found to be deviant (for example, factor loading < .40 and item-total correlation with the factor < .30). These items were removed from the survey contributing to a better internal consistency of the specific factor within that specific part of the survey. Whether discarding an item led to a changed factor structure was checked by running an

additional PCA. The internal consistency of each part of the instrument and of the factors within each part was investigated by calculating Cronbach's alpha (Cortina, 1993).

2.5. Results

2.5.1 Principal component analysis and internal consistency

The combined information gained from the PCA, the Scree plot, the item-total correlations, and the reliability analysis shows a sound factor structure for nearly all parts of the instrument. Table 2.2 on page 26 shows how many factors were retained in each part of the instrument as well as their reliabilities.

The results shown in Table 2.2 are in line with the existing literature regarding the parts of the survey measuring job satisfaction and occupational commitment. Three factors were found in the self-efficacy part where in the Friedman et al. (2002) study only two factors remained. With regard to the part measuring teachers' educational beliefs, Denessen (1999) originally found three dimensions, each with two factors. Here, a four factor solution remained. The context part of the survey was composed of questions based on three aspects: teachers' possibilities for professional development, teachers' autonomy, and teachers' received respect for being a professional, the latter mostly consisting of self-developed items. Indeed, a three factor solution was found for this part of the survey, with a slight mixing of items in the factors.

In Table 2.2, the part of the survey on teachers' motivation is missing. The factor structure Ferrell and Daniel found in 1993 differed substantially from the factor structure found in the present chapter. Moran, Kilpatrick, Abbott, Dallat, and McClune (2001) had even found another, completely different factor structure. The psychometric results of the questionnaire used appeared to be unstable as well as unreliable. In the first PCA there were 17 factors with an eigenvalue > 1 . The Scree plot indicated a three factor solution, but this solution explained too little variance (31.86%). Ferrell and Daniel (1993) indicated a six factor solution, explaining slightly more variance (43.99%). The total reliability of the six factor solution was high ($\alpha = .90$). Nevertheless, 19 out of the 57 items had a low correlation with the total score on the motivation questionnaire and the internal consistency of the last three factors was too low ($\alpha < .70$). As the psychometric properties were meager, the open questions in this part of the survey were investigated as a possible alternative.

Table 2.2 Factor reliabilities of each scale

Scales	Crohnbach's alfa
Occupational commitment	.73
Factor 1	.84
Factor 2	.72
Factor 3	.73
Job satisfaction	.91
Factor 1	.88
Factor 2	.82
Factor 3	.80
Factor 4	.81
Factor 5	.77
Self-efficacy	.91
Factor 1	.95
Factor 2	.76
Factor 3	.67
Educational beliefs	.80
Factor 1	.83
Factor 2	.75
Factor 3	.81
Factor 4	.74
Context	.85
Factor 1	.85
Factor 2	.83
Factor 3	.78

Two raters independently coded teachers' reasons to become and to remain a teacher using six codes: a) working with children, b) knowledge transfer and love for the subject, c) fringe benefits, d) importance to society, e) always wanted it/calling, and f) coincidence or flight from other situation/profession. These codes are roughly based on the factor titles used in the studies of Ferrell et al. (1993) and Moran et al. (2001). A seventh code was added for reasons that could not be placed under one of the six other codes. As some teachers gave more than one reason at the same time, the raters could code up to three reasons. The first mentioned reason was the main focus of analysis. Kappa (κ) (Fleiss, Levin, & Paik, 2003) was

calculated as a measure for interrater agreement. Here, κ was .76, which is substantial (Landis, & Koch, 1977), for the reason to become a teacher. For staying a teacher, κ was .51, which is moderate (Landis, & Koch, 1977). This result gives reason to believe that this is a reliable way to investigate both teachers' original reason to teach and teachers' reason to keep on teaching.

Of the 89 teachers whose reasons to become a teacher were coded similar by the two raters, 28.1% mentioned "knowledge transfer/love for the subject" as primary reason to become a teacher. The second most mentioned reason for becoming a teacher was "working with children" and "coincidence/flight from other situation or profession", both mentioned by 22.5%. The reasons for staying a teacher (61 teachers were given the same code by the raters) resemble this outcome. Of the teachers, 24.6% remain in teaching because of "working with children". The second most mentioned reason to stay in the profession (23%) is "knowledge transfer/love for the subject".

This way of investigating teachers' original reason to teach and teachers' reason to keep on teaching is a qualitative measure. Not only teachers' reason to become or to remain a teacher is relevant, the strength of teachers' motivation or more precisely the change in this strength is relevant as well. Due to the interaction between person and context, teachers' motivation may change. The *change in* level of motivation portrays more information than the level of motivation when teachers entered the teaching profession or the current level of teachers' motivation portray separately. Therefore it was decided to retain the items "How motivated were you when you started teaching?" and "How motivated are you currently?" Using the teachers' scores on these measures teachers' change in level of motivation can be calculated.

2.5.2 *Comments on the questionnaire*

Among the three university based teacher trainers and the former teacher who were asked to comment on the content and structure of the survey, there was agreement about various topics. Certain items needed more clarification, for instance the items on teachers' professional development. As different teachers can have different ideas on what is meant by 'professional development', this needs to be clarified in the introduction to the items. There were also remarks about procedural aspects of the survey. It was, for example, unclear how to switch between pages or how to monitor the progress made.

The above mentioned points were also mentioned in the answers given by the teachers to the open-ended questions at the end of the survey. The instrument was seen as

comprehensive, complete, but also as too long. Furthermore, teachers often reported having difficulty with answering the negatively formulated items.

2.6. Discussion

The main aim of this chapter was to construct a reliable online survey to measure indicators of teachers' sense of their professional identity (occupational commitment, job satisfaction, self-efficacy, and motivation). To do so, the indicators had to be defined and questionnaires measuring these indicators needed to be selected. Via a literature study, occupational commitment, job satisfaction, motivation, and self-efficacy were clearly defined and for each indicator a questionnaire was selected.

Additionally, it was investigated using principal component analysis whether the internal structure of the selected questionnaires were similar to the internal structures found in the literature. The internal structures correspond reasonably well to the structures found in the literature. A clear exception to this is the questionnaire measuring motivation. The questionnaire used to measure this indicator appeared to lack a stable structure. Although the reliability was high, this could be due to the large amount of items used with a relatively small sample size (Cortina, 1993). For this reason, the multiple response items were replaced by two open-ended questions. Two independent raters were able to rate these questions reliably. In addition, it was decided to use a calculated measure of teachers' change in the level of their motivation in further research. We conclude that the findings presented give reason to believe that by using this online instrument it is possible to measure the four constructs as intended in a reliable fashion.

Finally, in this chapter the collected information on possibilities to improve the constructed survey was presented. The steps taken to construct the survey were systematic and in line with steps advised to be taken in such a process (cf. DeVellis, 2003). Nevertheless, certain problems arose during this process. The main problem was the response rate (21.5%). In her review study, Sheehan (2001) reports on the decline in e-mail survey response rates in the last 15 years of the previous century. The average response rate in the 1998/9 period was about 31% (Sheehan, 2001). As the present study was conducted almost a decade later, a response rate of 21.5% may be seen as average. Still, this does leave questions about the non-respondents. The few teachers that did not want to participate but did reply the invitation e-mail mostly stated they were too busy and had been asked to complete a questionnaire too many times. Would sending out a paper and pencil survey have resulted in a higher response rate? It probably would, but costs and labour needed would

have been much higher (Cobanoglu, Warde, & Moreo, 2001; Kaplowitz, Hadlock, & Levine, 2004). Especially if the instrument would be distributed among a very large sample or population, reducing the costs should be taken into account.

Another reason for the low response-rate might have been the length of the instrument. The instrument took approximately 25 minutes to complete. As this was mentioned in the introduction page of the instrument, this might have made the teachers decide not to respond. A related problem was the higher drop-out rate further in the instrument. Because of this, the self-efficacy questionnaire, the last to be shown, was completed by less teachers. This could point to fatigue or loss of interest. Shortening the instrument could be a way to lower the workload for completing the instrument. Additionally, the sequence in which each part of the instrument is shown should be randomised.

The presented findings are a fruitful source for further research. A first option is to distribute a shorter version of our instrument among a larger sample of teachers in secondary education. This may raise the response rate as well as give a clearer view on possible answer patterns. Another option is to investigate the relationships between the constructs more closely. What does a high score on the commitment scale imply for the other constructs? How are teachers' educational beliefs and teachers' opportunities for professional development related to the indicators of teachers' sense of their professional identity? Although for now these questions remain unanswered, this chapter has presented an instrument with which these and other questions might be answered in the near future.

