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Changes over time in teachers' interpersonal role identity

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ABSTRACT

Interpersonal relationships between teachers and students play a crucial role in teachers' professional identity, yet have hardly been focused on in research. This study aimed to explore teachers' interpersonal role identity over time by focusing on teachers' appraisals of classroom situations and the relation with their interpersonal identity standards. Semi-structured and video-stimulated interviews were conducted with 24 teachers in 2011 and 2013. Between 2011 and 2013, 18 teachers changed their appraisal and/or their identity standard. The appraisals of specific situations became less stressful, interpersonal identity standards showed more control and more affiliation and the match between the appraisals of specific situations and the interpersonal identity standards increased. The concept of role identities offered a promising theoretical framework for research on teacher identity and teacher–student relationships and at the same time can be a practical tool for supporting teachers' identity development.

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Teacher career; teacher–student relationships; interpersonal role identity; change; teacher identity

1. Introduction

Over the last two decades, an increasing number of studies has been done on teachers' professional identity (e.g. Akkerman and Meijer 2011; Beauchamp and Thomas 2009; Beijaard, Meijer, and Verloop 2004; Day et al. 2006). The teacher–student relationship was found to play an important role in these studies. For example, Hargreaves (1980) and Sikes, Measor, and Woods (1985), stated that the teacher–student relationship was one of the main features of teachers' professional identity. O'Connor (2008) furthermore showed that a positive professional relationship with students is seen by teachers as 'being an integral part of their professional identity' (121). Some studies have shown that student and novice teachers face a variety of identity-related tensions and problems that pertain to classroom management and developing a good relationship with students (e.g. Pillen, Den Brok, and Beijaard 2013; Volkmann and Anderson 1998). For teachers in all career phases developing a sound

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professional identity (Beijaard, Meijer, and Verloop 2004; Pillen, Den Brok, and Beijaard 2013) and creating positive relationships with students is important for their survival in the classroom, their well-being and their teaching quality (Day et al. 2006; Dicke et al. 2015; Wubbels et al. 2012). Teachers need to cope with and give meaning to their relationships with students, which does an appeal on their professional identity. However, previous research (Van der Want et al. 2015) showed that not all teachers were able to successfully cope and give a positive meaning to their relationships with students. We expect that especially beginning but also mid- and late career teachers are able to change their coping and meaning making concerning relationships with students. This struggle with teacher–student relationships and developing a professional identity was in previous research related to teacher self-efficacy (Canrinus et al. 2012) teacher attrition and burnout (Ingersoll and Smith 2003; Macdonald 1999; Veenman 1984) and teacher well-being (Day et al. 2006). Both studies on teacher–student relationships (Wubbels et al. 2012) and on professional identity (Burke and Stets 2009; Pillen, Den Brok, and Beijaard 2013) showed that teacher–student relationship and professional identity can change over time with a steep change in the beginning of the career and smaller changes in the later phases of the career (cf. Beijaard, Meijer, and Verloop 2004; Veldman et al. 2013).

However, despite the acknowledged importance of professional identity on the one hand and teacher–student relationships on the other, empirical research with a focus on the relation between teacher student relations and professional identity is scarce. Moreover, studies on possible changes over time are lacking.

Therefore, the aim of this study was to investigate changes in the professional identity from the perspective of the teacher–student relationship; henceforth called Teachers' Interpersonal Role Identity.

With our focus on one specific role of a teacher, teachers' *interpersonal* role identity, we draw upon the work of Burke and Stets (2009). Following Burke and Stets (2009) we perceive every teacher as a professional enacting several roles while teaching, varying from being a subject matter expert to an interpersonal expert who interacts and builds a relationship with students. The interpersonal role identity seems to be of crucial importance for teachers and might be conditional for a teacher to enact other roles in the classroom, such as the role of being a subject matter expert or a didactical expert. According to Burke and Stets' identity theory, an identity role is a system in which two aspects influence each other, though there is no causal relation between the two. These two aspects are the appraisal of interpersonal classroom situations (e.g. the start of the lesson) and the interpersonal identity standard (Van der Want et al. 2015; Figure 1).

The concept of appraisal can be understood as the process of evaluating a situation, with respect to its importance and effect on a teacher's well-being (Admiraal 1994; Admiraal, Korthagen, and Wubbels 2000; Arnold 1960; Lazarus and Folkman 1984). Lazarus and Folkman (1984) argue that appraisal processes take place continuously: every situation is evaluated by individuals (Am I in trouble? Is this harmful for myself? What should I do now?). A distinction is often made between an affective appraisal, which focuses on the first feeling in a situation, and an evaluative appraisal, during which the situation is reflected upon and evaluated (Admiraal 1994; Admiraal, Korthagen, and Wubbels 2000; Lazarus and Folkman 1984). The identity standard is an individual's frame of reference that consists of the set of self-relevant meanings or ideas that define the character of the role identity (Burke and Stets 2009). In this study, the *interpersonal* identity standard is defined as the *interpersonal* frame of reference of an individual teacher, which consists of the overall meanings of a teacher concerning his/her teacher–student relationship.

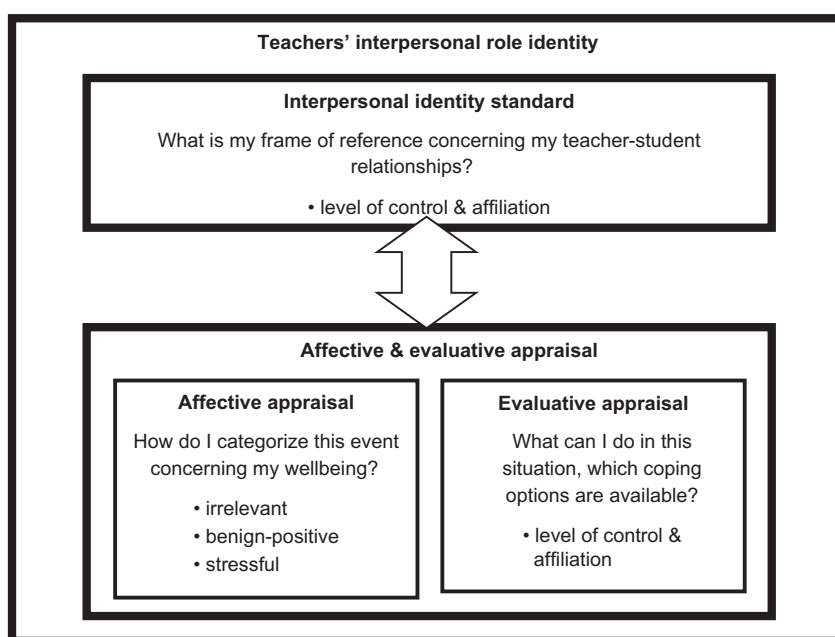


Figure 1. Conceptual overview of teachers' interpersonal role identity.

In a situation in which the interpersonal identity standard is confirmed during the appraisal, interpersonal role identity verification occurs. Interpersonal role identity verification means that appraisals by teachers in the situation are consistent with their interpersonal identity standard. A lack of identity verification occurs when these appraisals of the person in the situation do not match with the interpersonal identity standard. Previous research has shown that not all teachers have an interpersonal identity standard that matched (to some degree) their appraisals of specific classroom situations (Van der Want et al. 2015). Drawing upon previous studies in which the teacher–student relationship was related to student outcomes and teacher well-being (Wubbels et al. 2006) we distinguished two kinds of interpersonal identity standards: desirable and *undesirable* interpersonal identity standards (see Figure 2). Desirable interpersonal identity standards (e.g. being steering, friendly, understanding) are positively related to teachers' well-being and student outcomes, undesirable interpersonal identity standards (e.g. being uncertain, dissatisfied, reprimanding) are negatively related (Wubbels et al. 2006). The teachers with desirable interpersonal identity standards were further divided into two groups: those with identity verification ('desirable matchers') and those without ('desirable mismatches'). The teachers with undesirable interpersonal identity standards ('undesirable (mis)matchers') were not divided into two groups because of the limited number of teachers with an undesirable interpersonal identity standard in the sample. By combining the desirable/undesirable interpersonal identity standards with (the lack of) identity verification, three groups of teachers were formed: (1) desirable matchers, (2) desirable mismatches and (3) undesirable (mis)matchers.

Although our previous research (Van der Want et al. 2015) has underlined the importance of interpersonal identity verification, research investigating teachers' interpersonal role identity at different moments in time and looking at developments between these measurements

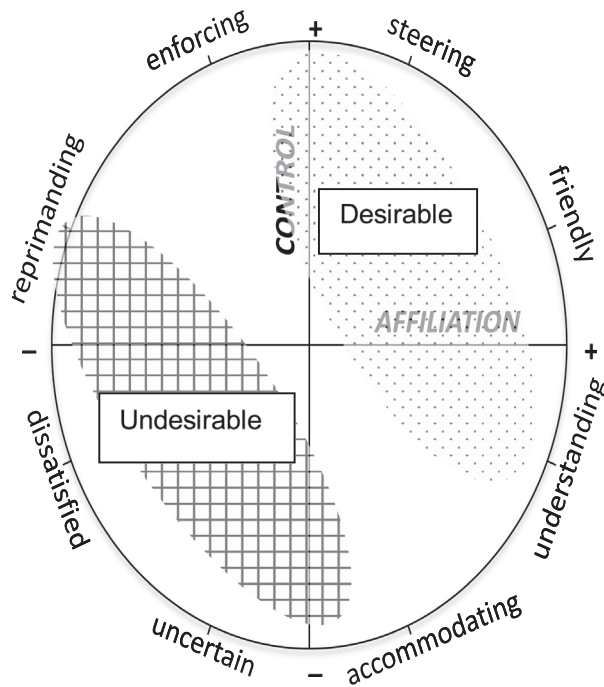


Figure 2. Teacher Interpersonal Circle depicting desirable and undesirable areas of interpersonal identity standards (cf. Wubbels et al. 2006).

can hardly be found. Can desirable mismatches or undesirable (mis)matches change over time and become (more) desirable matches? Do desirable matches stay desirable matches? How do undesirable matches survive during the years? Should student teachers who are considered undesirable matches or desirable mismatches be advised not to enter the teacher profession or do they need additional support on this topic? In this study, we will explore questions related to these issues of teachers concerning their interpersonal relationship with students, henceforth referred to as teachers' interpersonal role identity. For pragmatic reasons, a timeframe of two years was chosen. The study was shaped by the following central research question: *How does teachers' interpersonal role identity change over a period of two years?*

This study aims to explore teachers' interpersonal role identity by focusing on teachers' appraisals of classroom situations and the interpersonal identity verification with their interpersonal identity standards. Teacher educators can use the concept and operationalisation of teachers' interpersonal role identity to support teachers' interpersonal role identity and to help them to become desirable matches, which might reduce teachers' stress experiences (Burke and Stets 2009), increase their job satisfaction and their well-being (Veldman et al. 2013).

2. Theoretical framework

In this section, the analytical framework of teacher–student relationships used in this study will be described first, followed by a description of the key constructs 'appraisal of classroom situations', 'interpersonal identity standard' and 'identity verification'.

2.1. Teacher–student relationship

The teacher–student relationship is studied using the Teacher Interpersonal Circle, sometimes referred to as the IPC-T (Wubbels et al. 2006, 2012). The Teacher Interpersonal Circle consists of two dimensions: (1) The control dimension, which describes the degree of control the teacher has on students (as experienced by the students), and (2) the affiliation dimension, which describes the degree of cooperation or opposition between the teacher and the students. The two dimensions are shown in Figure 2 and can be subdivided into eight categories for characterising interpersonal relationships between teachers and students, depending on different combinations of the level of control and affiliation: (1) steering, (2) friendly, (3) understanding, (4) accommodating, (5) uncertain, (6) dissatisfied, (7) reprimanding and (8) enforcing (Wubbels et al. 2006). As said, a distinction can be made between desirable and undesirable interpersonal identity standards. Desirable could be defined as a high level of control combined with a high level of affiliation in terms of the Teacher Interpersonal Circle, undesirable as a low level of control combined with a low level of affiliation. Desirable interpersonal identity standards (e.g. being steering, friendly, understanding) are positively related to teachers' well-being and student outcomes, undesirable interpersonal identity standards (e.g. being uncertain, dissatisfied and reprimanding) are negatively related (Wubbels et al. 2006; Figure 2).

2.2. The appraisal of interpersonal classroom situations

The concept of appraisal, the process of evaluating a situation with respect to its importance for a teacher's well-being, consists of two elements: the affective and the evaluative appraisal (Arnold 1960; Lazarus and Folkman 1984). The affective appraisal is summarised by the questions: 'Am I in trouble? Is this harmful for myself? What should I do now?' The affective appraisal is often expressed in an emotion or feeling and can be divided into three categories: irrelevant, benign-positive and stressful (Lazarus and Folkman 1984). When a situation is appraised as *irrelevant*, this means that teachers experience no implications for their well-being/teaching and the situation impinges on no value, need or commitment or other part of their interpersonal identity standard. *Benign-positive* appraisals can be found in classroom situations that teachers experience as enhancing or preserving their well-being. When an event is appraised as *stressful*, a teacher experiences it as being harmful or threatening for him/herself.

The evaluative appraisal can be summarised by the question, 'what can and might be done about it?' (Lazarus and Folkman 1984). The evaluative appraisal is a complex process that takes the following factors into account: (1) which options are available to deal with the situation; (2) the chance that a given option will accomplish what it is supposed to (outcome expectation); and (3) the chance that one can apply a particular strategy or set of strategies effectively (efficacy expectation).

Three classroom situations were used to elicit appraisals in this study. Those classroom situations were: the start of the lesson, reacting to student misbehaviour and reacting to positive student behaviour. In previous research, all three classroom situations have been found to be important with respect to the teacher–student interpersonal relationship (Admiraal 1994; Admiraal, Wubbels, and Korthagen 1996; Wubbels et al. 2006).

In our own previous research on appraisals of these classroom situations with the same participants as in this study, affective and evaluative appraisals of teachers were investigated by video-taping a lesson of the teacher which was followed by a video-stimulated interview. During this video-stimulated interview, the participants were asked to watch and appraise the three abovementioned classroom situations of the video-taped lesson. The data of the affective appraisal were coded with the three categories (irrelevant, benign-positive and stressful). For each affective appraisal, one category was assigned as a code. The data concerning the evaluative appraisal were coded using the eight categories of the Teacher Interpersonal Circle (Wubbels et al. 2006; Figure 2). Since coding of teachers' appraisals needed multiple categories, we decided to code up to a maximum of three categories as codes for the evaluative appraisal. The appraisals were coded based on the categories that were mentioned first and with the most emphasis by the participant.

The results showed that teachers most often reported their affective appraisals to be benign-positive (33 out of 79 affective appraisals). Stressful affective appraisals were often found for reacting to student misbehaviour and the start of the lesson. Irrelevant appraisals referred often to teachers with a certain routine or experience with the situation. Concerning the evaluative appraisal, teachers' responses could be positioned at different places in the Teacher Interpersonal Circle (Figure 2): appraisals related to the categories 'steering', 'reprimanding' and 'accommodating' occurred the most often. However, appraisals also related to categories as uncertain, dissatisfied and enforcing were found (Van der Want et al. 2015). In the present study, the results about the affective and evaluative appraisals of classroom situations are presented over a period of two years.

2.3. *Interpersonal identity standard*

The identity standard, the frame of reference, 'defines the character [nature] of the role identity according to the individual' (Burke and Stets 2009, 32, 63). This is similar to previous research on teacher identity which often focuses on teacher identity as an answer to the questions of who you are as a teacher and what kind of teacher you want to become (Beijaard, Meijer, and Verloop 2004; Pillen, Den Brok, and Beijaard 2013). Following Burke & Stets, we acknowledge that teacher identity goes beyond the acquisition of assets (Akkerman and Meijer 2011, 308) and stress the importance of perceiving teachers' interpersonal role identity in relation to the daily practice in the classroom. Teachers' interpersonal identity standards represent not only one's current, but also one's ideal frame of reference concerning the teacher–student relationship in the classroom (Burke and Stets 2009, 3). Our previous research on interpersonal identity standards showed that most teachers from the same sample as in this study ($n = 29$ teachers) reported an interpersonal identity standard that could be coded using the Teacher Interpersonal Circle as 'steering' and/or 'being friendly'. For example, one of our participants described his interpersonal identity standard as 'formal in essence, but in a friendly and reasonable informal touch' ('steering' and 'friendly'). A variety of other interpersonal identity standards, such as 'enforcing' or 'uncertain', were found (Van der Want et al. 2015). Similar to the coding procedure of the evaluative appraisal, up to three categories were assigned as codes for the interpersonal identity standard. In this study, two kinds of interpersonal identity standards were distinguished: desirable and undesirable interpersonal identity standards for teachers' well-being and student outcomes based on previous research on interpersonal (i.e. teacher–student) relationships (Figure 2).

2.4. Identity verification

Identity verification is a continuous process in which teachers compare their interpersonal identity standard with their appraisal of specific classroom situations (Burke and Stets 2009). If the interpersonal identity standard does not match with the appraisal, a so-called mismatch, there is a lack of identity verification and ‘... people become upset or distressed in varying degrees’ (Burke and Stets 2009, 208). According to Burke and Stets (2009), people will try to change this mismatch of appraisals and identity standard into a matching couple. This can be done by either changing the appraisal of a classroom situation or by changing the identity standard.

2.5. Research questions

This study aimed to longitudinally explore teachers’ interpersonal role identity by focusing on teachers’ appraisals of classroom situations and how these are related to their interpersonal identity standards. The study was shaped by the central research question: *How does teachers’ interpersonal role identity change over a period of two years?*

Based on our theoretical framework, the main question can be subdivided into the following more specific questions:

- (1) How do teachers’ appraisals of specific classroom situations change over a period of two years?
- (2) How do teachers’ interpersonal identity standards change over a period of two years?
- (3) How does identity verification change over a period of two years?
- (4) Can differences be found on the answers to the questions above for teachers with desirable and undesirable standards?

3. Method

In order to study the change of teachers’ interpersonal role identity, 24 teachers participated over a period of two years in a qualitative (video-stimulated) interview study.

3.1. Participants

To select the participants, we invited teachers through large Internet fora using a network of schools from teacher training institutes and by advertising in teacher magazines/journals. In total, 180 teachers (from 60 schools) responded to our calls. From these 180 teachers, a stratified sample of 29 secondary school teachers from both rural and urban schools in the Netherlands was selected with different classroom climates (a detailed description of the selection procedure can be found in Van der Want et al. 2015). In addition, the participants differed in terms of gender, age, years of experience and subject taught (cf. Table 1).

Of the 29 teachers whom we had interviewed in 2011, 24 teachers were still working in secondary education (two years later in 2013) and were willing to participate in this study. These 24 teachers were included in this study.

Using the Teacher Interpersonal Circle (Figure 2), the interpersonal identity standards of the participants in this study were divided into 'desirable' and 'undesirable' based on the interview data of the semi structured interviews of 2011. After that, the participants with a desirable interpersonal identity standard were divided into two groups based on the data of 2011: one group consisted of participants with interpersonal identity verification or 'a match', while the other group consisted of the participants with no interpersonal identity verification, 'a mismatch'. If a participant had identity verification in 2 or 3 situations, this was considered 'a match', in case where there was identity verification in no or one situation, then this was considered a mismatch. In the end, this resulted in three groups of participants: (A) Desirable matchers, (B) Desirable mismatchers, (C) Undesirable (mis) matchers (see Table 1).

3.2. Data collection

In order to obtain data about teachers' interpersonal role identity, a video-stimulated interview (concerning teachers' appraisals of classroom situations) and a semi-structured interview (concerning teachers' interpersonal identity standard) were conducted per teacher on the same day in 2011. The interviews were audio-taped, lasted approximately 30 min and took place at the school of the teacher (with the consent of both school management and participant). Prior to the interviews, though on the same day, one of the teacher's lessons was video-taped and observed by the researcher (students were informed beforehand by the teachers and were given the opportunity not to be visible on camera). On average, 25–30 students (aged 12–18) were present in the lessons that were videotaped. The video-taped lesson was used during the video-stimulated interview in which the teacher was asked to watch and appraise his/her classroom situations. All participants stated that the video-taped lesson was representative for their lessons in general considering their teacher–student relationship. In 2013, the same procedure was followed for data collection.

3.2.1. Appraisal

The video-stimulated semi-structured interview was held to study teachers' appraisals of the three interpersonal classroom situations (the start of the lesson, reacting to student misbehaviour and reacting to positive student behaviour). Each teacher was asked to reflect on the fragments by answering three questions. The first question dealt with the description of the situation (Can you describe this event, how relevant is this event for you?), followed by questions regarding the affective and evaluative appraisal (What did you feel and think at that moment, What were your options at that moment? What were you planning to do?).

3.2.2. Identity standard

The semi-structured interview was conducted to gain insight into teachers' interpersonal identity standard. At the start of the interview, the participants were asked to describe their relationship with students in their classroom in general (How would you describe the relationship with your students in general in all your classrooms?). This starting question was followed by several (un-structured) follow-up questions depending on the answers of the participants. The coding procedure for the data was based on the Teacher Interpersonal Circle, containing the categories of steering, friendly, understanding, accommodating, uncertain, dissatisfied, reprimanding and enforcing (Figure 2; Wubbels et al. 2006).

Table 1. Overview of the participants in 2013 ($N = 24$).

	Name ^a (Alias)	Gender	Age	Years of teaching experience	Subject	Interpersonal identity standard in 2011
<i>Group A</i> Desirable matcher ($n = 8$)	Matthew	Male	24	1	Physics	Steering, Friendly, Enforcing
	Lucy	Female	35	12	Dutch	Steering, Friendly
	Billy	Male	35	11	Arts	Friendly, Understanding, Accommodating
	Paul	Male	34	1	Physics	Friendly
	Ben	Male	29	2	Social Studies	Steering, Understanding, Enforcing
	Chris-tine	Female	42	21	Physics	Friendly, Accommodating
	Angel	Female	53	31	Latin	Steering
	Philip	Male	56	28	Geography	Friendly, Enforcing
<i>Group B</i> Desirable mismatcher ($n = 13$)	John	Male	25	1	Physics	Steering, Understanding
	Patrick	Male	43	1	Physics	Friendly, Understanding
	Michael	Male	34	11	History	Friendly, Understanding
	Joyce	Female	47	9	French	Steering, Enforcing
	Dorothy	Female	42	9	Biology	Friendly, Dissatisfied
	Louise	Female	39	1	Physics	Friendly
	Janet	Female	28	1	Chemistry	Steering, Dissatisfied
	Peter	Male	28	2	Biology	Friendly
	Char-lotte	Female	50	11	Dutch	Steering, Friendly
	David	Male	47	11	Physics	Understanding, Accommodating
	Rosy	Female	55	34	Economics	Steering, Uncertain
	Luke	Male	50	25	Physics	Friendly
	Adrian	Male	54	26	Geography	Steering, Friendly
	Daniel	Male	46	8	Economics	Uncertain, Dissatisfied
	Andrew	Male	50	1	Chemistry	Uncertain, Dissatisfied
	Jane	Female	56	34	Arts	Enforcing
<i>Group C</i> Undesirable (mis)-matcher ($n = 3$)						

^aAll names are fictitious for reasons of anonymity.

4. Analysis

4.1. Appraisals

The affective appraisals were analysed with the three categories of Lazarus and Folkman (1984): (1) benign-positive, (2) stressful and (3) irrelevant. Inter-rater reliability for the appraisal codes was found to be sufficient with an agreement of 84%. After discussion of the fragments on which no initial agreement was found, agreement on all the coded fragments was found (100%). To analyse the possible changes in teacher affective appraisals, a matrix was constructed which included for each classroom situation the affective appraisals of 2011 and 2013. By comparing the affective appraisals of 2011 and 2013, the change in the codes per situation between 2011 and 2013 was explored and added to the matrix to create an overview of these data.

The evaluative appraisals were coded using the categories of the Teacher Interpersonal Circle (steering, friendly, understanding, accommodating, uncertain, dissatisfied, reprimanding and enforcing). Since teachers described their evaluative appraisal in terms of their behaviour, the Teacher Interpersonal Circle offers a useful instrument for our analysis. Inter-rater reliability for the evaluative appraisal was also sufficient, with an agreement of 94%. Again, in the end, full agreement was reached for codes in which initially no agreement was found.

In order to analyse whether teachers' evaluative appraisal of classroom situations had changed, the number of codes for the data of 2011 and 2013 were compared for all the participants as a group and per participant. Based on the initial results, three categories of change were defined. The first category was 'complete change', which indicated that none of the codes of 2011 were present in the 2013 coding. The second category was 'partial change', which indicated that one or more of the codes of 2011 were present in the 2013 coding. The third and last category was 'no change', which indicated that the codes of 2011 were similar to the codes of 2013.

To analyse the direction of the change (if applicable), i.e. what the change entailed, the two dimensions (control and affiliation) of the Teacher Interpersonal Circle were used to describe the change. For instance, if a participant had an interpersonal identity standard in 2011 which was coded as 'uncertain' and in 2013 as 'friendly', then the level of control increased and the level of affiliation increased as well.

The interpersonal identity standards were analysed according to the same procedure and with the same codes and categories as the evaluative appraisals. Inter-rater reliability was sufficient with 83% agreement. Again, after discussion, full consensus was reached.

4.2. Identity verification

In order to determine per participant whether interpersonal identity verification occurred, we compared the codes of the interpersonal identity standards and the interpersonal appraisals. If exactly the same codes or codes positioned next to each other in the Teacher Interpersonal Circle were assigned to a particular teacher, this was considered as 'a match' (interpersonal identity verification). If the codes from the interpersonal identity standard and the interpersonal appraisal differed by a distance of two or more categories from each other in the Teacher Interpersonal Circle, this was considered as a 'mismatch', resulting in no interpersonal identity verification. This coding procedure was based upon the theory of

Table 2. Example of the analysis of change between 2011 and 2013 for one participant.

Participant: John, a 25 year old beginning physics teacher		
Situation	Construct	Change between 2011 and 2013 (per construct)
–	Interpersonal Identity standard	Slightly more affiliation and less influence
Start of the lesson	Affective appraisal	More positive
	Evaluative appraisal	More affiliation and more influence
Reacting to student misbehaviour	Affective appraisal	More irrelevant
	Evaluative appraisal	More affiliation
Reacting to positive student behaviour	Affective appraisal	No change (positive)
	Evaluative appraisal	More affiliation
–	Identity verification	From desirable mismatcher (no identity verification) to desirable matcher (identity verification)

circumplex models (Fabrigar, Visser, and Browne 1997) that shows that codes (or categories in the circumplex model) that differ by a distance of two or more categories are independent and uncorrelated. In this study, we perceived uncorrelated and independent codes as a mismatch. The above-mentioned procedure was followed for all the interviews of 2011 and the interviews of 2013. A matrix was constructed in order to create an overview of the data.

To analyse the change in identity verification, the number of situations in which identity verification occurred in 2011 and 2013 was compared per participant. The distinction between identity verification or no identity verification was made based on the following: participants were coded as having identity verification in a specific situation if their appraisal of an classroom situation either matched exactly with the codes of their interpersonal identity standard or if they almost matched, that is if the codes were positioned directly next to each other in the categories of the Teacher Interpersonal Circle. All other combinations were coded as ‘no identity verification’. In order to be coded as a ‘matcher’, at least two situations had to be coded as ‘identity verification’ or ‘almost identity verification’.

Next, an analysis was made per situation to see whether the number of participants that had identity verification, changed between 2011 and 2013. Based on their interpersonal identity standard and their identity verification (to a certain degree), all participants were positioned in one of the three groups (desirable matcher, desirable mismatcher, undesirable (mis)matcher) in 2011 and in 2013. The results of the participants in 2011 and 2013 were compared. Change was reported if participants changed from desirable to undesirable (or vice versa), from match to mismatch (or vice versa) or a combination of both. An example of the data analysis of a participant can be found in Table 2.

5. Results

5.1. Change in teachers’ appraisals of specific interpersonal classroom situations

Teachers’ appraisals – both the affective and the evaluative appraisal – changed over a period of two years. A chi-square test was performed to examine the difference between the affective appraisals in 2011 and 2013 as depicted in Table 3. The difference was statistically significant ($\chi^2(2, N=137)=27.71, p<0.01$). For *the affective appraisal*, a clear trend was found which can be described as ‘towards irrelevant affective appraisal’. The total number of situations in which the affective appraisal was coded as ‘irrelevant’ increased from 16

Table 3. Affective appraisals of classroom situations in 2011 and 2013.

Classroom situations	Affective appraisals					
	Benign-Positive		Stressful		Irrelevant	
	2011	2013	2011	2013	2011	2013
Start of the lesson (number of teachers 27 (2011), 24 (2013))	7	3	8	2	7	19
Student misbehaviour (number of teachers 27 (2011), 24 (2013))	2	0	14	5	7	19
Positive student behaviour (number of teachers 25(2011), 22 (2013))	20	11	0	1	2	10
Total (Total appraisals 2011: 79 2013: 70)	29	14	22	8	16	48

Table 4. Teachers' evaluative appraisals in 2011 and 2013.

Codes	Start of the lesson		Student misbehaviour		Positive student behaviour		Total codes for all three situations	
	2011 (n ^a = 27)	2013 (n = 24)	2011 (n = 17)	2013 (n = 24)	2011 (n = 25)	2013 (n = 22)	2011	2013
Steering	13	14	9	14	8	3	30	31
Friendly	8	14	3	5	8	19	19	38
Understanding	4	4	0	1	3	2	7	7
Accommodating	13	23	3	2	3	1	19	26
Uncertain	5	2	6	0	1	1	13	3
Dissatisfied	7	3	8	6	5	3	20	12
Reprimanding	8	0	18	23	2	2	28	25
Enforcing	4	0	2	0	1	1	7	1
Total	62	60	49	51	31	32	143	143

^an = number of teachers. Some teachers were not able to appraise one of the situations, therefore the number of teachers differs per situation.

situations of participants in 2011 to 48 situations of participants in 2013 (Table 3). This means that some participants appraised situations in 2011 as either benign-positive or stressful, but in 2013 as irrelevant.

For instance, physics teacher John appraised his reaction to student misbehaviour in 2011 as stressful. He stated: 'I do not know what to do, I tell him to sit down and be quiet, but he does not listen'. In 2013, John appraised his reaction to student misbehaviour as irrelevant; he said:

I told them to work individually and one of the students, Tim, starts talking, so I directly tell him to work individually and without talking to his neighbors and that's just it. He is the kind of student that usually needs a bit more and clearer explanation, so I give that to him.

When looking at *the evaluative appraisal* of all three situations, an increase in the code 'friendly' and a decrease in the codes 'uncertain', 'dissatisfied', 'reprimanding' and 'enforcing' can be found (Table 4). The change in teachers' evaluative appraisals can be best described as a trend towards *more affiliation* (Table 4). Table 4 shows teachers' appraisals of 2011 and 2013. In order to investigate statistically significant differences in the evaluative appraisals, the eight codes were summarised into two codes: one code consisted of the sum of the four codes that are high on affiliation in the teacher interpersonal circle (Steering, Friendly, Understanding and Accommodating), the other code consisted of the sum of the four codes that were low on affiliation (Uncertain, Dissatisfied, Reprimanding and Enforcing). The resulting 2 × 2 Tables for the situations and the overall appraisals was investigated with a

Table 5. Teachers' interpersonal identity standards in 2011 and 2013.

Codes	Interpersonal identity standard	
	Number ^a of codes of the interpersonal identity standards	
	2011 (<i>N</i> = 24)	2013 (<i>N</i> = 24)
Steering	11	10
Friendly	14	18
Understanding	8	10
Accommodating	2	6
Uncertain	3	2
Dissatisfied	4	3
Reprimanding	0	1
Enforcing	5	3
Total	47	53

^aThe number of codes of the interpersonal identity standard outnumbers the number of teachers, since interpersonal identity standards can consist of multiple (maximum three) codes.

Chi-squared test. No significant differences were found for 'reacting to student misbehavior' ($\chi^2(1, N = 100) = 1.68, p = 0.194$) and for 'reacting to positive student behavior' ($\chi^2(1, N = 63) = 2.12, p = 0.14$). Significant differences were found for the evaluative appraisals of the start of the lesson, ($\chi^2(1, N = 122) = 15.52, p < 0.01$) and the total score of all three situations ($\chi^2(1, N = 288) = 11.37, p < 0.01$). A similar approach was followed for the amount of control, by distinguishing between high-control appraisals (e.g. enforcing, reprimanding, steering and friendly) and low-control appraisals (the other sectors). For none of the separate situations or the total score of all three situations, a statistically significant difference was found.

5.2. No change in teachers' interpersonal identity standards

In general, teachers' interpersonal identity standards hardly showed any change. The levels of control and affiliation remained high (Table 5). Chi-squared tests, following a similar procedure as for the evaluative appraisals, indicated no statistically significant differences between 2011 and 2013. Chi-square was calculated in a 2×2 design in which the rows consisted of the years (2011 and 2013). To calculate the scores of the columns, the eight codes were summarised into two codes: one code consisted of the sum of the four codes that are high on affiliation in the teacher interpersonal circle (Steering, Friendly, Understanding, Accommodating), the other code consisted of the sum of the four codes that were low on affiliation (Uncertain, Dissatisfied, Reprimanding and Enforcing). No statistically significant differences were found ($\chi^2(1, N = 100) = 1.09, p = 0.29$). Similarly, chi-square was also calculated for the interpersonal identity standard with the 2×2 design in which the columns, the eight codes were summarised into two codes: one code consisted of the sum of the four codes that are high on control (steering, friendly, reprimanding and enforcing) and the other code consisted of the sum of the four codes that were low on control (understanding, accommodating, uncertain and dissatisfied). No statistically significant differences were found ($\chi^2(1, N = 100) = 0.12, p = 0.72$).

An overview for each respondent concerning their change in interpersonal identity standard can be found in Table 6. As can be seen in Table 6, for six respondents, there was no change in their interpersonal identity standard, for 13 respondents, some elements in their interpersonal identity standards were stable and for 5 respondents, their interpersonal identity standard completely changed in terms of the Teacher Interpersonal Circle.

Concerning the level of control, an increase was found for six respondents and a decrease for nine respondents. The level of affiliation, for 13 respondents an increase was found and for only two respondents a decrease was found. The number of desirable interpersonal identity standards increased (from 21 to 22) and the number of undesirable interpersonal identity standards decreased (from three to two) between 2011 and 2013.

The number of codes for steering, friendly, understanding and accommodating increased; the sum of the codes for these 4 categories was 35 in 2011 and 44 in 2013. These codes can be considered 'desirable codes'. The other 4 categories (uncertain, dissatisfied, reprimanding and enforcing) decreased slightly from 12 codes in 2011 to 9 codes in 2013. These codes can be considered 'undesirable codes' (Figure 2).

5.3. Change in teachers' identity verification

Overall, teachers' identity verification increased between 2011 and 2013 (Tables 7 and 8). For the identity verification of teachers, a chi-square test on Table 7 showed a statistically significant difference, chi-square test showed a significant difference between the number of teachers in 2011 with identity verification in zero or one situation and teachers with identity verification in two or three situations, as compared to 2013 ($\chi^2(1, N=48)=5.37, p=0.02$).

The number of participants with identity verification in all three situations rose from one (2011) to five participants (2013). Next to that the number of participants with no identity verification decreased from five participants (2011) to two participants (2013) (Table 7). In addition, for 17 out of 24 teachers (almost) identity verification could be found in two or three situations in 2013, as opposed to 9 out of 29 in 2011 (Table 7).

5.4. Differences between teachers with desirable and undesirable interpersonal identity standards

In 2011, 21 out of 24 teachers were considered to have a desirable interpersonal identity standard. For 8 of the 21 teachers, interpersonal identity verification took place in at least two (of the three) situations. These eight teachers were considered 'desirable matchers'. The other teachers with a desirable interpersonal identity standard were coded as 'desirable mismatches' since they had a desirable interpersonal identity standard but lacked the interpersonal identity verification in at least two situations (Table 9).

Considering the change between 2011 and 2013, the majority of the teachers was stable in terms of identity verification and could often be characterised as 'desirable matchers' (13 out of 14). Once teachers were desirable matchers, they remained desirable matchers. These participants were from all ages and career phases.

The group of teachers who did change, often changed from being a 'desirable mismatch' to being a 'desirable matcher' (8 participants). Five beginning teachers in our study went through this change. The number of teachers who could be characterised as 'desirable mismatches' decreased from 15 to 6 participants. For two of the five teachers who stayed in this group at least a slight change towards a desirable match could be found. For three participants, no change could be found. The number of undesirable (mis)matchers decreased from three to two participants; one respondent (Jane) changed from undesirable matcher to desirable matcher.



Table 6. Interpersonal identity standards and desirable match/mismatch in 2011 and 2013 per respondent.

	Name (Alias)	Interpersonal identity standard in 2011	Interpersonal identity standard in 2013	Change in interpersonal identity standard	(Un)Desirable (mis-)matcher in 2013
<i>Group A</i> Desirable matcher in 2011 (<i>n</i> = 8)	Matthew	Steering, Friendly, Enforcing	Steering, Friendly, Enforcing	No change	Desirable matcher
	Lucy	Steering, Friendly	Friendly	Less control, more affiliation	Desirable matcher
	Billy	Friendly, Understanding, Accommodating	Friendly, Understanding, Accommodating	No change	Desirable mismatcher
	Paul Ben	Friendly Steering, Understanding Enforcing	Steering, Enforcing Friendly, Understanding	More control, less affiliation Less control, more affiliation	Desirable matcher Desirable matcher
<i>Group B</i> Desirable mis-matcher in 2011 (<i>n</i> = 13)	Christine Angel	Friendly, Accommodating	Friendly, Understanding	More control, more affiliation	Desirable matcher
	Philip John	Steering	Friendly	Less control, more affiliation	Desirable matcher
	Patrick Michael	Friendly, Enforcing	Steering, Friendly, Enforcing	More affiliation	Desirable matcher
	John	Steering, Understanding	Steering, Understanding	No change	Desirable matcher
	Patrick Michael	Friendly, Understanding	Friendly, Understanding	No change	Desirable matcher
	Joyce	Friendly, Understanding	Steering, Friendly	More control	Desirable mismatcher
	Dorothy	Steering, Enforcing	Steering, Friendly	More affiliation	Desirable matcher
		Friendly, Dissatisfied	Steering, Friendly, Understanding	More affiliation	Desirable mismatcher
<i>Group C</i> Undesirable (mis-)matcher in 2011 (<i>n</i> = 3)	Louise Janet	Friendly Steering, Dissatisfied	Understanding, Accommodating Friendly, Understanding, Dissatisfied	Less control, more affiliation Less control, more affiliation	Desirable mismatcher Desirable matcher
	Peter Charlotte	Friendly Steering, Friendly	Friendly Steering, Friendly, Accommodating	No change Less control, more affiliation	Desirable matcher Desirable matcher
	David Rosy Luke	Understanding, Accommodating Steering, Uncertain Friendly	Steering, Friendly Steering Friendly, Understanding, Accommodating	More control More control, more affiliation Less control, more affiliation	Desirable matcher Desirable mismatcher Desirable mismatcher
	Adrian	Steering, Friendly	Friendly, Understanding, Accommodating	Less control, more affiliation	Desirable matcher
	Andrew	Uncertain, Dissatisfied	Uncertain, Dissatisfied, Reprimanding	More control, less affiliation	Undesirable mismatcher
	Jane Daniel	Enforcing Uncertain, Dissatisfied	Steering, Understanding Uncertain, Dissatisfied	Less control, more affiliation No change	Desirable matcher Undesirable matcher

Table 7. Identity verification of teachers.

Number of participants with:	2011 (<i>n</i> = 24)	2013 (<i>n</i> = 24)
(Almost) identity verification in <i>all three</i> situations	1	5
(Almost) identity verification in <i>two</i> situations	8	12
(Almost) identity verification in <i>one</i> situation	10	5
No identity verification in any situation	5	2

Table 8. Teachers' identity verification for each situation (*N* in 2011 = 24, *N* in 2013 = 24).

Situations	Number of participants with ...									
	... identity verification		... almost identity verification		... partial identity verification		... no identity verification		Total number of teachers	
	2011	2013	2011	2013	2011	2013	2011	2013	2011	2013
Start of the lesson	9	5	9	11	5	4	0	4	24	24
Student misbehaviour	0	0	9	10	11	10	4	4	24	24
Positive student behaviour	2	8	10	10	6	2	5	4	23	24

Table 9. Change: (un)desirable (mis)matchers.

(Un)Desirable (Mis)matchers	Number of participants
Desirable mismatches 2011/2013	13/6
Desirable matches 2011/2013	8/16
Undesirable (mis)matchers 2011/2013	3/2
Change from desirable mismatcher to desirable matcher	8
Change from undesirable mismatcher to undesirable matcher	1
Change from desirable matcher to desirable mismatcher	1
Change from undesirable matcher to desirable matcher	1
No change	13/24 (mostly desirable matchers)

6. Discussion

6.1. Increase in irrelevant affective appraisals

A possible explanation for the increase in irrelevant affective appraisals might be that teachers, due to their growth in classroom experience and interpersonal repertoire, were less surprised/intimidated by and more aware of the specific classroom situation (Ensley 2006). These teachers might therefore experience and appraise a classroom situation not as 'stressful' or 'benign-positive' any more for their own well-being but as 'irrelevant'. It can also be that teachers learned to deal with their emotions between 2011 and 2013 and therefore thus appraised a situation as 'irrelevant' for their own well-being. Teachers possibly adopted more appropriate, less stressful coping strategies. Or, in line with previous research (Van der Want et al. 2015), teachers' appraisal might have become more 'irrelevant' due to a change of focus and goals in their work (Chang and Davis 2009).

6.2. More affiliation in evaluative appraisals and interpersonal identity standards

Both the evaluative appraisals as well as the interpersonal identity standards of eighteen participants changed (in different degrees) towards more affiliation and to a lesser extent towards more control (cf. Table 6). When looking at our results with a focus on the

differences between novice and expert teachers, a strict line between both career phases is hard to find: changes occur both for beginning as well as experienced teachers and in similar directions. The trend towards more affiliation for the evaluative appraisal and the interpersonal identity standard is in contradiction with studies on teacher interpersonal behaviour during the teaching career (showing a slight decline in the later phases of the career). Also, Wubbels et al. (2006) and Wubbels and Brekelmans (2005) have shown that the level of control particularly increases during the first years of the career, while these levels remained more or less stable in this study. Possibly, teachers in different phases of their career change their appraisal and interpersonal identity standards for different reasons. A novice teacher's appraisal of interpersonal identity standard might for example change due to an induction programme (Beijaard, Buitink, and Kessels 2010), whereas the appraisal or interpersonal identity standard of an experienced teacher might change due to a career advancement (Day et al. 2006).

6.3. Increase of teachers with identity verification

The increase in identity verification follows the expectations of Burke and Stets (2009). Burke and Stets (2009) stated that in case of non-identity verification (as was the case for 14 of our participants in 2011), individuals will try to reduce their negative feelings by changing their behaviours, perceptions of situations and/or their identity standard in order to achieve identity verification (as was the case for nine of our participants in 2013). The participants who lacked identity verification in 2011 often experienced negative feelings possibly due to this lack of identity verification and therefore they might have changed either their appraisal of specific situations or their interpersonal identity standard. Based on this research, we can only speculate about a possible explanation for teachers who lacked identity verification but who did not change. It might be that for these teachers other role identities were more important to them than the interpersonal role identity. Following Stryker (1980) and McCall and Simmons (1978), all role identities of a teacher are part of a hierarchy that consists of the interpersonal role but also of a subject matter-, didactical-, pedagogical- and mentoring-role.

The position of the role identities in the hierarchy of a person is unique for every person and refers to their readiness to act out a certain role identity across situations (Burke and Stets 2009). Teachers' hierarchy of role identities directly influences the choices teachers make in situations (Burke and Stets 2009). For teachers with a mismatch, it might be that they consider other role identities to be more important than the interpersonal role identity and that they do not strongly experience their lack of interpersonal identity verification and therefore do not try to achieve interpersonal identity verification.

6.4. Problems of undesirable (mis)matchers

An undesirable matcher has an undesirable interpersonal identity standard and matching 'undesirable' evaluative appraisals. A teacher who can be characterised as an undesirable matcher might – according to Burke and Stets – not feel a need to change their behaviour or identity standard, since there is already a match. In our sample, there was one participant, the late career Arts teacher, Jane, who in 2011 was classified as a so-called 'undesirable matcher' and who did change to a 'desirable matcher' in 2013. This shows that changes

do take place. A change towards a desirable interpersonal identity standard and matching evaluative appraisals is needed not only for teachers' well-being, but also for student outcomes. However, the question arises if and what kind of defence mechanisms these teachers used in order to continue teaching. According to McCall and Simmons (1978) several coping methods or defence mechanisms can be used to protect oneself from pain or negative feelings and to stay in the teaching profession. Undesirable (mis)matchers can be seen as examples of users of these defence mechanisms. These defence mechanisms might include (1) repression in which individuals push the (painful) emotion below the level of consciousness, (2) projection, in which teachers assign their negative feelings to others rather than attributing them to themselves and (3) displacement, in which teachers' negative feelings are directed at others. Future research should aim to explore these defence mechanism and try to find possibilities to change the undesirable interpersonal identity standard of teachers. Another opportunity for future research is to explore how to prevent teachers from developing an undesirable interpersonal identity standard.

7. Limitations, implications and opportunities for further research

There are some limitations of this study. One of the limitations of this study is that although we have explored the important elements (i.e. appraisal and interpersonal identity standard) of the interpersonal role identity over a period of two years, our number of participants prevents us from drawing strong conclusions, for instance concerning the differences between teachers' interpersonal role identity in the various career phases. Also, when interpreting the results of this study, one should bear in mind that this study was conducted over a period of two years and collected (video-stimulated) interview data at two moments in time for appraisals of three interpersonal classroom situations. This enabled a comparison between two moments in time for the same teacher and for three interpersonal classroom situations. However, to get a more comprehensive picture, longitudinal research over a longer period of time and with multiple moments of data collection and multiple interpersonal classroom situations is one of the challenges for future research. This could explore important questions such as 'do desirable matchers stay desirable matchers?' and 'can (un)desirable mismatchers stay in the teaching profession for a long time'? And: what coping strategies are successful for teachers to stay desirable matchers? Which factors help teachers to change from mismatcher to matcher? In addition, this research focused mainly on the change of respondents as a group. Further research with a focus on the individual changes of teachers could enrich the insights that were brought up by this study. Next to that, future research on other role identities could provide different insights in the concepts of role identity and could position – using for instance the concept of hierarchy – the interpersonal role identity among the other roles teachers fulfil. Moreover, future research could explore the necessity of identity verification; in some cases a lack of identity verification might be desirable in order to stimulate learning. This study shows that it is possible to change from a desirable mismatcher to a desirable matcher even without specific training or support. However, not all teachers managed to change themselves in the preferred direction.

The teachers who did not change need support during their career to change their interpersonal role identity. Teacher education programmes can start with this support by stimulating student teachers to develop a sound teacher interpersonal role identity

with a desirable interpersonal identity standard and matching appraisals of situations so that interpersonal identity verification takes place. There might be a task not only for teacher educators but also for mentors/coaches in schools to help teachers become aware of their interpersonal role identity and, if necessary, to help them change their teacher interpersonal role identity. Previous research by Pillen has shown that teachers who experience a tension often do not seek help themselves and favour problem-focused coping strategies above emotion-focused strategies (Pillen, Den Brok, and Beijaard 2013). The concept of teachers' interpersonal role identity offers an instrument for teacher educators to make student teachers aware of their interpersonal identity standard and the appraisals of specific classroom situations by visualising both the interpersonal identity standard and the appraisals in the Teacher Interpersonal Circle. In addition, discussing the teachers' interpersonal role identity using the Teacher Interpersonal Circle can help student teachers to grow towards a desirable interpersonal identity standard and a matching appraisal.

8. Conclusion

Different from previous research on teacher identity as a holistic concept, this study took teacher identity roles as its basis for research. Consequently, the teacher–student relationship was conceptualised in terms of a teacher's interpersonal role identity. This article presented a study of change in this role identity. Over time irrelevant affective appraisals increased and a trend towards more affiliation and more control was found both for the evaluative appraisals as for the interpersonal identity standards. All in all, 11 teachers changed to such an extent that their identity verification increased. An exception was the group of teachers classified as 'undesirable (mis)matchers'. The concept of teachers' interpersonal role identity, as coded with the Teacher Interpersonal Circle, offered a useful tool for teacher educators to support their student teachers and 'undesirable (mis)matchers' to develop their interpersonal role identity. To conclude, the concept of role identities can offer a useful theoretical framework for future research on teacher identity and teacher–student relationships and at the same time can be a practical tool for supporting teachers' identity development.

Disclosure statement

No potential conflict of interest was reported by the authors.

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