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Conceptions of assessment in pre-service teachers' narratives of students' failure

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ABSTRACT

Pre-service teachers' conceptions of assessment have received relatively little attention in research concerned with professional development in initial teacher education. These conceptions, alongside others regarding teaching and learning, however, have a great impact on future teachers' instructional practices. In this study, the authors examine conceptions of assessment indirectly, by analysing 79 Finnish pre-service subject teachers' narratives of students' failure. Their findings reveal four major conceptions: (a) assessment is about feedback and reflection; (b) assessment needs to be personalised and demonstrate students' learning; (c) assessment should take into account students' invested effort; and (d) assessment fails to measure students' success or failure. These findings provide a qualitative insight into and extend both research on teachers' conceptions of assessment as a vital aspect of assessment literacy and research on pre-service teachers' conceptions in particular. The relevance of these findings for future teachers' professional development is discussed.

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1. Introduction

Teacher education research concerned with supporting pre-service teachers' professional development has shown special interest in understanding how pre-service teachers' histories, beliefs or conceptions formed upon them, and how knowledge about teaching and learning influence their future practices (Furlong, 2013; Kaasila & Lauriala, 2010; Walkington, 2005). Researchers are continuously refining ways to help pre-service teachers become aware of their own beliefs and to revise them when needed. There is a myriad of beliefs relevant to teachers' work and needing attention in initial teacher education (Fives & Buehl, 2012). Thus, research in this domain is wide and has addressed, for example, beliefs about self-as-a-teacher, about learners and learning, and about various teaching and instructional components (Fives & Buehl, 2012; Horgan & Gardiner-Hyland, 2019; Löfström & Poom-Valickis, 2013), to name a few. In this paper, we focus on pre-service teachers' conceptions of assessment, employing this term as it has been widely used in the research on assessment (Brown, 2004; Brown & Harris, 2009). Whilst many labels have been used to describe the cognitive and affective beliefs people

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have (Brown, 2008), conceptions of assessment refer here to ‘one’s beliefs, meanings, and understandings of assessment’ (Fletcher, Meyer, Anderson, Johnston, & Rees, 2012, p. 120).

Less interest in the line of research on beliefs and conceptions has been devoted to pre-service teachers’ conceptions of assessment (Brown, 2004; Brown & Remesal, 2012; Remesal, 2011; Wang, Kao, & Lin, 2010). That said, a vast body of evidence speaks to the importance of understanding teachers’ conceptions of assessment as these relate to teachers’ approaches to assessment as well as to students’ learning and outcomes (Barnes, Fives, & Dacey, 2015; DeLuca, Coombs, & LaPointe-McEwan, 2019; Fives & Buehl, 2012) [TQ1]. Given that initial teacher education serves as the beginning of the professional development of future teachers and it is crucial for the formation of their professional identities (Flores, 2020), as well as given the vast school time experiences future teachers have on being assessed as students, ‘it may be that one of the most important changes that prospective teachers need to go through involves their conceptions, that is, their understanding, beliefs, and attitudes towards the uses of assessment’ (Brown & Remesal, 2012, p. 76). Moreover, the studies on practising teachers’ conceptions have provided suggestions for initial teacher education. However, we do not have sufficient knowledge regarding pre-service teachers’ conceptions in particular (Brown & Remesal, 2012; Xu & He, 2019).

As part of a wider project, we have been collecting pre-service elementary school and pre-service subject teachers’ narratives of failure. We asked pre-service teachers to reflect upon various issues, such as their autobiographical experiences of failure, what failure is and how they define it, their future students’ failure, and the role of the teacher in students’ failure. We showed in recent studies that pre-service teachers label various experiences as failure and understand failure in many different ways (Lutovac, 2019, 2020; Lutovac & Flores, 2021; Lutovac & Kaasila, 2021). Moreover, for the most part, pre-service teachers often link failure with assessment: specifically, they understand and define it as underperformance and underachievement in assessment circumstances (Lutovac, 2020; Lutovac & Flores, 2021). This finding further evoked curiosity regarding what kind of conceptions of assessment could be identified in pre-service teachers’ narratives of students’ failure.

In the present narrative study, we examine 79 Finnish pre-service subject teachers’ narratives of students’ failure in order to access and identify their conceptions of assessment emerging from these narratives. Since we did not ask pre-service teachers to intentionally reflect upon assessment in the narratives they produced, we are, therefore, concerned with the implications that pre-service teachers’ accounts carry in terms of assessment. This means that we apply an indirect approach to examining pre-service teachers’ conceptions of assessment, which may less likely evoke socially desirable accounts, revealing pre-service teachers’ genuine conceptions. In addition, Barnes et al. (2017) distinguish between variable-centred and person-centred approaches to investigating conceptions of assessment, with the former being prevalent in various studies using the conceptions of assessment instrument. Given the qualitative nature of this study, we subscribe here to a person-centred approach, hoping that it will help us capture the variety of conceptions pre-service teachers can hold about assessment. The research question guiding the study is: *What kind of conceptions of assessment emerge from pre-service subject teachers’ narratives of students’ failure?*

2. Theoretical framework

2.1. Beliefs in teacher education

We situate our exploration of pre-service teachers' conceptions of assessment in the discussion on the importance of beliefs in teacher education. Beliefs have been found to affect a number of processes related to teachers' practices, such as teachers' planning, decision making, and how and what students learn (Fives & Buehl, 2012). Beliefs have long been considered to filter what is going to be learnt and hence affect how pre-service teachers learn to teach (Joram & Gabriele, 1998; Kagan, 1992; Richardson, 2003). In a wider sense, beliefs direct how pre-service teachers understand themselves and the world around them (Pajares, 1992). This makes beliefs a crucial construct for teacher preparation. Deep-seated beliefs stemming from pre-service teachers' times as students may be particularly limiting not only to pre-service teachers' learning during initial teacher education, but also to their future instruction. Thus, a current understanding is that beliefs formed upon personal experiences are an important resource in teacher education (Richardson, 2003), and, used as such, can stimulate the process of belief change (Fives & Buehl, 2012; Löffström & Poom-Valickis, 2013). Because beliefs have been found to be quite stable (Kagan, 1992; Pajares, 1992), inducing change in beliefs is challenging, but studies show that pre-service teachers' beliefs can indeed shift as a result of the opportunities provided in teacher education (Horgan & Gardiner-Hyland, 2019; Joram & Gabriele, 1998; Kaasila & Lauriala, 2010). While beliefs and conceptions are not necessarily the same construct, they have been given similar attention and a central place in teacher development in initial teacher education (Pajares, 1992).

2.2. Teachers' conceptions of assessment

Existing empirical work points to the key influence of assessment conceptions on teachers' decisions and practices (Brown, 2008; Opre, 2015 [TQ2]; Vandeymar & Killen, 2007 [TQ3]). Much research has been confined to measuring teachers' conceptions of assessment in terms of four different purposes:

- (a) assessment improves teacher instruction and student learning by providing quality information for decision-making;
- (b) assessment makes students accountable for their learning;
- (c) teachers or schools are made accountable through assessment; and
- (d) assessment is irrelevant to the work of teachers and the life of students. (Brown, 2004, p. 305)

These conceptions can interact and teachers can hold multiple, even conflicting conceptions at the same time (see also Brown & Harris, 2009; Remesal, 2011). Conceptions of assessment have also been found to differ in □different cultural contexts and with the changes in educational systems and policies in these contexts (e.g. □Brown & Harris, 2009; □Brown & Remesal, 2012; □Brown, Chaudhry, & Dhamija, 2015). As Brown and Remesal (2012) noted, 'teacher conceptions or beliefs tend to be aligned with the dominant uses and purposes assigned to assessment within each society' (p. 83).

Remesal (2011), in a study on primary and secondary school teachers, suggested a model for conceptions of assessment functions. The author identified four categories

of conceptions: a) assessment influences on teaching; b) assessment influences on learning; c) assessment influences on the achievement accreditation; and d) assessment influences on the teachers' accountability. Moreover, the findings of the study showed that there might be a relationship between teachers' conceptions of assessment functions and the educational system in which teachers work. Accordingly, these conceptions can be more or less pedagogical or accrediting.

Barnes et al. (2015) extended Brown's work by placing four categories of assessment conceptions on a continuum from pedagogical to accounting purposes (see also Barnes et al., 2017). On the pedagogical end of the continuum is the conception that assessment informs instruction and improves student learning. In the middle of the continuum is the conception regarding students' accountability, as it reflects both the pedagogical and the accountability purposes. On the accountability end is the conception that assessment serves the purpose of holding schools and teachers accountable. Finally, the conception of assessment as irrelevant is not included in the continuum. The authors (2017) also found out that many teachers conceived of assessment as irrelevant or even interfering with their work. As such, teachers' conceptions of assessment are dependent upon cultural, social and policy contexts (Brown & Harris, 2009; Fulmer, Lee, & Tan, 2015). In other words, teachers have conceptions that are ecologically rational as they make sense and are successful within context (Rieskamp & Reimer, 2007).

2.3. Conceptions of assessment in initial teacher education

Only a few studies thus far have addressed pre-service teachers' conceptions of assessment (Brown & Remesal, 2012; Wang et al., 2010; Xu & He, 2019) and the suggestions for teacher education have often been made based on the studies on practising teachers. While pre-service and in-service teachers' conceptions of assessment may appear similar, Brown and Remesal (2012) showed that pre-service and in-service teachers conceive the purposes of assessment differently. Pre-service teachers in their study, conversely to in-service teachers, did not associate educational improvement with assessment and have conceived of grading as an improvement rather than accountability. Nonetheless, as the time proximity to their own school experiences and the lack of practical experience of teaching may greatly impact on pre-service teachers' conceptions of assessment, more knowledge on their conceptions is needed.

Wang et al. (2010) examined pre-service science teachers' conceptions and how these relate to their views of learning science. Pre-service teachers in their study held conceptions about what needs to be assessed (target of assessment) as well as conceptions of how to assess (methods of assessment). Pre-service teachers' conceptions were found to be limited to assessing factual knowledge, which aligns with traditional views of assessment, and their conceptions of assessment methods were also misaligned with the views pre-service teachers had of science learning. With more learner-centred instruction, however, the need for students' active engagement in the assessment and learner-centred assessment methods has been highlighted (see, for review, Li & De Luca, 2014). With this premise, some studies have explored the relations between conceptions of assessment and the use of assessment methods.

Flores, Veiga Simão, Barros, and Pereira (2015) examined 378 undergraduates' perceptions of assessment. Among these 88 were pre-service teachers. The study identified

various ideas students associated with assessment, and categorised them as positive (learning, verification of knowledge, success, reflection, participation, certification and help), negative (anxiety/stress, imposition, unfairness, fear and conflict) or neutral (tests or examinations, grades). The authors demonstrated that learner-centred methods of assessment were more common among students of educational studies, and that assessment was conceived of as fairer when students were assessed via learner-centred, active methods of assessment. In a study on the impact of teaching practicum on the changes in pre-service teachers' conceptions of assessment, Xu and He (2019) discovered that various degrees of changes can occur, depending on the individual pre-service teacher. School-based assessment practices, interaction with students, personal experiences of being assessed as students and mentoring from associate teachers, as well as classroom realities, school assessment culture and national assessment policy, were all found to provide opportunities for change, but also withhold them.

Several researchers have pointed out that teachers are insufficiently assessment literate, often due to a lack of adequate training in assessment (Popham, 2009; Stiggins, 2010). Assessment literacy, according to Popham (2011) 'consists of an individual's *understandings of the fundamental assessment concepts and procedures deemed likely to influence educational decisions*' (p. 267, italics in original) or, as defined by Stiggins (1991), an understanding of what is sound assessment and its principles, although several other definitions and perspectives on the construct have been offered (DeLuca, LaPointe, & Luhanga, 2016). Reviewing a vast body of research, Xu and Brown (2016) noted that assessment literacy 'is dependent on a combination of cognitive traits, affective and belief systems, and socio-cultural and institutional influences, all of which are central to teacher education' (p. 155). In their framework of assessment literacy in practice, the authors defined the theoretical knowledge base as only one among many dimensions of assessment literacy, which includes disciplinary knowledge and pedagogical content knowledge, knowledge of assessment purposes, content and methods, knowledge of grading, knowledge of feedback, knowledge of assessment interpretation and communication, knowledge of student involvement in assessment, and knowledge of assessment ethics. Importantly, Xu and Brown (2016) also include teachers' conceptions of assessment as a dimension of assessment literacy in practice, with the premise that conceptions of assessment are an interpretive framework that not only guides teachers' practices, but also filters what it is to be learnt. While the relationship between the conceptions of assessment and assessment literacy calls for more exploration, research shows that practice of assessment is influenced by both knowledge and skills of assessment as well as by conceptions of assessment (Deneen & Brown, 2016).

In addition, research highlights the need for assessment literacy training to include attention on knowledge of assessment, but also on pre-service teachers' conceptions of assessment, their prior experiences and emotions (see, for review, Xu & Brown, 2016; see also Levy-Vered & Alhija, 2015). Based on the prior experience as students, pre-service teachers form conceptions of assessment that may or may not align with the standards of what is considered to be sound assessment practice, and these conceptions might be hindering their future practices and development (Brown & Remesal, 2012). Research has also shown that pre-service teachers' learning about assessment during teacher education can trigger changes in their conceptions of assessment (DeLuca, Chavez, & Cao, 2013; Graham, 2005; Smith, Hill, Cowie, & Gilmore, 2014). On the other hand,

Deneen and Brown (2016) demonstrated that even when assessment literacy is enhanced, pre-service teachers' conceptions of assessment may remain unchanged. These findings suggest that assessment literacy is a need in initial teacher education and that addressing conceptions of assessment is 'an essential prerequisite for being an assessment-literate teacher' (Xu & He, 2019, p. 2; see also Brown, 2004).

3. Method

3.1. Data collection

For the purposes of a larger study about the pre-service teachers' narrated experiences of failure (Academy of Finland, 307,672), narratives were collected in the context of a didactics course for pre-service subject teachers at one Finnish teacher education programme. The participants of the study were enrolled in the various bachelor's programmes, such as Mathematics, Physics, Chemistry, Music, Languages (e.g. Finnish, English, Swedish, German), History, Biology and Geography. At the time of the course, the participants were in their third year of studies, taking one-year-long pedagogical studies (60 ECTS) in the Teacher Education Department. Prior to the course, the participants attended the studies at their respective departments; therefore, the course was their first formal encounter with educational studies. Additionally, the participants did not have any teaching practicum prior to the course and data collection.

The course consisted of several lectures upon various topics as well as a pedagogical seminar. The students were required to reflect upon each of the lectures in a learning diary. After the lecture on the development of teacher identity, pre-service teachers reflected upon their biographical experiences and identity, but also on their experiences of failure. They received the following guidelines: *Reflect upon your experiences of failure. Take into account the following questions: 1) When do you feel your student has failed? 2) How do you see your responsibility in the event your student fails? and 3) What is the student's own responsibility for his or her failure?* Altogether 97 reflective writings were obtained. Some pre-service teachers reflected upon the lecture on identity and addressed their own prior experiences in a broader way, but did not write about their experiences of failure. These accounts were excluded from further analysis, and we were left with 79 writings to be analysed. It is important to note that prior to this data collection, the students did not receive any formal education regarding assessment. One of the lectures in the course, however, did address the topic of assessment, which might have somewhat influenced the collected narratives.

The authors of this study were involved in devising the task for the students. However, they were not the lecturers in the course and did not partake in the session where the participants had received the task. This decision was deliberate to avoid any power relations and to allow pre-service teachers to learn and reflect in their 'natural' learning environment without the presence of a researcher. Pre-service teachers were informed about the use of their narratives of failure as data for research purposes and had given their consent. According to the ethics protocol of the Finnish National Board of Ethics in research, the study did not require institutional review board approval. The participants were also informed about the pedagogical purposes of the assigned task, which was to promote reflection as an important part of teachers' professional development.

3.2. Data analysis

To analyse the data, content analysis was employed. We first read through all 79 narratives to get an overall picture of the issues addressed. We observed that many pre-service teachers' narratives linked failure with underperformance and underachievement, goals, effort and motivation and study habits. This supported our earlier observations that failure is often understood by pre-service teachers in the context of assessment, which led us to further explore the conceptions of assessment. In the following step, we read the narratives of students' failure again, and coded them in a holistic manner. We read through them in terms of what they communicate and focused on examining what each narrative implies about assessment and what the predominant idea in it is, rather than focusing on separate utterances. That said, naturally, some individual utterances regarding assessment helped us assure that the code assigned was suitable. This process resulted in eight broad codes (see Table 1).

Even though some narratives did not contain explicit references to assessment or assessment practices, other details in them, such as, for example, what they consider as failure, and what the role of the teacher and the student is in terms of successful and failed learning experiences, allowed us to deduce their meaning and to code them as an emerging conception of assessment. For example, in some narratives we encountered utterances such as 'I would say that even trying can be seen as success', and from the rest of the context decided to code such narratives in terms of 'Assessment should reflect students' invested effort; hence various forms of assessment are needed' or 'Assessment should take into account various activities students engage in or are expected to do in their school life', which later became the category 'Assessment needs to take into account students' invested effort'. Moreover, all narratives in one way or another contained references to teachers' and students' shared responsibility for failure, as well as the importance of reflecting upon failure in learning and teaching. Given that assessment constitutes a part of learning and teaching, we ultimately coded the narratives as 'Assessment should point to the issues needing further address by a student and/or a teacher' or 'Assessment needs to be reflected upon'.

Table 1. Conceptions of assessment in pre-service teachers' narratives of students' failure.

Codes	Categories of conceptions	* Count (N = 79)
Assessment should point to the issues needing further address by a student and/or a teacher. Assessment needs to be reflected upon.	Assessment is about feedback and reflection	79
Assessment needs to demonstrate where the student is with respect to the goals of the course and/or his/her knowledge and skill level. Assessment should involve continuous monitoring and individual approach. Assessment should not be discouraging, leading students to give up or impact their self-view.	Assessment needs to be personalised and demonstrate students' learning	47
Assessment should reflect students' invested effort, hence various forms of assessment are needed. Assessment should take into account various activities students engage in or are expected to do in their school life.	Assessment needs to take into account students' invested effort	26
Assessment fails to measure the students' success or failure, ignoring the important goals of education.	Assessment fails to measure students' success or failure	17

Note: *Pre-service teachers' accounts could display more than one conception of assessment.

Finally, the codes with a similar meaning were then mapped into four categories of conceptions of assessment. Table 1 displays the initial codes, the final categories and their frequency count. We address these categories further in the findings section. We note here that this list of conceptions should not be understood as comprehensive. We have listed the conceptions that in our view stood out the most, and were relatively easily identified based on the details in the written narratives. Additionally, although we collected the data from pre-service teachers of various subject disciplines, the comparison of their assessment conceptions stretches beyond the scope of this paper. Based on the cursory analysis, however, we did not observe any notable differences in the conceptions of assessment between pre-service teachers of different subject disciplines.

4. Results

Here we present the four conceptions identified in the pre-service teachers' narratives of students' failure, in order from the most to the least frequently occurring. We accompany these conceptions with data examples – shorter extracts from their narratives. It may be observed from the data examples that the cut between these conceptions was not always clear and many narratives contained more than one conception. This was also taken into account in the frequency count.

4.1. *Conception 1: 'Assessment is about feedback and reflection'*

All 79 examined narratives of students' failure contained reflections upon the responsibility for failure. Pre-service teachers reflected upon oneself as teacher, such as 'What could I (as a teacher) have done differently if the student has failed?', 'I should reflect upon myself as a teacher', 'I need to look into my own actions if a student fails', 'Have I been too demanding?', and so on. They usually concluded that students' failure in an assessment situation, such as an exam, points to poor teaching quality and/or disregard for the student's learning needs.

In the event of a student's failure, the teacher needs to examine the causes of failure. Was student able to concentrate and feel comfortable? Was the assignment itself clear enough or did the poorly given instructions directly lead to the student not being able to succeed? Have I been available and sufficiently present and helpful as a teacher, or has the student been neglected and therefore failed? Were the criteria for completing the task too high? Did the teacher give enough opportunities to complete the assignment in different ways that suit different learners? At least, these questions are worth considering if you find that a student was unable to complete the assignment in the way it was desired and sought. (#14)

In such situations [failure], as a teacher, I feel I have to intervene. In fact, I even feel it is my duty. I speak to the student and ask if he/she knows if there is a specific reason why this has happened. Is everything okay at home or has something happened or other similar issues. There are many different factors in a student's life that may have made a difference in his or her learning success. As a teacher, I feel it is my duty to help the student in this matter. Of course, the pupil also has his own responsibility for his failure. It may be that the student has just not done enough work to achieve the desired results. The student must be honest with himself if he really wants to succeed in the assignment. (#34)

Pre-service teachers also reflected upon the meaning that failure in the exam could have from the perspective of their students. This involved utterances such as ‘Does the student have learning problems?’, ‘Has the student studied enough?’, ‘What will the student learn from the failure?’, and so on. Often, pre-service teachers expressed that failure in an exam calls for reflection upon the reasons why a student has failed, including the need to take into account each student’s background and the unique situations he/she might be in. Most narratives, however, referred to a teacher’s and a student’s shared responsibility for failure. They suggested that both sides need to do everything in their power to reflect upon what went wrong and how to correct the issue.

I am very cautious about the concept of failure. However, if my student fails in some way, I can easily start blaming myself. What have I done wrong? I as a teacher will certainly engage in some kind of self-examination, because I have in a way a responsibility for my students’ failure. My job is to make kids learn and understand things, so they can do it later in their lives. I also think that the students have the responsibility for learning. If the student who fails actually does not want to try to learn or do anything for their learning, even though I tried to support them, I can’t help them. . . . What matters most is what happens after the failure. If the student himself catches up to why he has failed somewhere, he will be able to receive the support of the teacher and deal with the situation. Then both the teacher and the student can once again progress in their learning. (#96)

Based on the narrative presented here, we observed that the central idea behind all the writings is that assessment serves as feedback and can point to the matters that need to be addressed, either by the teacher or the student and, most often, by both. The conception that seemed to emerge from this data is that reflection upon assessment is essential for teachers and students.

4.2. Conception 2: ‘Assessment needs to be personalised and demonstrate students’ learning’

In 42 narratives of students’ failure, pre-service teachers referred to failure in terms of students not having learnt what was taught, and, more specifically, in terms of goals and whether the students are able to meet these goals or not. In addition, pre-service teachers also wrote about failure in terms of students not performing according to their knowledge or skill level, for example, underperforming compared to their earlier performances and achievements, as seen in the data examples presented here.

Each student has different skill levels and thus goals, which has a significant impact on the feelings of success and failure. For example, for a student who excels at languages, seven is a bad grade, while for a student who is poor at languages it is a very good grade. I would define a student’s failure as a failure if the student performs poorly in relation to their skill level and goals. As a result, I feel that the grade on the subject may not be directly related to the failure or success that is dependent on the student’s goals and competences. (#9)

I feel that my student has failed when he does not perform according to his own skill level. There is no way to compare students or to say that all who do not get commendable grade have failed. Not everyone is very good at everything. Instead, it is possible to compare a student’s performance to his or her past performance and skill level, and thus identify successes as well as failures. The teacher may also ask the student to think or the teacher can think with the student what issues may have contributed to the lower performance. Awareness of the issues that hinder success can help in addressing them. (#88)

In some of these narratives, we observed the idea that assessment requires continuous and personalised approach (as seen in data example #11), as well as that the assessment should have a positive impact on students, e.g. not to discourage students or impact their self-view (as seen in data examples #91 and #45).

I see the teacher as having a great responsibility for the student's success, even though the current curriculum emphasises the student's responsibility for learning. However, if I have done my utmost as a teacher and the student still does not pass the exams, say, for example, due to a lack of motivation, you could say some form of failure occurred. This requires consideration of the student's background, as well as continuous assessment and follow-up even before the test. However, I think the term failure is one that should be avoided, as it is likely to frustrate an already frustrated student. (#11)

As a teacher, I think it is my responsibility to give students a sense that it doesn't hurt if they fail. Failure is a part of life, and every student and teacher will surely fail somewhere. As a teacher, I need to emphasise that failures can make things even better than success alone. If a student's failure is continuous and repetitive, then I need to address it and try to figure out why and how it could be prevented. Failure to address students' ongoing failure could have serious consequences for the student's learning motivation and school performance, as continued failure could lower students' self-esteem, which would affect the student's desire to study. . . . (#45)

Based on all these narratives, the conception of assessment identified has to do with assessment needing to display learning, i.e. where the students are with respect to the goals of the course or their own knowledge and skill set.

4.3. Conception 3: 'Assessment needs to take into account students' invested effort'

In 26 narratives of students' failure, failure/success was tightly linked to students' effort. In particular, pre-service teachers were more concerned about the effort students invest into learning or schooling overall than with the performances in the exams, as exemplified here in data extract #77:

With regard to the school world, I think a student will fail if he/she does not make any effort to pass the course. Grade does not matter in itself. However, our education system forces extensive learning, which may cause many talented individuals to fail in certain subjects. That is why differentiation is important, and I think it is wonderful to place more emphasis on it in the new curriculum. As a teacher, I have a great responsibility for the students' success and failure. The teacher is the person who evaluates success and has an impact on the lifelong learning of the student. If the students feel that some part of this system is treating them unfairly, they easily turn into opponents of the system and a bad taxpayer. Teachers play an important role as educators. (#77)

I expect students to try their best and that is what I think is most important. The numbers in the certificate alone do not tell the whole truth and the students are all individuals. I see a student fail when he does not try and when he spends his energy interrupting others. Even in such a situation, I try my best to find out the cause of the problem and to support the student's concentration. The teacher needs to have many tools to support and motivate different students. And if there is a situation where the teacher does not have the tools, then it is a good place to learn. It is the pupil's own responsibility to try his/her best and, if necessary, seek help if needed. Of course, the teacher must be able to spot the students in need. (#95)

The narratives in this category were about ‘trying’ or ‘not trying hard enough’, and about ‘giving up’. These and other similar narratives implicitly suggested that assessment practices should take into account a student’s effort, rather than one-time performance.

4.4. Conception 4: ‘Assessment fails to measure students’ success or failure’

In 16 narratives of students’ failure, pre-service teachers wrote specifically about the subjectivity of failure. They wrote, for example, ‘There is no failure’ or then wondered, ‘Can a student fail at all?’ These narratives contained the idea that assessment situations such as tests and exams cannot measure students’ failure or success. Accordingly, many of these narratives defined failure in a variety of ways, mostly in a broader sense, unrelated to assessment. In fact, these narratives contained very little if any information about assessment. For example, as seen in data example #33, student failure is defined as a failure to develop as a socially responsible individual. In addition, some of these narratives adopted especially critical views of the grades being used as a measure of students’ success or failure, which can be observed in data example #25.

Today’s society is very performance-driven in nature[. . .]. The more an individual performs, does and achieves, the better he or she is seen . . . I find this particularly problematic when it comes to learning. In the school world, failure is often linked to a student’s success. Success is measured, for example, by the grades in the exams and certificates. However, this gives only a narrow perspective on success. Grades are problematic . . . they do not tell much about how a student succeeds or fails, for example, in one course. So, your success should not be determined by numbers . . . I find it success if a student tries to do his or her best in learning with his or her own framework (skills, life situation, etc.). The indifference and the lack of willingness to do the best I think is problematic. (#25)

I would feel that my student has failed if he/she does not grow into a socially appropriate individual and becomes marginalised. The most important task of a teacher is to create socially acceptable individuals, and socialization is one of the most important tasks of the school. If these goals are not achieved, I would feel that the student has failed. [. . .] However, it is often difficult to assess what would engage a student in a school life and turn their lives around. I’ve heard many examples of how one teacher’s praise towards a pupil, which is at risk of social exclusion, has helped turn around the direction of the student’s life. It requires understanding and encouragement from the teacher. . . . Sometimes a student needs from the teacher something more than information about the subject being taught . . . (#33)

Based on the examination of these narratives, the conception of assessment that emerged in them is related to the inadequacy of assessment to measure not only students’ success and failure, but also the broader purposes of education, such as the moral and social.

5. Discussion

In this study, we identified conceptions of assessment emerging from 79 Finnish pre-service subject teachers’ narratives of students’ failure. Our findings revealed four major conceptions of assessment: (a) Assessment is about feedback and reflection; (b) Assessment needs to be personalised and demonstrate students’ learning; (c) Assessment needs to take into account students’ invested effort; and (d) Assessment fails to measure students’ success or failure. The study provides a qualitative insight

into and extends the knowledge on pre-service teachers' conceptions of assessment by employing a less common methodological approach compared to other similar studies. We accessed the conceptions of assessment indirectly, via pre-service teachers' narratives of failure. In what follows, we discuss our main findings and what they have to offer for the purposes of addressing conceptions of assessment in the context of initial teacher education and with regard to developing pre-service teachers' assessment literacy.

The four categories of conceptions of assessment identified, although obtained and labelled differently, resemble to a certain degree those identified in prior research. Moreover, the fact that these categories of conceptions were not mutually exclusive also tells us, as earlier research suggested, that pre-service teachers hold multiple conceptions of assessment simultaneously (Barnes, Fives & Dacey, 2017; Xu & He, 2019). We observed that the conception 'Assessment is about feedback and reflection' corresponds with the improvement purpose of assessment (Black & Wiliam, 1998). Pre-service teachers expressed that failure in assessment signals areas that need improvement, and hence the assessment needs to inform both teaching and instruction, as well as further learning (Black & Wiliam, 2009). Therefore, it should be used by teachers and students alike. The narratives showed that pre-service teachers believe that a teacher plays a significant role in a student's failure. The major responsibility for students' failure in assessment was attributed to the teacher, as something teachers should learn from to revise their teaching and/or assessment practices. In relation to this conception, formative assessment was seen as a vital part of teaching and learning (Deluca et al., 2013; Flores et al., 2015; Smith et al., 2014) and pre-service teachers emphasised the need to talk with their students and provide them with feedback. In addition, within the mentioned conception, pre-service teachers addressed the need for students' active involvement and responsibility for the learning from the feedback that the failure/success in the assessment provides for them. Students too were seen as playing a part in their failure and pre-service teachers were of the opinion that, as teachers, students too should reflect upon failure and learn from it. Overall, this conception carries the notion that assessment is about improvement and can help both students and teachers to learn.

The conception 'Assessment demonstrates students' learning' was greatly bound to the ideas that failure in assessment means that students have simply not learnt the content taught, that the goals of the course have not been met and/or that the students have not performed in line with their usual level of knowledge and skill (i.e. have not obtained as high a grade or have obtained significantly lower grades than usual). Although these narratives included references to grades, many of them highlighted the need for the follow-up assessment of students' learning. Also, as demonstrated in the conception 'Assessment needs to take into account students' invested effort', it was highlighted that assessment needs to take into account students' various backgrounds and starting points, as well as invested effort. Collectively, the narratives in these two categories of conceptions reflected the idea that assessment needs to be a continuous process rather than the one-time event, bound to various activities students engage in in school. Finally, the conception 'Assessment fails to measure students' success or failure' slightly resembled the conception of 'Assessment as irrelevant' (Brown, 2004, 2008). The narratives in question included the idea that education is more than just students learning the content of various subjects. Pre-service teachers believed that grades cannot measure the moral and societal purposes of learning and that failure in the context of

assessment should not necessarily carry any weight. However, rather than disregarding the entire assessment process and assessment practices, and seeing them as flawed, students spoke specifically about grades, and what they can or cannot tell, as problematic and flawed.

An interesting finding is that the conceptions we identified had more to do with pedagogy than accountability (Barnes et al., 2015, 2017; Remesal, 2011). If we were to apply Barnes et al.'s (2015) *continuum*, none of the four categories of conceptions we identified would have been placed on an accountability side of the continuum. Contrary to the earlier research findings, we could not identify any references to the purpose of assessment being linked to 'school accountability', i.e. assessment communicated how well the schools or teachers are succeeding in reaching the set standards (Butterfield, Williams, & Marr, 1999). One possible explanation for this finding could be attributed to the cultural and educational context of the pre-service teachers in question. As Itkonen and Jahnukainen (2007) explain, Finnish educational policy is based on equity, as opposed to accountability, and the purpose of assessment is that it should guide and encourage learning and improve teaching, rather than being used for the purposes of ranking schools. The authors further note that the notion of one's development over time is crucial to understanding assessment in Finland, and there is a general understanding that an individual's achievement can only be compared against an individual's starting point. This was also well exemplified in pre-service teachers' narratives displaying the conception 'Assessment demonstrates students' learning'. In addition, given that the participants in our study are pre-service teachers, we could also explain the findings via the lack of practical experiences and knowledge of school culture. Once they work in schools, school realities might change their views. It is also important to note that if pre-service teachers were given the possibility of choosing the items regarding school accountability or were asked about it, it is possible we would have identified such views as well. However, given that they reflected on and wrote about failure freely, our findings demonstrate their most pressing views.

Another interesting and related finding is that pre-service teachers' narratives contained references to student accountability. However, these differed in content from the 'student accountability' conception discussed in the literature (Brown, 2004, 2008). For example, the main idea of pre-service teachers' narratives was that, alongside the teachers, students too should be responsible for their own learning. In the case of failure, there is as much as a teacher can do; therefore, students need to act upon it as well. However, assessment was not seen as a means to hold students 'individually accountable for their learning through assessment' (Brown, Lake, & Matters, 2011, p. 211). Again, this may be due to the culture of assessment in Finland, where both pedagogy and equity come before accountability. Also, as Itkonen and Jahnukainen (2007) explain, achievement in Finnish culture 'is conceptualised as a collective responsibility' (p. 7) rather than lying on the shoulders of an individual student. This would also explain why pre-service teachers in this study attributed responsibility to both teachers and students, as well as parents, and why they spoke about responsibility rather than accountability.

Based on our findings, the identified conceptions of assessment also revealed important information about where pre-service teachers are in terms of their assessment literacy, for example, about their current knowledge base (Xu & Brown, 2016), such as about the assessment's purpose, methods, students' involvement in the process and

teachers' needs as far as their development as assessors is concerned. Collectively, the four identified conceptions reveal that pre-service teachers: a) conceive of assessment to be about improvement, subscribing to the conception of assessment for learning, helping students and teachers alike to learn; b) believe that a teacher should assume responsibility for students' failure in assessment; c) highlight the importance of formative assessment, i.e. providing students with feedback and the need for continuous assessment, bound to various school activities, as well as regular communication about assessment-related matters, and following up on the students' learning from assessment; d) believe that assessment methods should be designed to take into account students' various backgrounds, starting points and invested effort; e) believe that students should be responsible for their own learning and the need for students to be actively involved and take responsibility for their learning from the assessment feedback; and f) are able to think critically regarding what assessment can or cannot measure and what the grades can or cannot communicate about students, their knowledge and skills.

The list given here is arguably well aligned with what is considered as sound assessment in the educational context of these pre-service teachers. The knowledge base revealed in these pre-service teachers' conceptions is quite impressive, given that the conceptions were measured at a point in time, when pre-service teachers have not received any education about assessment and are only starting to get familiar with educational sciences. Concurring with Xu and Brown (2016), as teacher educators, we need to be concerned with the kind of conceptions of assessment pre-service teachers hold, as they will acquire knowledge that is compatible with their current conceptions. Therefore, the identified conceptions of assessment point to the promising starting point for further knowledge uptake and, hence, the development of assessment literacy.

6. Conceptions of assessment: implications for teacher education

Based on our findings, attention to differing conceptions of assessment in initial teacher education is needed. In particular, it may be fruitful to look into these conceptions indirectly, in relation to other matters addressed in teacher preparation. Assessment is a linchpin in the constructive alignment triad (Biggs, 1996; Biggs & Tang, 2007), hence tightly related to learning outcomes and teaching and learning activities. Therefore, the conceptions of assessment could be elicited via discussions about the other two elements. Moreover, alongside the instruments to measure pre-service teachers' conceptions, narratives can elicit and display a variety of conceptions. Also, given that research has shown that conceptions may differ from context to context (Brown et al., 2011, 2015; Brown & Harris, 2009; Brown & Remesal, 2012), narratives will allow for obtaining more context-bound conceptions. This study, therefore, suggests that written reflections on various topics regarding teaching and learning can potentially be used to elicit conceptions of assessment, as well as help pre-service teachers develop their reflective skills of assessment (Wang et al., 2010).

The narratives about failure used in this study were found to be a relevant resource for the purpose of accessing the conceptions pre-service teachers hold about assessment. The 'exercise' such as the one assigned to our students can provide a starting point, an opening for a discussion about conceptions of assessment, give pre-service teachers opportunities to make their conceptions explicit and allow teacher educators

a careful examination of these. Furthermore, these narratives could be used as pedagogical material for the purposes of stimulating further learning about assessment, in efforts to help guide pre-service teachers towards assessment literacy (Brown, 2004). Finally, given that the pre-service teachers in our study were at the beginning of their pedagogical studies, it was a positive and surprising finding that their conceptions of assessment are rather favourable and compatible with the current knowledge of sound assessment in the particular educational context. As this might not be the case in all educational contexts internationally, we suggest that all such interpretations are made with the lenses of the educational and cultural contexts in which pre-service teachers are situated.

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