



# From fragmented toward relational academic teacher identity: the role of research-teaching nexus

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## Abstract

Academics have multiple identities, and their professional identities can sometimes be fragmented. This can lead to identity tensions and hinder their development as teachers. Our data consists of interviews with seven academics at a research-intensive university and the teaching portfolios created during their teaching practicums. All academics participated in 2 years of pedagogical studies, wherein teaching practicums played a central role. Their teacher identities developed significantly during the pedagogical studies. We examined the narratives two academics—Matti and Kari—that chronicled their development as teachers. Initially, Matti and Kari presented bias towards the pedagogical training. We found that the key features of their teaching practicums, such as a developmental project and reflexivity, facilitated the development of more holistic, relational identities. Our findings challenge some dominant views about academics' teacher identity development and argue for the need to redefine academics' teacher identity by taking into account the relational nature of the concept and the role of the research-teaching nexus. The study has an important implication for policy; for supporting holistic teacher-researcher development, developmental projects should be implemented as a vital part of pedagogical training.

**Keywords** Academics · Teacher identity · Research-teaching nexus · Teaching practicum · Narrative inquiry · Higher education

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## Introduction

The development of teacher identity has been much studied in the context of teacher education (Beauchamp and Thomas 2009; Lutovac and Kaasila 2018a) and school teaching (Beijaard et al. 2004). While the studies conducted in other educational settings have produced the knowledge applicable to university settings, van Lankveld et al. (2017) noted that “some aspects of teacher identity development might be different for university teachers since they have to combine the teaching role with other roles such as that of researcher or practitioner” (p. 326). Arguably, in research-intensive universities, research strongly shapes the professional identities of academics, including their teacher identities. Therefore, the teacher identities of academics may differ significantly from the identities of school teachers.

Additionally, when entering academia, many academics have no formal pedagogical training nor do they aspire to be teachers. As opposed to their relationship with their discipline and research, they usually do not have a strong bond with their teaching tasks. As a result, their teacher identity may remain underdeveloped (Nevgi and Löfström 2015). This is important to address, as many discussions about the quality of university teaching have highlighted the need to improve the teaching skills and pedagogical thinking of academics (Postareff et al. 2008). Furthermore, the need to support academics’ development as teachers (Nevgi and Löfström 2015) as a part of their professional identities has been acknowledged. To address this issue, many university settings provide compulsory pedagogical training for academics. Such training can facilitate the development of academics’ views of teaching and learning and their teaching competencies (Gibbs and Coffey 2004; Postareff et al. 2007). For example, pedagogical training has been found to help academics adopt more student-centered approaches (Gibbs and Coffey 2004; Stes et al. 2010) and develop their own reflective skills (Kram 2010). While pedagogical training programs may promote the development of academics’ teacher identities, they may also, however, contribute to the perceived split between teaching and research (Kinchin et al. 2018).

Much of the previous research explored academics’ teacher identity in isolation from their other sub-identities. Here, we challenge this approach and agree with Åkerlind (2011) that “focusing on one’s development as a teacher in isolation from one’s broader development as an academic may lead to a narrowing of awareness” and that instead of a fragmented perspective, a more holistic approach is needed (p. 193). Additionally, we argue that the role of research and researcher identity is central in exploring the teacher identity of academics. While the research-teaching nexus has become of increasing importance in higher education over the past few decades (Tight 2016), research focusing on academics’ teacher identity has overlooked this important idea. Likewise, studies addressing the research-teaching nexus have not considered academics’ teacher identity. Arguably, this dichotomy is problematic if we are to obtain a more holistic view of teacher identity development.

This narrative case study explored the development of two academics’ teacher identity during university pedagogy training in one Finnish research-intensive university. We focused particularly on the meaning of the teaching practicum in their development as teachers. Studies addressing the role of teaching practicum as part of pedagogical training programs and their impact on development of academics’ teacher identity are still rare (Nevgi and Löfström 2015; Korhonen and Törmä 2016; Trautwein 2018). The research question guiding this study was: How do academics narrate the development of their teacher identity during the teaching practicum as part of their pedagogical training?

In answering this question, we challenged the common fragmented picture portrayed in research on academics' teacher identity and attempted to redefine that identity by considering its relational nature and the role of the research-teaching nexus.

## Theoretical framework

### Teacher identity and the role of pedagogical training in higher education

There is no consensus regarding how to define the teacher identity of academics (Henkel 2000; Kreber 2010; van LankVeld et al. 2017). According to Kreber (2010), identity can be considered, for example, from psychological or sociological viewpoints, the former links identity to individuation, self-actualization, and greater self-awareness. In the latter, identity refers to an individual's identification with certain groups or communities or with aspects of his or her being that have been identified by others. In this paper, we operationalize academics' teacher identity in an interactionist manner. We entwine the psychological and social aspects of identity and understand the teacher identity as emerging from the academics' professional status, their interactions with others, and their interpretations of their own experiences (Gee 2000). We also emphasize the narrative nature of teacher identity, the multiplicity of identities, and see professional socialization as central in shaping academics' teacher identity (Oleson and Hora 2014). We agree with Hockings et al. (2009) in that teacher identity includes views of oneself as the teacher, and this cognitive component is complemented by emotions that are evoked while teaching.

Many studies have reported on the role of pedagogical training in teacher development. The literature review by Van LankVeld et al. (2017) demonstrated that staff development training leads to increased confidence in one's teaching ability and a sense of connectedness with peers with whom they can test ideas and exchange views; it also helps academics develop an educational language. Moreover, the authors showed that in order to develop teacher identity, academics needed to feel a sense of appreciation for teaching, but also a sense of competence and recognition of their competence. The latter was found to be a key indicator of teacher identity development. Korhonen and Törmä (2016) identified three types of academic teacher identity: development-oriented, constructive-conflicting, and unsolved. They argued that academics' professional growth can be divided into four main categories: (1) self-development related to disciplinary expertise, growth as a human being, and retaining the attitude that teaching is meaningful; (2) expanding awareness of the student learning processes; (3) improving the knowledge and skills of teaching practice and more conscious use of teaching methods; and (4) experience of teacher comfort and confidence (p. 77). The authors acknowledged that the three latter categories are in line with Åkerlind's (2003) findings, but in their study, self-development appeared as a separate category.

Nevgi and Löfström (2015) investigated the development of academics' teacher identities in a sustained university teacher development program and identified four profiles: (1) teacher identity as a renewing and reflective university teacher and researcher, (2) teacher identity as a pedagogically skillful subject expert teacher, (3) teacher identity as an educational developer reflecting on how to improve university teaching, and (4) teacher identity as an educational developer focusing on research on university teaching with no reflection on teaching. These results indicated that teacher identity develops through dynamic interaction between a reflection on teaching practice and a deepening of the knowledge academics have about theoretical pedagogical constructs. In a recent study, Trautwein (2018)

explored the changes in the teacher identity of academics enrolled in a teaching development program and identified the following phases of development: taking on the teacher role, settling into the teacher role, and finding a new role as a teacher.

Stewart (2014) explored the effects of a one-year instructional development program more than five years after participants completed it. The positive impact included increased confidence in teaching, a change toward student-centered views, and a sense of collegiality as a result of exposure to wider academic cultures. The author identified two opposite developmental paths representing different orientations to learning and growth as a teacher. One path was “learning for practical application” and to teach effectively and the other was “learning for understanding and growth” with an emphasis on reflectivity and theories of learning to understand practice (p. 93). Similarly, Åkerlind (2007) explored academics’ ways of approaching their growth and development as university teachers and identified five different approaches to developing as a university teacher, from a focus on building a better knowledge of one’s content area in order to become more familiar with what to teach, to continually increasing one’s understanding of what works and does not work for students in order to become more effective in facilitating student learning.

### Teacher identity and the research-teaching nexus

In our examination of the literature, we observed a lack of emphasis on the role of research in academics’ teacher identity development. Various studies saw the role of research in various ways. Trautwein (2018) argued that the discipline and academics’ conceptions of self and of students have the strongest impact on academics’ teacher identity (see also, Kreber 2010 and Hockings et al. 2009). Research, therefore, does not appear as one of the important factors. In the review of van LankVeld et al. (2017), some academics saw themselves as researchers who teach while others perceived themselves as blended professionals who bring teaching and research together in the quest for learning. They did not, however, see research as central in academics’ teacher identity development.

In other studies, such as Korhonen and Törmä (2016), academics considered research seminars and dissertation supervision the best ways to integrate research and teaching, and the connection between research and teaching was seen as an ideal. Åkerlind (2011) observed that academics’ development as teachers has been explored in isolation from their holistic development as academics. The author discussed the downside of distinguishing teaching and teaching development from other aspects of academic work. Furthermore, in some studies, academics themselves have been concerned about fragmentation of their academic identities (Macfarlane 2016; van Winkel et al. 2017). If academics’ professional identities are too fragmented, it can, arguably, lead to identity tensions that can hinder their professional development. For some reason, however, most studies on academics’ teacher identity development do not see the too-fragmented identity as a challenge. Arguably, it should be taken into consideration that many academics can indeed reflect on their teacher identity in the tight bond with their research.

Although the research-teaching nexus has been much studied, there is no consensus regarding how to define it (Tight 2016; Harland 2016). The term research-teaching or teaching-research nexus has been used in varied ways and is often poorly articulated or understood (Tight 2016). Coate et al. (2001) identified six possible relationships between teaching and research: (1) integration, (2) research as a positive influence on teaching, (3) teaching as a positive influence on research, (4) separate activities with little impact on each other, (5) research as a negative influence on teaching, and (6) teaching as a negative

influence on research. About the research–teaching nexus Kreber (2010) states: “The orientation the institution adopts towards the research–teaching nexus can also be seen as characteristic of a lecturer’s occupational context, which, in turn, is likely to interact with his or her own research and teaching activity” (p. 173). Robertson (2007) found significant variations in the way academics experienced the relationship between research and teaching, but identified five types of relations: weak, transmission, hybrid, symbiotic, and integrated; she argued that little attention has been paid to the impact of teaching on research (Robertson 2007; Harland 2016). We agree with Robertson (2007) that the research-teaching nexus is much more complex than portrayed in many studies and that for understanding how academics conceptualize this relationship and how this shapes their pedagogies, we need to explore academics individual experiences holistically.

## Methods

### Study context

This study was conducted at one research-intensive Finnish university where academic staff were invited to participate in university pedagogy training (25 ECTS). The training lasts 2 years and its aim is to reinforce academics’ interest in student-centered teaching and to support the construction of their professional identities. The training consists of activity-based group meetings, peer group sessions, reflective portfolios, and a mentored teaching practicum linked to the academics’ own work. The main contents are the academics’ competency areas, reflection, practical theories, teachers’ professional identity, shared expertise, and research-based teaching. Pedagogical training also has a therapeutic emphasis; the participants are provided with opportunities to share their experiences, to be heard and understood, and to grow through their learning process. Within the pedagogical training, the participants undergo a mentored teaching practicum. The aim of this practicum is that the participants strengthen their teacher identity, deepen the reflection upon their views of teaching and learning, and find their own personal teaching style. Also, research-based teaching and the development of pedagogical thinking and teaching skills are emphasized. As part of the practicum, the participants conduct a developmental project in their own courses. The participants can choose what they want to develop, but the general recommendation is that they apply Web-based teaching as a part of their project. Every participant has a mentor from his/her own field. Mentors are those academics who have completed university pedagogy training.

### Research subjects and data collection

This is a narrative case study (Polkinghorne 1995; Kaasila 2007; Lutovac and Kaasila 2018a), and all the data gathered were considered academics’ narratives and were compiled to present two cases of the development of academics’ teacher identity during university pedagogy training. Narratives allow for one’s meaning making of their own experiences and also provide a great deal of information about one’s implicit theories, identity development, and the social context (Elliott 2005). Forty lecturers participated in university pedagogy training during 2010–2012 and were taught by the third and fourth authors of this paper. Academics were asked to keep a portfolio during their training in which they also described how their experience of the teaching practicum changed their views and

practices. The fourth author of this paper read all the portfolios carefully and purposively chose seven academics for further examination via face-to-face interviews. She chose individuals whose portfolios displayed wide variation in views and teaching experiences, and whose narratives were particularly information rich and vividly expressed (Patton 1990). She had an in-depth view of the background, experiences, and progress of all the participants. Our seven research participants were rather typical academic staff participating in university pedagogy training, particularly in terms of their age and teaching experience. Five participants were female and two were male. The age range of the participants was between 30 and 40 years (only one of the participants was older), and most of them had 3 to 7 years of teaching experience. The participants were from Human, Medical and Business Sciences.

The third author interviewed all seven academics in late 2012. The interviews lasted 70–90 min. As it tends to be the case in narrative studies, the interviews began with an open-ended prompt, such as: “Describe the meaningful experiences for your development as a teacher. Tell what you remember about the teaching practicum.” Afterwards, the participants were asked questions around the following themes of their professional development: their meaningful teaching and learning experiences, how their views and practices about pedagogy changed, the role that the teaching practicum and constructing a pedagogical portfolio played in their professional development, the factors promoting and/or hindering their professional development, the role of student feedback, the role of research in professional development, challenges in academics work, and professional plans for the future. We also used their portfolios as data. It is important to note that all seven participants were informed about this research and gave consent that their work produced during the pedagogical training could be used for research purposes. For assuring anonymity, we omitted all identifying information and pseudonyms were assigned.

## Data analysis

To analyze the data, we applied two narrative analytical approaches: the process of emplotment as suggested by Polkinghorne (1995) and categorical analysis according to Lieblich et al. (1998). The first and third authors read all of the seven lecturers’ interview transcriptions and portfolios carefully. We noticed that all seven participants underwent some development in terms of their teacher identity during teaching practicum; the first and second authors selected two participants, Matti and Kari, for more detailed analysis. These two cases were chosen because (a) they were the only academics who, prior to the training, openly spoke about their bias towards pedagogical training and teaching practicum; (b) they were the most reflective participants, and they spoke about the development of their teacher identity in the most detailed and authentic way; and (c) they seemed to have gained the most from the practicum. The first and second authors continued with the next steps of analysis, which involved carefully reading the two participants’ portfolios and interview data. As our aim was to present the case for each participant, we proceeded with selecting the data excerpts that captured their experiences in the most informative and interesting way. We also searched through the data for information on the impact of pedagogical studies on their identities. After all the data excerpts were obtained, we emplotted them into a narrative (Polkinghorne 1995; see also Kaasila 2007 and Lutovac and Kaasila 2018b). The key idea here was to present the academics’ development as teachers chronologically and with the outcome of the story in mind. In categorical analysis (Lieblich et al. 1998; see also, Kaasila 2007), we first identified the central themes in their narratives: beliefs and

practices in pedagogy and teaching before university pedagogy training, meaningful teaching experiences in teaching practicum, the role of student feedback, and the role of research in the academics' professional development. We continued by systematically comparing the narratives of the two participants based on the identified themes. The analysis was data-driven; only in the late phase of the process did we entwine our findings with the theoretical knowledge on academics' teacher identity.

To assure the quality of analysis, trustworthiness of the study, and validity of our interpretations, we adhered to triangulation of data sources and researcher triangulation (Patton 1999; Cohen et al. 2000). We used a combination of two data sources, interviews and teaching portfolios, which demonstrated the consistency of findings. The first two authors read the data and formed preliminary interpretations independently. Afterwards, these interpretations were discussed and negotiated until a consensus was reached regarding the final interpretations. Finally, the third and the fourth authors provided their views on the findings and their interpretations. In case of contradictory views, all the authors jointly discussed the issue to reach an agreement.

## Results

In this section, we first present Matti's and then Kari's cases via their narratives regarding how their teacher identity developed during the teaching practicum. The two cases are structured around the facilitators of change in their teacher identity development, which we identified as (1) critical reflection on their previous beliefs and practices, (2) successful teaching experiences, (3) positive student feedback, (4) positive peer feedback, and (5) planning and conducting their individual developmental projects. We provide data excerpts from two sources, which are labeled accordingly: Tp. when sourced from teaching portfolios and Int. when sourced from the interviews.

### The case of Matti: "I am applying all my research practices in my teaching."

Before Matti's university pedagogy studies, he was a full-time doctoral candidate for 4 years and later, a lecturer at university for few years. He was open about his failure in his first lecture at university some years ago given for a large crowd of students. "My lecture consisted of my own talk and the slides that I wrote. Afterwards, students criticized the lecture. I learnt the hard way" (Tp.).

As a part of the teaching practicum, the participants had to plan and conduct their own teaching development project related to designing an interactive Web-based learning-course. Before the practicum, Matti had negative views about Web-based learning as an effective learning method.

I was very skeptical toward Web-based learning. My opinion was that no one can ensure students' learning because the social contact is missing. ... It is possible to pass Web-based learning-courses without learning anything. (Int.)

In the development project, the central goal of the course was "to develop teaching practices by using new tools, like performances, videos and internet." During the project, Matti gained an insight: "students are different learners," "they are interested in different topics," and "they can be afraid of some activities." Understanding the diversity of the students promoted a change in his views. His beliefs about Web-based learning

changed in a significant way: “I learned that the use of Web-based learning can be successful.” (Int.)

Matti learned to use many new teaching methods during his course. He said:

The students organized a flash mob at the university. The idea was to explore how people in a public space react to unusual events. The video recordings of the performance were then analyzed, and they were used as data for the essays in the course assignments. (Tp.) The essays were very good, and I suggested to students that we could write one article about this and we did it. ... This means that we can try very wild experiments with student. ... I have never before dared to do anything like this. I [now] have the courage to do things, to try new things. ... I learned that I can successfully try out even the most creative methods. With the students you can try new things, which I have got from university pedagogy studies. When I compare this to the times when I was only lecturing, it's a big change. (Int.)

Not only did Matti experience success in using creative teaching methods, he also distanced himself from his former teacher self. The above excerpt illustrates Matti's reflexivity well; it shows how he reflected upon his new way of thinking about learning and teaching using new practices. What we could observe in his interview and writings is his self-confrontation—going back and forth between what was before and what is now. At the end of the course, Matti co-wrote an article for an international audience together with his students. He spoke about his success in teaching: “We also did a performance at university campus, and the topic was related to the central topics of the course; it was a great success. Students were very eager to participate in the performance” (Tp.).

The previous data excerpts show that the feelings of success had a significant impact on Matti's thinking and practices. The relationship between positive emotions and cognition seems to be central in the development of Matti's teacher identity. He said:

The student feedback has been positive, and many of the comments gave food for thought and development. I have been thanked for having a supportive, encouraging, and interactional learning atmosphere, as well as a positive attitude towards students. The course topics have been considered interesting and the teaching relevant. The feedback has also helped me redirect and change my teaching methods. I really enjoy working with students. When I get them to think and do things, nothing stops them. They are enormously enthusiastic and positive. (Int.)

The final sentences in Matti's reflection illustrate very well that the good relations with students are also central for the development of his teacher identity. He said:

The feedback I received from my mentor, I remember as a positive—the way I activated my students in a successful way, how I built a good interaction, and that my teacher theory and practice were well balanced. (Tp.)

In his teaching portfolio, Matti recalled “three successful teaching experiences” in his teaching practicum:

The first was related to a mass lecture. It went very well. I felt that students were interested in the content and that they were actively participating in the discussion. The second strong feeling of success I had after my lecture to my doctoral students. I could talk about a topic that I knew very well. I got good feedback from my students and colleagues. The third clear feeling of success I had after meet-



ing students in a seminar related to my Web-based course. I was using drama as a teaching method and it was a big success. (Tp.)

Matti summed up the role of university pedagogy studies and teaching practicum:

These studies completely changed my views. For me, this was an enormous change. I also have experienced a significant growth as a teacher. ...Through these studies I have been able to develop my theoretical thinking about education, pedagogy, and didactics and, most of all, to strengthen my identity as a university teacher; I have learned to reflect on myself as a teacher and to evaluate and develop my teaching methods. (Tp.)

Matti had the following vision for developing his teaching in the future:

I have in a successful way tried many different teaching methods, and I aim to use them in the future. My second vision is to involve students into the world of research in a stronger way. This can happen by writing articles with them. Of course, the role of research is central to teaching. My course is based on recent international research or my own research. Not only does research provide content, but I am applying all my research practices in my teaching, for example, giving constructive feedback [to students]. ... I've been terribly lucky because I've been able to do research for most of my university [career]. (Tp.)

We observed that Matti's researcher identity is very strong. He adopted an integrated relationship between research and teaching (Robertson, 2007) and reflects upon his teacher identity as a part of his research world. The research-teaching nexus plays a central role in his views and practices and has had a decisive role for the development of Matti's teacher identity.

### **The case of Kari: "Research-based teaching has a central role for my future."**

Kari began his work as a university teacher at the same time he started his studies in university pedagogy. Before, he had a full-time position as a doctoral candidate in a national doctoral student program where he often met top international researchers. Kari told us that participating in this program was a "significant learning experience." When doing his dissertation, he was also a part-time teacher in one course. He said:

I reformed the course greatly so that the content better suited students' needs and research-based teaching. I also had many positive experiences conducting Web-based courses. When I participated in one day university pedagogy training, before this wider university pedagogy studies, I got a very negative view what university pedagogy is. I was thinking that they are giving me a box of pedagogical tricks that have no role in a real teaching. (Tp.)

After the teaching practicum, Kari wrote in his teaching portfolio about the doubts he had toward university pedagogy studies:

I want to be honest and confess that I was very suspicious when I started university pedagogy studies and also the teaching practicum. I had deeply-rooted views that everyone can in their teaching use such a style that comes from his or her personality, and I was thinking that the goal of university pedagogy studies is to force-feed the participants only one teaching model that has been proved to be

right in [educational] science; how to do tricks. Nowadays, I see that my bias was quite funny, but I don't want to deny or be ashamed of the views that I had at the beginning. (Tp.)

In the interview, Kari told us how his negative views toward the teaching practicum changed:

We had to do detailed plans; the [teaching practicum] forced us to make those plans, and it took time. ... Now I am actively observing what is happening in my course, and I reflect on my own actions. Earlier, I have had the attitude that I only teach and don't care what is happening in the class. (Int.)

For Kari, one of the biggest changes was when he got an insight into how useful it is to invest effort into planning his teaching and to reflect on his own actions. This data excerpt indicates that the change has begun. As in Matti's case, Kari underwent some sort of self-confrontation, and his reflections demonstrated that he distanced himself from his former views. He felt that the teaching practicum widened his views of teaching and improved his views of himself as a teacher. Also, his writings and his interview displayed a great deal of reflexivity.

I was initially quite skeptical towards the use of the peer-feedback in my teaching, but I decided to try it, and it worked; I got students to become motivated to do oral presentations in small groups. Not all our students have been interested in doing oral presentations. The students listened to the other students' presentations and made peer reviews after that, and it worked well! ... One great feeling of success I got in my last lecture when I arranged a controversy/disputation discussion for students. I divided the class into the two parts for summing up the highlights of my lectures. Many students presented good arguments, and they could pick up central themes of the lectures. Part of the students even continued the discussion after the lecture, and one student said that this was the best experience that he has had at uni. This comment surely made me feel very good. (Int.)

Kari's beliefs about the use of student presentations and peer feedback changed, and he began to see them as useful. He also arranged a debate for students, and he was praised for it. The good relations with students were important for the development of his teacher identity. Kari told us about his success in teaching:

I base my optimism on the fact that I felt my course was a great success. There were many moments when I really felt the success. There were also some moments when I became aware that they were not as successful as they could have been, but I felt good because I noticed myself that this was not such a good idea. Then I decided that if I teach the same course later, I will develop something new. (Int.)

This data excerpt also shows that Kari reflected upon his teaching experiences, successful and less successful, and is committed to doing them differently in the future. The feelings of success had a big impact on Kari's thinking and practices, and the positive relationship between emotions and cognition seems to facilitate the development of his teacher identity.

About the feedback received, Kari said the following:

The feedback I have received has further strengthened my views that the naturalness of the teacher has a big role in the success of the interaction. Based on the feedback, I've made marked [improvements] to my pedagogical material, which is clearly vis-

ible the main goals and students' reactions. I see I am easily approachable for students. (Tp.)

Kari had a clear vision for his teaching in the future where research-based teaching plays a significant role. Kari's researcher identity is very strong and the relationship between research and teaching has a decisive role also for the development of his teacher identity:

Students' readiness to enter working life and research-based teaching have a central role when I am thinking about my own future and the future of my unit. In my new position in the next years, I can focus more on research, and this will promote my teacher identity. By doing research, I get new knowledge about the content that I can use in my teaching. Also, my research visits abroad give me options to observe different kinds of teaching and research practices. The continuation of my academic career will give me many more options to foreground my pedagogical views as a part of my unit's teaching philosophy. Although I feel that I have developed a lot as a teacher, it is clear that I still need to develop my teaching in many domains, especially when encouraging students to participate in lectures and seminars. (Tp.)

The data shows that Kari reflects not only about his future teacher identity, but he is also interested in helping other staff members in his unit develop their pedagogical views and practices. This displays the reflexivity of his writings, as he is not only reflecting upon his actions, but he is also reflecting upon his position in relation to others in his community.

## Discussion

This study examined two university lecturers' narratives regarding their identity development during the teaching practicum that was part of their pedagogical training. Matti's and Kari's backgrounds were similar; before university pedagogy training, Matti worked as a lecturer and earlier, he was full-time doctoral candidate. Similarly, Kari was finishing his studies in doctoral program but he also had alongside quite much teaching experience. Both Matti and Kari had initially presented biased views towards pedagogical training; however, throughout the training, and especially, via their own developmental project, they experienced many significant learning experiences and their views changed. One of the central reasons for the changes in their development were the feelings of success when applying innovative teaching methods.

Our findings are in line with earlier research, showing that pedagogical training can facilitate the development of academics' views of teaching and learning and their teaching competencies (Gibbs and Coffey 2004; Postareff et al. 2007), including the change in adopting more student-centered teaching approaches (Gibbs and Coffey 2004; Stes et al. 2010; Trautwein 2018). The change that Matti and Kari experienced was significant and evidenced in the way they distanced themselves from their former teacher identities and even criticized their former selves. This indicates that the change was significant, but also, that their reflective skills had developed (see also, Kram 2010; Nevgi and Löffström 2015). Both Matti and Kari presented an optimistic future orientation as teachers. While Matti focused mainly on reflecting upon himself and his students, Kari included a focus on influencing the pedagogical beliefs and practices in his research community. Arguably, as suggested by Lankveld et al. (2017), their teacher identities were strengthened because they were able to imagine their future career trajectories as teachers. The strong commitment to students also shaped their teacher identities.

Matti's and Kari's narratives displayed the following facilitators of change in their teacher identity: (1) critical reflection on their previous beliefs and practices (Korhonen and Törmä 2016; Nevgi and Löfström 2015), (2) successful teaching experiences (Archer 2008), (3) positive student feedback (see also Lutovac et al. 2017), (4) positive peer feedback (LankVeld et al. 2017), and (5) planning and conducting individual developmental projects. While the first four facilitators have been identified in some earlier studies, the fifth facilitator has not been addressed, and has, arguably, a significant role in the development of academics' teacher identity. The narrative nature of this study alongside Matti's and Kari's authentic voices contributes greatly to the body of knowledge on academics' pedagogical training by explicating the impact of the developmental project for academics' teacher identity development.

With regard to various phases of teacher identity development identified in the literature, Matti and Kari could be placed in the developmental phase, "learning for understanding and growth with an emphasis on reflectivity and theories of learning to understand practice" (see Stewart 2014). Similarly, they displayed qualities that place them in a professional development phase of an "increase in understanding of what works and what does not in order to become more effective in facilitating student learning" (see Åkerlind 2007). According to Korhonen and Törmä's (2016) model, they would be considered "development-oriented" teachers, meaning that they focus on self-development related to disciplinary expertise, growth as human beings, and retaining the attitude that teaching is meaningful. On the other hand, Matti's and Kari's narratives displayed some aspects that were not addressed in the research literature on academics' identity development (see Åkerlind 2007; Nevgi and Löfström 2015; Trautwein 2018). Namely, we identified a relational phase in academics' teacher identity development, which is understood as one of the later phases, emphasizing the relationship between emotions and cognition, between lecturers and students, and between teaching and research. These three clusters played a significant role in teacher identity development of our participants, as they have all been directly or indirectly targeted via teaching practicum and the developmental project as part of it.

In the relational phase, reflexivity plays a crucial role. Reflexivity has been understood as a relational construct and, according to Archer (2007), defined as "the regular exercise of the mental ability, shared by all normal people, to consider themselves in relation to their (social contexts) and vice versa" (p. 4). This definition highlights the inherent relationality in the construct. Similarly, Martin (2005) argued that reflexivity only arises "through interactions with others within an ongoing social process" (p. 235). Reflexivity can also be understood as self-confrontation (Beck et al. 1994), and thus, it differs from reflection. Matti's and Kari's cases support the idea that reflexivity is particularly important in understanding identity (Westaway 2019). Both participants' reflective work during the training displayed how, with the power of reflexivity, they were able to make decisions regarding their teaching development and teaching itself. An important part of the relational phase of one's development is the participants' goal to impact pedagogical beliefs and practices in their academic communities. This phase also suggests that academics experience feelings of success regarding teaching, and they openly share those feelings. They adopt a strong optimistic future orientation and use self-development talk (Korhonen and Törmä 2016). In terms of emotions, they tend to experience upward emotional spirals (Lutovac et al. 2017).

One of the central relational practices in this phase of development is, arguably, a research-teaching nexus. Although it has been considered vital in academic excellence, the relationship between teaching and research has often been filled with conflict and tension (van LankVeld et al. 2017), and the literature on teacher identity development has, thus far, neglected this nexus. Our findings, however, demonstrate that the research-teaching nexus

was especially important to our participants. They adopted a view that integrates research and teaching (see also, Robertson 2007). They reflected upon their teacher identity as a part of their academic work forming a tight bond with their research work. For example, when we asked about their growth as academics, they spontaneously gave examples from both teaching and research (see also Åkerlind 2011). Matti and Kari also involved their students in joint research (see also, van Winkel et al. 2017). Hence, in the relational phase, we suggest that both teacher and researcher identities are strong, linked to each other, and balanced. The teaching practices of our participants supported this idea, as they subscribed to research-based teaching.

In response to the recommendation of van Lankveld et al. (2017) to examine whether interventions can help academics relate various identities, such as teacher and researcher, our findings show that the teaching practicum, and especially its individual developmental project, assisted our participants in reaching the relational phase discussed above. We note here that we do not claim that the relational phase in one's teacher identity development could not be reached via other means; however, we believe that the teaching practicum provided a safe environment, encouragement, and time to test various teaching approaches and activities. Often, academics lack the time or courage to test the ideas they may have regarding teaching; however, as the teaching practicum was a mandatory part of their pedagogical training, the time for testing out new ideas was already allocated. Additionally, during the practicum, participants were provided with guidance and support from the instructor as well as their peers. We noticed that one successful teaching experiment was enough to trigger open-mindedness and willingness for further experimentation. This also indicates that the teaching practicum as part of pedagogical training not only directs but also speeds up the process of one's development.

Our study also contributes theoretically to the understanding of academics' teacher identity development and to academics' work in general. We argue that academics' teacher identity, especially when it comes to research-intensive universities, needs redefinition. In doing so, the relational nature of the concept and the role of the research-teaching nexus needs to be taken into account. Arguably, academics' teacher identity development is a holistic process (see Åkerlind 2011; Korhonen and Törmä 2016). It is also a highly relational process in which the relations between teaching and research, emotions and cognition, and lecturers and students play a key role. The research-teaching nexus, especially integrating teaching and research, is a component that strongly shapes academics' teacher identity. In this process, it is important to coordinate psychological and social aspects and consider the role of both academics' teaching and research communities. As our cases displayed, reflexivity in the form of one's re-evaluation of teaching and research practices, plays a central role in the process. Also, identification of developmental challenges and goals and the construction of alternative practices facilitate the development (Korhonen and Törmä 2016).

Given the small-scale nature of this study, we are cautious about generalizing our findings to other academics and the contexts in which they work. Arguably, more research is needed in order to understand the complex relation between academics' teacher identity and the research-teaching nexus. However, the two cases addressed here are rather typical in research-intensive universities, and together with the "before and after" analysis presented here give other academics the opportunity to relate with their stories. The detailed insight into our cases and the explanations of how their identity developed will hopefully satisfy the researchers, instructors in university pedagogy training, and other stakeholders involved in higher education policy to understand how change can be induced to support academics' development.

## Conclusion

This study highlights the need to consider the research-teaching nexus in studies on teacher identity development, as well as in pedagogical training for academics. While it may give research and teaching equal weight, it may also break the divide between research and teaching. This can help academics “create more coherent narratives that bound their changing practices as researchers with their changing practices as teachers” (Mathieson 2019, p. 804). The redefinition of academics’ teacher identity provided in this study importantly contributes to future research as it can impact how this construct will be investigated in the future. In order to best facilitate academics’ holistic teacher-researcher development, we suggest that higher education policy makers consider including developmental projects or action research as part of academics’ pedagogical practice in the provided trainings.

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## Compliance with ethical standards

**Conflict of interest** The authors declare they have no conflict of interest.

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