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‘Those who fail should not be teachers’: Pre-service Teachers’ Understandings of Failure and Teacher Identity Development

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ABSTRACT

Personal experiences and histories shape teacher identities to a great extent. In the domain of personal experience, however, little is known about how experiences of failure shape the process of becoming a teacher. Gaining this insight, however, is important as failure may define teachers and their work, which can further undermine their resilience. This study examines how 45 pre-service subject teachers make sense of failure with regards to their identity as teachers. The findings reveal various understandings of failure, from both learner and teacher perspective and pre-service teachers’ understanding that the relation between learner and teacher failure is inextricable. Failure is seen as a non-dismissible aspect in their future work as teachers. These findings suggest that experiences and resulting understandings of failure need to be acknowledged as a vital component of teacher education pedagogies in order to assist pre-service teachers in the development of their teacher identity.

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Introduction

Teacher identity has been under scrutiny for a good couple of decades and for a good reason: ‘What teachers do cannot be distinguished from who they are’ (Banner and Cannon 1997, 43). The process of developing a teacher identity has been greatly explored in initial teacher education of both class and subject teachers (Flores 2020; McKay 2019; Lee and Schallert 2014; Timoštšuk and Ugaste 2010). While much is known about teacher identity development, Lee and Schallert (2016) observed that ‘it is not clear which aspects are relevant and to what extent these aspects are integrated in such identity development’ (77). Additionally, Flores (2020) recently highlighted the need to explore further the variety of influences on teacher identity during initial teacher education in order to better support the process of becoming a teacher. Despite the vast research, teacher identity remains ‘of vital concern to teacher education; it is the basis of meaning making and decision making’ (Bullough 1997, 21).

Several literature reviews on identity have emphasised personal experiences and histories as major influences on teacher identities (Izadinia 2013; Beauchamp and Thomas 2009; Beijaard, Meijer, and Verloop 2004). However, within the realm of personal

experience, the experiences of failure and personal understandings of it have thus far been scarcely explored (Lutovac 2019; Danyluk et al. 2020). As a result, we know little about how pre-service teachers make sense of failure or how they come to understand it. Moreover, we know even less about how experiences of failure shape their process of becoming a teacher (Lutovac 2020). Gaining insight into preservice teachers' understandings of failure in relation to the construction of their identity is necessary as experiences of failure have the power to define how teachers see themselves and their work alongside of other implicit theories they have about teaching and learning and being a teacher. The ways failure shapes teacher identity may further influence how future teachers communicate to their students what failure is and how to deal with it, and in turn will shape students' learning experiences (Dweck 2006). Arguably, addressing experiences and personal understandings of failure in initial teacher education is needed to promote pre-service teachers' reflective thinking, emotional wellbeing and resilience, hence, preparing them for the demands of teacher's work (McKay 2019).

In this study, we examined 45 Portuguese pre-service subject teachers' understandings of what failure is and how it affects their teacher identity. This study adds to the line of research addressing the relationship between personal experiences and teacher identity development during initial teacher education, and it significantly contributes to the body of knowledge by tapping into experiences of failure. The research question guiding this study was: How do pre-service teachers make sense of failure with regards to their identity as teachers?

Teacher identity in initial teacher education

Initial teacher education is a setting where teacher identities emerge (Izadinia 2013) and a setting that, arguably, needs to place emphasis on identity development in order to prepare future teachers for the complexities of the teaching profession (McKay 2019; Timoštsuk and Ugaste 2010). What makes teacher identity of utmost importance is its link to teaching practice and continuous professional development (Izadinia 2013; Beijaard, Meijer, and Verloop 2004). Teacher identity has also been recognised as playing a vital role when future teachers experience the transition from initial teacher education into the teaching profession (Beauchamp and Thomas 2009; Flores and Day 2006).

The ways teacher identity is understood and defined varies greatly (Izadinia 2013; Beauchamp and Thomas 2009; Beijaard, Meijer, and Verloop 2004). While there is no consensus on the definition of the concept, researchers agree that teacher identities are multiple and continuously developing under various internal and external influences, including time, contexts and relations (Beijaard, Meijer, and Verloop 2004; Flores and Day 2006; Sachs 2005). Teacher identity, in this study, is understood as constructed via narratives, such as autobiographical stories, implying its psychological as well as social nature (Smith and Sparkes 2008). Becoming a teacher then is a process of coordinating past, present and future selves in the narratives pre-service teachers tell about their experiences of learning and teaching and themselves as learners and teachers (Lee and Schallert 2016; Lutovac and Kaasila 2014, 2018). It is through reflection in constructing the narratives that pre-service teachers make sense of their experience and begin to understand themselves as teachers (Walkington 2005) through the interplay between the personal and the professional (Flores 2001; Beijaard and Meijer 2017). Building on Lee

and Schallert (2016), we see that developing a teacher identity during initial teacher education also involves shifting between perspectives or identities of a learner and teacher (Flores 2020), and that developing a teacher identity is an all-encompassing process of gaining understanding of oneself as a teacher, but also developing one's pedagogical and relational views pertaining to teacher's work, professional values, and beliefs about teaching and learning (Flores and Day 2006; Beijaard, Meijer, and Verloop 2004; Timoštšuk and Ugaste 2010). Arguably, as acknowledged by Sachs (2005), teacher identity is a powerful interpretative framework within which teachers develop their own ideas regarding the teaching profession.

A vast body of research on pre-service teachers' identity and its development has, according to Izadinia (2013), provided contributions on the reflective work and learning communities needed for developing a teacher identity, as well as on the experiences and contexts that shape these identities. It is the personal experiences that we focus on in this study as pre-service teacher identities are greatly shaped by these, even well before initial teacher education. These experiences have a pervasive power, and their impact on teacher identities may be greater than the one of teacher education (Flores and Day 2006; Miller and Shifflet 2016). Experiences as learners shape the way pre-service teachers relate with the subject they will be teaching (Lutovac and Kaasila 2014, Lutovac 2019) and who pre-service teachers want to be in the future or their ideal teacher identities (Pellikka, Lutovac, and Kaasila 2020; Lee and Schallert 2016; Miller and Shifflet 2016; Furlong 2013). As such, exploring these experiences and pre-service teachers' beliefs or implicit theories formed upon them, as well as the tensions that may arise through the interplay of internal and external forces (including the contexts of teaching and learning) is crucial in understanding identity development (Beijaard and Meijer 2017).

Teacher identity and experiences of failure

Failure as an experience and how pre-service teachers make sense of it has been an underexplored area of research. A couple of recent studies have revealed that pre-service teachers understand failure as personal and subjective (Lutovac 2019) and that failure shapes pre-service teachers' future-oriented identities – possible selves in various ways, such as pre-service teachers' traits and instructional strategies as future teachers, their views of students' strategies for dealing with failure and pre-service teachers' self-development (Lutovac 2020). In addition, the factors that lead pre-service teachers to fail teaching practicum and how resilient the pre-service teachers are with respect to becoming a teacher have also been explored (Danyluk et al. 2020).

If we are to understand pre-service teachers' sense-making of failure experiences, the theory of mindset, and the concepts of resilience and identity need to be considered and may provide powerful explanation. The ways pre-service teachers come to understand their failure experiences are determined by their mindsets – 'implicit theories about the malleability of human characteristics' (Yeager and Dweck 2012, 302). Mindset theory (Dweck 2006) explains that people are seen as holding a growth mindset, when they see that success depends on invested effort and that setbacks are opportunities to learn. On the other hand, if one holds a fixed mindset, one usually believes in innate ability, understands failure as a shortcoming, and in turn, allows failure to define himself/herself. In such mindset, therefore, there is no room for failure or growth. Research also suggests

that fixed mindset may enhance vulnerabilities and growth mindset was found to promote resilience (Yeager and Dweck 2012).

Moreover, pre-service teachers' understandings of failure play an important role in resilience and are crucial for their professional identity. Flores (2018) argued that issues of commitment and professional identity are tightly linked to resilience in the teaching profession, while Izadinia (2015) suggested that for teachers to display strong teacher identity, sustained resilience is needed. Day (2018) suggests that resilience is a component of teacher identity that implies an active role of a teacher in the face of various demands, influences and adversities (e.g. failure), and if teachers can respond to adversities, they will be able to form and sustain a strong identity. Lutovac (2019) showed that there is an interplay between failure and identity which is important for understanding resilience as an adaptive process in the face of failure that allows pre-service teachers 'to maintain their identities and continue learning, developing and changing'. (243).

Nevertheless, identity work, i.e. intentional reflective work on teacher identities is needed to develop a strong identity and initial teacher education plays a vital role in assisting this process (Lutovac and Kaasila 2014, 2018; McKay 2019; Timoštšuk and Ugaste 2010; Beauchamp and Thomas 2009). Given that the implicit theories or mindsets shape one's interpretations and reactions to experiences, such as failure, pre-service teachers need to establish a growth mindset which will promote their resilience (Lutovac 2019; Dweck 2006; Yeager and Dweck 2012) and help them develop a strong teacher identity. Arguably, pre-service teachers need to gain understanding that failure is an important aspect of teachers' work that needs to be reflected upon and learned from. Such reflection is particularly beneficial when it includes both, thinking like a teacher and a student (or a learner) and therefore shifting between these perspectives in order to develop a teacher identity (Lee and Schallert 2016; Flores 2020). Thus, reflecting on experiences of failure from various perspectives is key to better understand how one looks at failure in the (future) profession (both pupil and teacher failure) and on how pedagogical choices, including in regard to assessment, are made.

Methodology

Research goal and data collection

Our earlier work explored pre-service elementary school and pre-service mathematics teachers' failure experiences in mathematics and in the Finnish teacher education context (Lutovac 2019, 2020). In this study, we widened our scope, examining experiences of failure among 45 Portuguese pre-service subject teachers of History, Mathematics, Portuguese language, and Biology and Geology. They all were in the first semester of their first-year master's degree programmes and had not yet undergone their teaching practicums. Some pre-service teachers, however, did have some teaching experience, mostly related to working as student tutors in study centres. Most of the participants are female between 21 and 25 years of age. These pre-service teachers will be qualified to teach their respective subjects in lower- and upper secondary school. Table 1 displays the demographic characteristics of the participants in the study.

Table 1. Participants' demographic characteristics.

Demographic characteristics	N
Gender	
Female	33
Male	12
Age	27
21–25	9
26–30	6
31–35	2
36–39	
Field of study	
History	18
Mathematics	11
Portuguese language	8
Biology and geology	8

As part of the wider project on narrated failure (Academy of Finland), data were collected in the final lesson of the course Curriculum and Assessment, a cross-curricular component of all Master's degree in Teaching. The course is compulsory for all future teachers and it lasts for one semester (45 hours in total). The course focused on issues of curriculum design and curriculum theory, on the role of the teacher in curriculum development, on assessment theory, functions and methods as well as on the legal framework underpinning the work of teachers in regard to curriculum and assessment. The course is located in year 1 semester 1 of the Master's degree and provided pre-service teachers with opportunities for reflection on various aspects of teacher's work in order to build their professional knowledge and support their pedagogical choices as well as their professional development. Pre-service teachers in question were also familiar with the concept of teacher identity and its relevance for their future work. In collecting the data, ethical considerations and protocol were taken into account, namely issues of confidentiality, informed consent and participants' rights. The participants were informed about the purposes of data collection and their participation was voluntary and anonymous. As the task devised to pre-service teachers was not an obligatory part of the coursework, they had the possibility to not return it. The situatedness of the data collection in this course also fulfilled the pedagogical purpose, which was to promote the pre-service teachers' reflection upon personal experience to assist them in identity development as teachers. Pre-service teachers were used to reflect on their experience as students and future teachers as one assignment of the course consists of the development of a portfolio.

We collected written narrative data, which was an additional task for them (not included in the production of their portfolio), asking pre-service teachers' to provide a brief reflection upon the following questions: (1) How do I, as a university student, understand (or experience) failure in my subject? (2) As a future teacher, how do I understand my students' failure in my subject and how does this affect my teacher identity? (3) As a future teacher, how do I understand my own failure as a teacher and how does this affect my teacher identity? Most pre-service teachers addressed each question separately, however some provided one collective answer to the three questions. The questions were purposively designed to require various perspective taking, for example,

that of a pre-service teacher, that of a teacher and that of a student (see also Lee and Schallert 2016; Flores 2020).

Data analysis

Narrative approach with its holistic and categorical aspects was applied to analysis of the data (Lieblich, Tuval-Mashiach, and Zilber 1998). The data was first read through in a holistic manner in order to get an overall idea of the kind of understandings pre-service teachers have of failure and how they see it might affect their teacher identity. The holistic reading revealed that some pre-service teachers' understandings of failure reflected more a learner's perspective and others' more a teacher's perspective. To establish the categories of understandings of failure, we turned to a categorical approach to data analysis. The participants' responses were coded in terms of the emerging themes. In coding the writings, each writing was read as a whole, which means that we tried to understand what the students communicated about the failure overall, rather than looking at their responses to the three questions separately. This decision was data-driven as the first holistic reading of the data revealed that pre-service teachers presented more or less uniform and coherent understandings of failure across all three questions, and hence perspectives. This means that their understandings of failure as pre-service teachers, as teachers in the future, as well as of learner failure were similar. The analysis yielded five categories of the participants' understandings of failure. In addition, we examined the data in terms of how participants see the relationship between learner and teacher failure, and how this affects them as teachers. In this process, we identified four categories, all entwining learner and teacher failure. Pre-service teachers' accounts could include the responses that belonged to more than one category, which is reflected in the frequency count. Additionally, in five writings, the understanding of failure was unclear and in three writings, the relation between learner and teacher failure, therefore, we excluded these from the categorisation and the count.

Findings

In this section, we first present pre-service teachers' understandings of failure from the learners' and teacher's perspectives and then we move onto addressing how pre-service teachers understand the relation between learner and teacher failure. These issues will display the link between experiences of failure and teacher identity and help us further discuss the matter.

Pre-service teachers' understandings of failure

We identified five categories of pre-service teachers' understandings of failure, three that take the learners' perspective and two that focus on the teachers' perspective (Table 2).

Pre-service teachers' understandings of failure from the learners' perspective

Pre-service teachers' understandings of failure from the learners' perspective tap into learners' lack of motivation to learn, learners' negative views or preconceptions of the subject and learners' lack of interest, all as the reasons for failure.

Table 2. Pre-service teachers' understanding of failure.

	Categories	Descriptor	N = 40
Lerner perspective	Failure related to motivation and affect	Lack of motivation to learn, negative views or preconceptions of the subject, lack of interest and giving up	11
	Failure related to goals, performance and achievement	Unmet goals, not achieving expected learning and test-related underachievement	9
	Failure related to learning (skills) and habits	Not studying enough or not devoting enough time for learning	7
Teacher perspective	Failure related to teaching and teacher's work	Poor teaching approach and working conditions	16
	Failure related to change and development	Failure as learning, a motivation for teacher change and a stimulus for development	5

Much of the time the failure in my subject is related to the lack of interest from the part of the students from the very beginning. When students start their schooling, they already have the idea that math is complex. This idea comes from home. (P15, mathematics)

Students have preconceptions about the subjects. They think they are very complex. I think teachers have to start making the content simpler. (P21, biology and geology)

In addition, failure was also described as learner's not reaching the goals and expected learning and underachieving in test-related situations.

I see failure as something that was not achieved. It means failure equals goals that are not met. I feel students' failure when they are not motivated and grades are not as expected. (P12, mathematics)

Failure in Portuguese means failing in external, summative assessment. This makes Portuguese an important subject, but it has gone through lack of valorisation. The teachers are not valued, and it is difficult to manage student misbehaviours in the class. Failure is a result of the teaching profession not being valued and students know this, so they do not look at the subject seriously. (P33, Portuguese language)

As seen in the above example, some accounts of failure resulted in reflection upon broader societal matters, such as the value of teaching profession, and how these may present themselves in the classrooms. Pre-service teachers displayed the ability to think about complex matters and find connections between distinct, but related issues.

References were also made to the learner's lack of learning skills and habits, such as learners not studying enough or not devoting enough time for learning as seen in the following examples.

Students fear asking questions and they lack study habits. Their failure may affect my identity if they have negative grades. (P6, mathematics)

For me, the failure in my subject is associated with the lack of time devoted to my subject. So, I should devote more time to the subject. (P13, mathematics)

The understandings of failure from learners' perspective demonstrated that pre-service teachers thought about learners' failure from the standpoint of their own personal experience as students, but also from the standpoint of 'envisioned' students, those they will teach in the future. In conjunction with reflection upon learner's failure, what

it is and why it occurs, reflections upon learning and teaching approaches surfaced in the accounts of failure and, hence, what is needed to tackle failure in the classroom by both, learners and teachers. By making sense of their prior experiences of learning and failure, they were able to identify where the problem lies, as well as propose a solution to it. What this tells us about their developing teacher identity is that the ability to focus on the learners plays a vital part in this process (see also Lutovac 2020).

Pre-service teachers' understandings of failure from the teachers' perspective

Taking teacher perspective, preservice teachers' understandings of failure described failure by frequent references to the teacher's poor teaching approach, and poor working conditions.

Failure of my students only shows that my work as a teacher was not done properly. So, I have to find other ways of improving and make them learn. (P3, history)

My student's failure means that I need to improve my pedagogical practices and to reflect on where I have failed. (P24, biology and geology)

For some pre-service teachers, as seen above, failure is a clear sign of teacher's inadequate pedagogical approach and they expressed that this situation will compel them to reflect on their practices and ways of improving them.

Some understandings of failure also portrayed failure as learning, as something common and acceptable, and most importantly, as a motivation for teacher change and a stimulus for development. Pre-service teachers were of the opinion that failure actually supports their personal development and growth as teachers.

If there is failure, it means that something went wrong. It affects my identity as a teacher because you are expected that your work will get positive results. Failure must be the stimulus to change your teaching methods. (P38, Portuguese language)

Failure is a part of the process of the training, development. Failure does not affect my identity, but it makes me empathetic in relation to my students' difficulties. Because you are always learning, a failure needs to be understood as a way of progressing, improving. (P44, history)

As seen in the above examples, some pre-service teachers might feel that failure affects who they are as teachers as there are external expectations to succeed imposed on them, others, however, do not feel personally affected by failure, but they find that failure may influence and change the relations and interaction with their students. These pre-service teachers' understandings of failure from the teachers' perspective demonstrate that these understandings are significant to their future practices and their ongoing professional learning.

In reflecting upon failure in terms of their developing teacher identity, pre-service teachers see 'themselves as lifelong learners on a continual journey to becoming a good teacher' (Lee and Schallert 2016, 82). Both perspectives in the accounts, learner and teacher, suggest that in developing a teacher identity, the ability to think like a student and a teacher invites consideration of learning and teaching approaches as well as other important foci such as dispositions, beliefs and ways of operating.

Pre-service teachers' understanding of the relation between learner and teacher failure

Most pre-service teachers see the failure of their future students and their own failure as teachers entwined. This was observed in data examples on understandings of failure from the teacher's perspective (e.g. 'my students' failure means that I need to improve'). We further exemplify four different types of entwinement in the identified categories regarding how learner and teacher failure relate (Table 3).

Table 3. How do learner and teacher failure relate?.

Categories	N = 42
'I have to improve my teaching in order to deal with failure'	19
'Failure helps me grow and develop as a teacher'	11
'Learners' failure is my failure and vice versa'	9
'I should not allow myself to fail as a teacher'	5

'I have to improve my teaching in order to deal with failure' was the most frequent category, wherein pre-service teachers saw that, as teachers, they would be partially responsible for learners' failure, recognising there might be a need to revise teaching approaches and strategies. Motivating students with better teaching approaches was strongly present in the data.

I perfectly understand the failure in my subject because the students usually have a negative image of mathematics. The teachers should use tools in order to motivate students. I try to use my own mistakes in order to avoid students to make the same kind of mistakes. (P5, mathematics)

If my students fail, I have to try to find ways of helping them. I will probably be disappointed, but I cannot give up and have to try to do my best. If I continue to fail, I will be disappointed with myself and my abilities. However, I know that I am able to do better and for this reason, I need to overcome this feeling. (P16, history)

As seen above, in terms of their teacher identity, most pre-service teachers recognise that students' failure affects them as teachers. While some say it does affect their identity, others report it does not, but it still makes them reflect upon their teaching and the need to change their teaching if necessary.

Compared to other categories, the unique aspect of the category *'Failure helps me grow and develop as a teacher'* is that pre-service teachers also explicitly refer to failure helping them develop their teaching and/or themselves as teachers. Two of the participants said:

As a future teacher, I think that in the face of [my students'] difficulties, I need to use a variety of teaching approaches in the classroom. My failure as a teacher is temporary, a step that is going to help me to develop as a teacher. (P14, mathematics)

Failure should not be understood as a barrier. It should be seen as a stimulus for improvement and progress. I understand my students' failure the same way. But in this case, I can help my students to progress and develop. My failure as a teacher helps me to reflect and to analyse in order to be better prepared in terms of the content, but also emotionally. My failure will help me to be always the best I can. (P45, history)

Additionally, pre-service teachers spoke about learning from errors and failure, about overcoming failure, as well as being analytical and reflective with respect to their own and/or learners' experiences of failure. This category is also directly linked to the understanding of failure as related to teacher change and development.

'Learners' failure is my failure and vice versa' resembles the first category in terms of pre-service teachers acknowledging they need to revise their teaching in case of learners' failure; however, it differs from others as it includes explicit statements of learners' failure demonstrating that the teacher has failed in his/her work. In turn, teacher failure is directly linked to learners' failure as two participants said:

Student failure is my own failure due to my inability to teach in the way that they would learn the content. My failure as a teacher is directly linked to the failure of my students. This will make me reorganise my teaching in order to make them learn better. (P1, history)

[The] failure of my students only shows that my work as a teacher was not done properly. So, I have to find other ways of improving and make them learn. As a teacher I have a huge responsibility because if I experience failure so will my students. This failure does not affect my identity, but I need to search for other ways of teaching. (P3, history)

The category *'I should not allow myself to fail as a teacher'* displayed that some pre-service teachers felt so strongly responsible for learners' experiences of failure and success that they expressed the possibility of quitting the profession should they fail as teachers.

If I fail as a teacher, it is because I am not a good teacher, and I need to rethink my profession. (P20, biology and geology)

I understand failure as my lack of capacity to support my students in the construction of knowledge, both substantive and metacognitive. If this happens, it means that I have failed. If I could not overcome my difficulties as a teacher, I would change my profession. (P43, history)

Failure will only exist if the teacher is not competent, committed and motivated. If I fail, due to the conditions that I could control, it will affect severely my identity as a teacher. (P42, Portuguese language)

As seen in above examples, pre-service teachers also reported that failure as teachers and the failure of learners affect them deeply. They insinuated that failure as a teacher is unacceptable.

Collectively, these categories displayed a strong sense of responsibility for learners' failures. The foci of the accounts were not on blaming students, but on exploring what teachers can do. The analysis of pre-service teachers' writings in terms of their understandings of the relation between learner and teacher failure tells us that pre-service teachers see this relation as inextricable and it is this specific relation that defines them, that makes them see themselves as teachers in particular ways. This relation raised self-concerns about the adequacy to be a teacher, motives and commitment to the profession and the need to strive for development and growth as teachers (Flores 2020).

Discussion

In this study, we examined 45 pre-service teachers' writings that reflected upon failure. The accounts revealed various categories related to how these pre-service teachers understand failure, as well as how they understand the relationship between learners'

and teachers' failures. In what follows, we highlight some observations stemming from our findings.

Various categories of understandings of failure showed that pre-service teachers make sense of failure via teacher and learner perspectives, which tells us that both perspectives are deeply entwined in the process of developing a teacher identity to the extent that it is difficult to consider one without the other (Flores 2020; Lee and Schallert 2016; Zimmermann, Flavier, and Méard 2012). The understandings of failure also demonstrated that pre-service teachers' developing teacher identity encompasses a variety of aspects, such as how pre-service teachers see themselves as learners and teachers, the ways they see teaching, learning and their future students as well as the social context of teaching and learning (Lutovac and Kaasila 2014). Conceptions of teaching and learning were therefore integrated in this process, meaning that reflections upon own experience and oneself naturally triggered reflections upon teaching and learning, and vice versa (Lee and Schallert 2016).

While various understandings of failure were identified, it was surprising that failure was not understood as something particularly negative. Some categories actually revealed quite the opposite – that failure may be an important signal to teachers to address and change their ways of working. Furthermore, this beneficial aspect of failure was also acknowledged when pre-service teachers wrote about failure being necessary for one's development. Overall, the writings about failure portray a picture of self-development, improvement, and teachers' self-imposed accountability. This suggests that these pre-service teachers hold a growth mindset, which is crucial for pre-service teachers' resilience (Dweck 2006; Yeager and Dweck 2012). The connection between understandings of failure and the development of teacher identity and resilience entails the ability not only to make sense of own experiences incorporating them in a developing repertoire of knowledge but also to mobilise them in the process of becoming a teacher by developing a set of professional values. This is in line with earlier research which shows the impact of professional, individual and relational conditions on resilience and identity development (Pearce and Morrison 2011) and its multidimensional features, including the emotional (managing emotions, enjoying teaching, etc.), the profession-related (commitment to students, being reflective and flexible, etc.), the motivational (motivation and enthusiasm, being positive and optimistic, etc.) and the social (interactions with students and colleagues, interpersonal and communication skills, etc.) (Mansfield et al. 2012). Building resilience in preservice teachers' experience is, therefore, to be related, amongst other features, to opportunities for peer support; explicit teaching of particular skills and attitudes; and adoption of particular roles by pre-service teachers, mentors at school and university supervisors (Le Cornu 2009).

What could present itself as a concern, however, is the category 'I should not allow myself to fail as a teacher'. While it shows a strong commitment to the teaching profession and teacher's accountability for learners' failure, which was associated with growth mindset (Patterson, Kravchenko, Chen-Bouk and Kelley 2016), it could also signal that pre-service teachers understand failure in terms of *being* a failure as a teacher. Such beliefs of oneself and identifications with failure – allowing failure to define one's identity (Lutovac 2019), paired with the references about quitting the profession in case of failure, could also signal that pre-service teachers hold a fixed mindset (e.g., 'I am who I am and cannot do anything to improve') which may in fact undermine their resilience. Hence, too much

of accountability for learners' failure could be potentially problematic and detrimental to teacher resilience, however, this calls for further examination. As a multidimensional, socially constructed concept, resilience is situated in the discourse of teaching as emotional practice and it is relative, dynamic and developmental in nature (Gu and Day 2007).

While we examined various subject teachers' understandings of failure, we observed the universality in these understandings. Our data showed that regardless of the subject discipline, how pre-service teachers understand failure and the meaning it gives to their teacher identity and their work as teachers appears to be similar. Both, the five categories regarding understandings of failure from two different perspectives and four categories regarding understanding of the relation between learner and teacher failure were identified across all subject domains. The accounts that pre-service teachers in question provided appeared not to be subject-specific but rather general and carrying a similar message across the subject disciplines. It appears, therefore that different subject teachers may have similar understandings of failure, and that their sense-making process in terms of failure and teacher identity is very similar. This was also noted by Lutovac (2020) when comparing Finnish pre-service elementary school and pre-service mathematics teachers and found that the two cohorts' identity development with respect to their experiences of failure was similar. That said, while subject discipline might not have played a great role in this study, these pre-service teachers' current teacher identities are shaped by the various experiences and teacher education context in which they partake, which provide a particular understanding of failure. Further research, however, is needed to explain the role of the various teacher education contexts on pre-service teachers' sense-making of failure in relation to their developing identity as teachers.

Our findings on pre-service teachers' understandings of the relation between learner and teacher failure as inextricable suggests that this relation may be one of the defining aspects in terms of their developing teacher identity. Namely, this was considered in all pre-service teachers' accounts. When pre-service teachers reflected upon learner's failure and the reasons for it, they also linked it to their own failure as teachers and how they could possibly prevent it or handle it. For example, utterances such as 'Student failure is my own failure' or 'Failure of my students shows that my work as a teacher was not done properly' were particularly informative about their identity development. It is through sense-making of the relations between learner and teacher failure that pre-service teachers made sense of themselves as teachers and reached conclusions about the possible strategies needed to become the kinds of teachers they want to be in the future (see also, Lutovac 2020). This was evident in examples such as 'I need to improve my pedagogical practices' and 'I have to reflect and analyse to be better prepared'. Understanding failure is thus not only a non-dismissible aspect in their future work as teachers, but an important source of identification regarding what kind of teacher one aspires to be, and moreover, who can or cannot be a teacher. As one pre-service teacher wrote: 'Those who fail should not be teachers'. In all, the way pre-service teachers came to understand failure, is a vital part of their process of becoming a teacher and how they see themselves and how they plan to act as teachers in the future.

In terms of teacher identity and its development, our findings revealed important reflective foci that emerged from the writings on failure, such as issues of teacher commitment, dedication, care, decision making, teacher actions and self-development (Flores 2020). This suggests that initiating reflection upon experiences

of failure may offer a wide range of possibilities for pre-service teachers to tap into in order to assist them in developing as teachers. These issues have also been highlighted as central for teachers to maintain their motivation over time as well as resilience and teacher retention (Flores 2018; Carrillo and Flores 2018). Therefore, it appears that sense making of failure experiences provides opportunities for intentional identity work in teacher education (Lutovac and Kaasila 2014, 2018; McKay 2019).

While the matter of failure-related emotions exceeds the scope of this paper, some writings made explicit references to emotions, such as frustration and disappointment. These were identified as the key emotions, followed by sadness, unease and doubt. Surprisingly, the fear of failure, which has been recognised as a common emotion in higher education setting (Pekrun, Elliot, and Maier 2006), was not mentioned. This suggests the need to broaden the knowledge on failure-related emotions, particularly the emotions that emerge from the qualitative data.

Implications for teacher education

Our findings present some implications for teacher education. There appears to be a need to use reflection upon experiences of failure, for example, how failure might present itself in the future classroom and how it might affect one as a teacher (see also Lutovac 2019, 2020). Due to tenacity of the meaning one assigns to his/her past experiences, it is necessary to examine how pre-service teachers understand failure as it may influence how they will understand their students' failures. Moreover, reflection and reflective practices have been given utmost importance in the process of developing teacher identity (see for review Izadinia 2013; Beauchamp and Thomas 2009) or in so-called conscious and intentional identity work (Lutovac and Kaasila 2014, 2018). The opportunities for reflection, such as the exercise the participants in this study engaged in, are especially needed during initial teacher education when pre-service teachers are learning and developing the skill to reflect. Our data collection allowed for reflection upon one's own experiences of failure, but it also guided students in reflecting upon failure by encouraging different perspectives. These included a view of failure from the perspective of a university student of a specific subject discipline, a future teacher's view on learner failure, and a future teacher's view on teacher (their own) failure. The various perspective taking, including reflection upon the past, present and future experiences is known to be of central importance for teachers' work (Flores 2020; Lee and Schallert 2016; Lutovac and Kaasila 2014; Walkington 2005). This is in line with previous work on explicit pedagogies and their effects on the development of pre-service teachers' identities in teacher education (Craig and Orland-Barak 2014). Finally, by providing opportunities to reflect upon failure, teacher educators can help pre-service teachers actively build the resilience needed for their future work as teachers.

Conclusion

We conclude that our findings, such as pre-service teachers' positive outlook on failure, universality of understandings of failure across the subject disciplines and interaction between understandings of failure and teacher identity, all bring us closer to clearer

understanding of failure as an experience and a construct from a subjective viewpoint, as well as how failure shapes future teachers (Lutovac 2019, 2020). In addition, this study evidenced how application of reflection upon failure in teacher education also invites reflection upon other constructs relevant to teachers' work, which further signals the importance of including reflection upon and discussions around failure in teacher education pedagogies.

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