



Liminal practice and reflection in professional education: police education and medical education

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ABSTRACT

This paper reports on a study of how liminality relates to the facilitation of reflective practice in professional education. Liminality refers to sites and positions that exhibit ‘in-betweenness’, or bordering positions, that might draw together different institutional conditions. The present project aims to examine the role of liminality in professional educational practice with a specific focus upon how liminality may support student reflection. Using a qualitative and comparative research approach, we analysed interview and observational data from police education and a medical programme. Observations and interviews explore practices of collective interactional (and hence observable) reflection at sites that are characterised by ‘betweenness’ of work and education. Findings indicate that situations that afford reflection are characterised by a sense of *undeterminedness* in terms of either the subject, space or activity. Thus, we conclude that there is some evidence that liminality affords reflection, but also that liminality and underminedness are fragile states that are not easily organised in a professional education curriculum.

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Introduction

This paper reports on a study of how states of ‘liminality’ relate to the facilitation of reflective learning. Liminality is defined as identities, sites and positions that exhibit ‘in-betweenness’, bordering, or passages that draw together different institutional conditions (Beech 2011; Shortt 2015; Turner 1987). By its ambiguous and ‘detached’ nature, liminality can be expected to contain a multiplicity of cultural properties, overlaps of formalised and informal dimensions of practice and detachment from social structural restraints (Turner 1987). In research on vocational and professional education, the concept has previously been related to positions that combine features of educational practice and work practice (Cook-Sather and Alter 2011; Hawkins and Edwards 2015; Wood 2012).

The present study sets out to examine the linkages between liminality and reflection in professional educational contexts with a specific focus upon whether and how liminality

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might hold the potential to facilitate reflective learning. Reflection and reflective practice have long been considered an important feature of workplace learning and development, and particularly so in professions characterised by high levels of autonomy, risk and extensive professionalisation (Jordan 2010). In research on professions, reflection has a given place as constituting a professional practice, alongside esoteric knowledge base and ethical guidelines (Eraut 1994).

The connection between liminality and reflection was previously suggested by Beech (2011) who quoted Turner's (1967, 106) statement that '... liminality is the realm of primitive hypothesis, where there is a certain freedom to juggle with the factors of existence ... there is a promiscuous intermingling and juxtaposing of the categories of event, experience and knowledge, with a pedagogic intention'. Applied in a vocational or professional educational context, where liminality has been suggested to lie at the intersection of academy and work, liminal states may bring about problem-oriented reasoning and uncertainty as well as simultaneous variability and regulation. In other words, liminality may provide a form of 'loose structure' that could be beneficial for reflective learning, as high degrees of formalisation risk the transformation of genuine student reflection into 'emotional performativity' and conformist displays of rule-following (Boud and Walker 1998; Siebert and Walsh 2013).

While previous research has linked liminality and reflection on a conceptual level, these connections have not been thoroughly empirically studied. The aim of the present paper is therefore to examine the role of liminality in professional educational practice with a specific focus on how liminality may afford student reflection. Using a practice theory framework and a comparative analysis of a police education programme and a medical programme we explored liminality in preparations for professional practice. Thus, by comparing properties of liminality across case settings, we aim to answer whether and how contextual affordances for reflection can be identified in relation to liminal practices.

Liminality

Liminality as a concept (from Latin *limen* meaning 'boundary or threshold'; see Meyer and Land 2005) originates from anthropological work by, for instance, Turner (1967, 1987), and Van Gennep (1960), whom studied tribal rituals such as initiation rites into adulthood. Based on the notion that rites of passage involve a transforming subject who goes from one state to another, different phases of liminality was defined in: *separation* (i.e. detachment from cultural conditions), *limen* (movement and transition between stable social structures) and *aggregation* (consummating the passage) (Van Gennep 1960).

Following the initial applications, liminality has within research on education and work predominantly been applied with a focus on 'transitional space/time' (i.e. the limen phase), which enables individuals or groups to acquire new identities, statuses or knowledge at the cost of experiencing ambiguities and leaving behind old social positions (Meyer and Land 2005). In a discussion about liminality in empirical research, Cook-Sather (2006) highlighted how studies can target the so-called liminars who are undergoing identity transformations, or encircle liminality in terms of spatiality, where physical or virtual spaces characterised by liminality are studied. Complementing these approaches, a third approach to the study of liminality is concerned with the role of liminality in learners' conceptual transformations (Meyer and Land 2005).

Regarding the first of these three identified applications, a focus on liminality and identity has been a common approach in the research that examines states of 'betweenness', wherein a subject is in flux between stable social positions (Ladge, Clair, and Greenberg 2012; Ybema, Beech, and Ellis 2011). Beech (2011), for instance, developed a model of 'liminal identity work' to describe how the process of identity change entails phases of being in between established social categories. Drawing on Turner (1987) and Bakhtin (1981), Beech (2011) proposes that identity negotiations are channelled through practices of experimentation where new versions of the self are tried out. These practices include reflection, where identities are developed through self-questioning along with a re-joining of external influences, and recognition, where identity development occurs 'outside-in' as a subject reacts to an identity that has been attributed to them. Within work and education, research on liminars has concerned transformations where students are *becoming* practitioners, for instance, in transition processes between education and work. An example of this approach to liminality is the work of Cook-Sather and Alter (2011), who studied role changes in teacher preparation and teacher education where individuals move from education to work. These authors show how subjects undergoing change simultaneously affiliate with separate identities while not being fully associated with any of them. For example, students who take on a role as pedagogical consultants gain new outlooks on previously familiar student and teacher roles.

In addition to identity formation, a spatial approach to liminality has been common. Shortt (2015) defined liminal spaces in terms of 'ad hoc' border spaces. Similar to practice theory conceptualisations of space, which have emphasised how spaces are constituted through enactment (Hopwood 2014), definitions of liminal spaces regularly discuss space as subjectively lived and experienced. Specifically, Shortt (2015) discussed liminal spaces as ambiguous and therefore difficult to define functionally, as they are not clearly 'owned' or claimed. In this capacity, liminal spaces are overdetermined, with a multiplicity of potential framings and enactments. Examples of liminal space are, for instance, hospital corridors where informal learning is enacted (Iedema, Long, and Carroll 2012), unmanaged and relatively private 'hide-out' places in work settings (Shortt 2015), spaces characterised by overlaps between work and private spheres such as business meals (Sturdy, Schwarz, and Spicer 2006), project-based work (Borg and Söderlund 2015a, 2015b; Tempest and Starkey 2004); temporary work (Garsten 1999) or virtual spaces (Cook-Sather 2006; Wood 2012).

As mentioned above, complementing identity as well as spatial perspectives, liminality has also been defined in more abstract terms, such as conceptual 'in-betweenness' in relation to learning (Hawkins and Edwards 2015). Meyer and Land (2005) used liminal space as a guiding metaphor to describe the state where learners in educational contexts experience being in-between perspectives in the acquisition and appropriation of 'threshold concepts' that are pivotal and transformational 'conceptual gateways' that lead the learner to acquire outlooks. While being in a transitory state of learning, liminality is thus the in-betweenness wherein a new transformed status has not been achieved and the learner experiences epistemological 'stuckness' characterised either by conceptual difficulties or by alteration of different perspectives (Meyer and Land 2003, 2005). The empirical research that has made use of an epistemological take on liminality has, for instance, addressed students' experiences of doubt and uncertainty (Hawkins and Edwards 2015) as well as conceptual 'stuckness' (Wright and Gilmore 2012).

As indicated by the review above, the theoretical conceptualisations of liminality vary considerably. Some studies emphasise how ‘sites’ of liminality are enacted in time and space, while others have focused on the positions of subjects who experience liminality or the conceptual or embodied transformations that liminality brings about. This variance can be seen as an overdetermination of the definition of liminality; however, it can also be taken as evidence for a need to weave together several units of analysis in studies of liminal experience (Beech 2011).

The liminal experience and practice theory

In the following, we suggest that a practice theory framework holds the potential to analytically incorporate critical aspects of liminality into a cohesive analytical framework. The practice theory framework enables the linkage of social and material spaces with enacting subjects and the activities that are performed in practice. Using a practice-based perspective on learning, we conceptualise professional learning as relational, situated and embodied (Hopwood 2014; Reich and Hager 2014). We view learning as participation in practice. Following Billett (2006), we view professional learning as (increasing) participation in a practice. More specifically, *liminal experiences* might be identified within our cases where there is a belonging in more than one practice – or belonging in neither.

To operationalise and conceptualise liminality in our cases, we made use of concepts that have previously been shown to be effective in understanding practices as well as liminality. We analysed the *practitioners* involved (Beech 2011), thus addressing the ‘who’ of liminal practice, meaning that we explored how liminality is constructed and experienced by embodied subjects. Furthermore, we focused on the enacted *spaces* in our empirical cases that were signified as liminal (Shortt 2015), hence addressing a ‘where’ of liminal practice. Finally, we analysed *activities* (Schatzki 2010) that directed our attention to the ‘what’ of liminality, meaning that our analysis targeted what the liminal practices consisted of in terms of situated performance.

The overarching definition of reflection employed in the following builds on the Schatzkian notion of ‘practical intelligibility’ (Schatzki 2001) and Boud’s notion of reflection as situated and affective (Boud 2010). The definition we use is thus that reflection is *a certain type of activities within a practice, where practitioners investigate their own and/or others understandings and emotions with the intent to form an opinion on the best course of action in a given situation*. Methodologically, we analysed students’ encountered situations in search of new or unfamiliar elements that prompted subjects to investigate their previous experiences, readings or opinions to solve a problem (Rogers 2001).

Method

To study the linkage of liminality and reflection, we conducted ethnographic observations and formal interviews in police education and in medical education. The cases of police education and medical education are, from the outset, two linked research projects that have a common aim to describe and analyse how reflective capabilities are developed in the trajectory from education to work. The medical education case followed the police project with the specific intention to allow for comparative analysis. Regarding the

choice of methods, participant observation functions well to capture episodes of collective reflection that takes place through social, often verbal, interaction in specific situations. Observations can thus encircle collective reflection as well as social attempts to prompt reflection (Keevers and Treleaven 2011). However, to also account for non-verbal, personal reflexive processes, observations were in both case settings combined with interviews wherein participants' first-order experiences of reflection and their educational situations was in focus. Both interview and observational material thus underpin the interpretations and empirical examples of the findings. In the following, we describe each case setting.

Police education

Police education in Sweden extends over two and a half years, with one term being fully dedicated to field training. In terms of curricula, the educational programme resembles other vocational education as it combines occupation specific subjects and proficiency training (e.g. radio, self-defence and tactical driving) with more theoretically infused courses (e.g. criminal law; criminology). The teacher staff entails a combination of police practitioners and university-based instructors. Training activities include conventional seminars and group work but also live-simulations (scenario training); drill training and shorter practicums in the police service.

In the police case, we conducted 23 interviews (36–68 min), and one focus group with second year students (52% female and 48% male, age distribution from 23 to 33 years). Interviews were combined with participant observations. In total, 89 observations (255 h) were conducted over the course of 2.5 years. Specifically, one subgroup of students ($n = 25$) within a larger cohort of students ($N = 70$) was followed and observations included educational activities such as seminars, group work, tutoring, scenario training and lectures.

Medical programme

The medical programme in Sweden is also similar in length and curriculum to others throughout the world. The programme is five and a half years, with approximately half of the programme consisting of clinical placements at the university hospital. The first half of the programme is more theoretical, but the whole programme uses the Case method as a primary form of teaching. Thus the students in the later half of the programme spend considerable amount of time in the clinics during the day, while they also have case presentations, readings and lectures to attend to in the mornings or afternoons.

Twenty interviews (30–70 min) were conducted with students in their 5th year, 10 male and 10 female. Age distribution was 25–39 years. In addition, we held focus group interviews with medical teachers ($n = 4$, a total of 11 h) on the concept of reflection. Finally, we did ethnographic observations ($n = 11$, a total of 25 h) of a range of teaching activities that all aimed at getting the students to reflect and take an active role. This included clinical placement, case seminars, traditional seminars and role plays.

In both cases, the observers were only known to the participants in their role of researchers doing ethnographic field work over a prolonged period of time.

Analysis

The analysis of liminality was based on an abductive and comparative approach (Cunliffe and Coupland 2012). Specifically, we started our analysis in a search for liminality in the empirical material. Using our theoretical concepts, we performed a first-order coding of the *practitioners*, *spaces* and *activities* that were seen as potential examples of liminality. This was followed by an investigation of the data from the separate empirical cases in the light of theory. By comparing tentative examples of liminality across the cases, we were able to elaborate, and differentiate our individual experiences and findings, thus constructing a second-order cross-case categorisation that was rich in descriptions of liminality.

These two steps of data analysis gave insights in to how liminal experiences could be identified within and across cases. To move further and theorise whether any contextual affordances for reflection could be identified in relation to liminality, we conducted an examination of our findings based on the potential affordances for reflection that they might hold. This third step of analysis was aimed at ‘data-to-theory connections’ in which the theoretical potential of empirically emergent themes was explored (Gioia, Corley, and Hamilton 2013).

Findings

In the following section, we present and examine how liminality was exemplified in both cases based on the concepts of the practitioners (who), spaces (where) and activities (what).

The ‘who’ – liminal practitioners

Despite the apparent differences in police education and medical education, a common denominator of both educational practices is the demarcation and regular alternation between academy-based education through seminars, lectures and group work and work-based education through ‘practicums’, placements, time at clinics, field training and simulation-based exercises. Concerning the *practitioners*, academy-based education is considered to be ‘civilian’ and thus associated with the student role, while work-based education is associated with professional practice and the role of police officer or a medical doctor. Thus, in our exploration of liminality, we used this demarcation to analyse the symbols and states of ‘in-betweenness’ wherein students are not fully in either educational settings or professional roles. We argue that this is a case of ‘non-belonging’ (rather than a double positioning), as the students are, in the moment, positioned as neither belonging to academy nor the professional practice. In these instances, their practice provides certain expectations and responsibilities to act *as if* they are professionals. Thus, they are, in these particular instances, estranged from a student position. Conversely, they are provided with symbols that also demarcates them as not fully being professionals – thus not belonging in the professional practice either.

One apparent example of this type of liminality concerns the educational practice’s use of professional uniforms. Uniforms are regularly used in both medical and police educational settings, and they fill a number of functions. First, uniforms help to define the bearer in functional terms in terms of the ability to practice certain types of activities. As a functional marker, the uniform can be interpreted as a set of material symbols

that tie together the meanings associated with work practice, for example, medical practice requires hygiene and police practice requires heavy-duty durability. In addition to the functional aspect of uniforms, the police and the medical uniforms can also be perceived as symbolically and culturally saturated markers of the occupation that signify the bearer in terms of a (relatively) socially established position (e.g. Jenkins 2014; Pratt and Rafaeli 1997). Uniforms bring about recognition from others outside the occupational domain and signify the bearer as a professional. In both the medical and police contexts, students display an awareness of the significance of the uniform, for instance, medical students frequently discussed and reflected upon the symbolic aspects of uniforms (see field excerpt from observation 11 below) and students in the police case discussed awareness of what the uniform 'signals' to the public or to people the police are to intervene against, as stated by one police student:

It is about power when you are standing there in your uniform and you put your hand on someone's shoulder ... It will create an upper hand for me. They will start to get nervous because I am there in my uniform, up close to them showing my presence'. (Interview 10, police programme case)

While the students in both cases wear the professional uniforms on occasions wherein they are expected to enact professionalism, both medical students and police students are required to wear visible signs on their uniforms signalling that they are not full members of their professional communities. Two examples of this conditioned belonging are the orange colour and printing of the term 'student' on the high-visibility vests that the police students wear over their regular uniforms and the nametags that medical students wear on their scrubs or coats that include their name with the addition of the term 'medical student'. These examples can be interpreted as positioning students as liminal subjects, 'in between', a position that is visible through the 'layers' of the uniform and that define the student as not belonging fully to uniformed work practice, nor student practices.

In the police case, this position of being 'in-between' identities was highlighted as a problematic experience for the students. An apparent example of this was during student field training with experienced police officers: When wearing the visible mark of 'student', students regularly become targeted and provoked in their dealings with suspects who would immediately recognise them as novices. Often, more experienced colleagues asked the students to remove these markers of their student position 'for safety reasons' as situations otherwise could escalate.

Doctors' symbols, such as the white coat and the stethoscope, which have been extensively theorised as professional symbols (Becker et al. 1977; Rice 2010), are worn by the students at their own discretion. However, they also have a clear nametag positioning them as medical students. In the observations, the students sometimes wear the white coat, and sometimes they do not; sometimes they wear the uniform worn by all hospital personnel, and sometimes they are in plain clothes. In the medical case, we interpret the student uniform as a liminal, undetermined state concerning professional power. There is an additional aspect of working and learning in a hospital where several professional groups work, which is that the clearly displayed doctor's symbols position the students as *more* than students, while they are not yet professionals. The students are both aware and unaware of these aspects of power. A medical student comments about the significance of the white coat:

Observer: But some of the students wear the coat and some don't?

Informant L11: Yes, but I think that is mostly because it is cold.

O: But I noted that you do not wear it?

I: No, I wouldn't, I don't like to have it.

O: Why?

I: Well, because it signals, it signifies ...

O: Difference?

I: Yes. I don't want them [other health professionals] to think that I am better than them. But I don't judge my classmates who wear it. Everybody does it differently and you can do what you like.

(Observation 11, medical programme case)

Here is an example where the student, on one level (concerning self), is quite clear what the uniform may signify – yet there is initially another explanation put forth (it is cold) pertaining to the eagerness not to judge fellow students who choose to wear the coat.

From a liminality perspective, both studied educational contexts are characterised by subjects who are in-between roles. The use of uniforms provides a tangible example of ambiguities that rise as subjects move between roles and associated practices. On the one hand, the students are expected to train in work-based forms of education, conducting tasks that require the wearing of uniforms for functional reasons; on the other hand, the wearing of the functional uniform demarcates a novice from a full member of the professional community, something that presents a dilemma. This dilemma has translated to the use of 'layered' student uniforms that demarcate the subject from the professional community, while concurrently offering participation as a 'partial insider'.

The 'where' – liminal spaces

Concerning the spatial facet of liminality, we traced spaces and times (as these can be viewed as inseparable, see Schatzki 2010) that in some aspect were characterised by 'in-betweenness'. Examples of could be places and activities that simulate work arrangements within the educational setting, spaces within work settings that allow for educational activities, or spaces that are hybrids between education, work and/or the private spheres of life.

In the police case, a salient example of a liminal space/time was the patrol car compartment, as it was in use between educational activities. Car patrol is a central activity for policing, and patrol cars are essential within the educational context, as they are used for many types of training activities. However, in between such activities, the car compartment becomes a secluded and exclusive space that has ties to both education and work, but it is also a space that offers a certain degree of privacy and freedom. In this case, our study corroborates the other research that has highlighted how police patrol car compartments entail 'tin-bubbles' (Uhnöo 2015), that is, secluded spaces that afford coping, coarse joking, humour and counter-culture among police officers (Moskos 2009; Wieslander

2014). In the police case, the students use cars for training; however, they also spend idle time in the patrol cars, for example, during travel to and from educational activities and during breaks. The car compartment is liminal because it entails a space that, on the one hand, actualises the central tenets and demands of police work practice (e.g. operating the radio, car patrol, tactical vehicle manoeuvres and handling suspects), but, on the other hand, it also offers pockets of freedom that are in direct proximity to work practice. As such students are connected in time and space to the ambiguities and challenges of work practice, whilst also being in a psychologically safe space (see also Holdaway and O'Neill 2007 for a discussion of similar organisational 'safe areas'). The following field work excerpt illustrates this double nature of the car compartments as interstitial spaces for reflection. The excerpt describes an observation in which an observer (familiar to the students through repeated participant observations) ride along with a student patrol (three students) as they reflect upon a training activity:

After finishing working the case, the student patrol drives back towards the academy [observer rides along in the rear seat]. During the journey back, the three students reflect upon the different situations they had to handle and how the day went. They don't fully agree on the feedback from the instructor, and they agree that situations involving vehicles [what the students previously had trained on] are demanding as they actualize a lot of legal issues. In contrast, situations 'on foot' such as handling disturbances, are concluded to be easier 'In those cases it's more straight forward – it's less theory to keep in mind'. (Observation 60, police programme case)

In the medical case, one particular space that recurs as a site in-between education and work is the doctor's expedition. The doctor's expedition has a 'back stage' aspect to it, as it is almost the only space in the clinic that is not open to patients and the public and where the door is closed to anyone except professionals. The students on the clinical ward spend a lot of time in the expedition waiting for tutors, waiting to see patients, talking and studying. They do these things while wearing professional attire, always with a readiness to perform 'at work' while at the same time studying, discussing or reflecting 'in educational mode'. Students also report that they socialise or simply 'fidget with their phones' (Interview 6, medical programme case). In interviews, the expedition is a recurring space when students are prompted to describe where they study, discuss patients or difficult situations during their day in the clinic. The students use the expedition computers for study, often related directly to the task they are expected to perform. In one instance, a student, stressed for time, watched a YouTube video on how to perform a lumbar puncture just before going to see the patient and perform the procedure.

Taken together, the spaces exemplified here are primarily arranged for certain official purposes such as conducting patrol or performing administrative duties; however, these spaces are also mobilised for other purposes, such as reflection, studying or simply socialising. They are not private spaces, as the students who occupy them are in a certain mode (i.e. in uniform, ready to practice as professionals), but as students mobilise these spaces for other purposes 'in between', they are also places for activities other than work.

The 'what' – liminal activities

As the third facet of liminality, we explored the *activity* carried out in the separate professional educational settings. As previously stated, activity can be seen as *performing*,

in situated practice and as such, the analysis of activities becomes central to understand types and overlaps of different practices. In this regard, the comparative analysis yielded one common aspect, visible in both contexts, which was a linkage between the performances associated with a present student position, and the performances associated with professional practice. More precisely, this overlap can be defined as the precarious experience of students acting in the present (with their present knowledge as a basis) but performing and trying to embody their future professional selves without experiencing proficient performance. The concept of students acting as their 'future professional selves' is borrowed from the work of Hopwood et al. (2016), who discussed this in relation to simulated scenarios that are prefigured (i.e. through scaffolding or framing) to enable students to experience the central performance of their future work selves. Differing from Hopwood et al.'s (2016) application of the concept, the liminal state we identified in relation to students acting as their future professional selves concerns the embodied experiences of failure in the performances, postures or demeanours to which the students relate their work roles.

In the medical case, the students are encouraged to act as if they are 'already' doctors, both in teaching (through case scenarios) and in their clinical work. Liminality in activity is characterised by envisioning their future professional selves in relation to activities in the hospital. For the students interviewed, there is a focus on medical knowledge (or the lack thereof), in that they often frame themselves as being 'ready' or 'not ready' depending on the level of medical (knowledge) expertise. However, there are also instances in interviews where students reflect on what it means to be 'acting doctorly'. This envisioning is often coupled with a certain degree of worry. A student discusses her tutor in the context of working with a patient and reflects on her future state:

You're both inspired by it [her tutor's successful work] and maybe a bit anxious. You go 'oh, I will be there soon and then I must know EVERYTHING'. (Interview 14, medical programme case)

We also interpreted a liminality experienced primarily by female students in the medical case, encountering a clinical work practice that is experienced as 'male'. This student describes a 'doctorly' disposition of 'putting yourself forward' and voicing your opinion, where we interpret a problematic state of 'acting like a woman' and 'acting like a doctor':

I feel that when I finally take that space, then I'm allowed to. But it is entirely up to me. And then I think, this is not my personality, this is because I've grown up a woman in this society. I haven't been taught to put myself forward, or just blabber, or ask a question that is really a small lecture. I don't think we should all be like these guys who talk all the time, but maybe we should meet halfway. [...] We female students reflect more, I think, because we are women. We're not the norm, and then we view ourselves from the outside in another way than men do. And I think we think a lot about how we present ourselves, whether we **pass as a doctor**. I mean, I always get to hear I'm a nursing student. (Interview 16, medical programme case, emphasis added)

Similar experiences of being outsiders to professional norms were also voiced by female police students. For instance, interviews indicated that the male students 'naturally' 'take their place' in activities (that are arguably male coded) in police education. Examples, among others, include training at the shooting range and tactical driving manoeuvres.

Furthermore, it was expressed that some activities associated with police education were excluding to such an extent that parts of the female student group, even with training, cannot perform them. The most obvious example of this involved self-defence training. A female student expressed the following:

Like some self-defence techniques, female students just won't fix it because we are too short. We have to find work-arounds. We can show that we manage the technique on our examinations, but we will never be able to use it, it's not of use for us in real life. I'm half a meter too short to be able to do it. (Interview 1, police case)

In cases such as these, we interpret liminality as the experience of not performing 'the norm', of acting 'doctorly' or being able to fully perform as a police officer, based on conceptions of doctoral and police performance. From our analysis, we conclude that these experiences are expressed exclusively by female participants. In this regard, male students do not seem to experience this kind of liminality since they are already performing in accordance with the norms of gendered practice, thereby more easily being defined as participants.

Another example of performance driven liminality from the police case was when the students were asked to act in the capacity of a future professional police officer but without having (or experiencing) the capacity to embody this professional role. This type of 'mimicry' was regularly observed during scenario-training exercises where the students were imposed upon to act in the role of police officers without the scenario being appropriately reduced in complexity. With high degrees of difficulty, the students, acting as their future professional selves, self-reported the experience of doing tasks without knowing how to do them, which rendered feelings of 'faking' as well as 'failing' in policing. The quote below exemplifies this tendency as a student comments upon the experience of performing as a police officer in full-scale scenario training:

S: In the beginning I was very nervous, you know, you are standing there halfway up in the stairs and you are about to enter an apartment [the training scenario], well that makes you really nervous.

I: Why does that make you nervous?

S: Well, it's the insecurity. You feel as insecure in this 'police role' in a way, you don't know who you are going to be ... It's rare that you go in and perform on top, like 100%, there's always something that fail. (Interview 5, police case)

As indicated by the quote, acting in a mimetic manner without the possibility of being informed by, for instance, peer behaviours, theory or other sources of information is connected with feelings of problematic breakdown and failures. Through these types of activities, the students are constructed as liminal subjects

Discussion

The analysis presented above rendered a number of case-specific as well as case common examples of liminality. Regarding the 'who', we exemplified how symbols of work practice and student practice coincided in the use of uniforms that signified a pivotal state of liminality in both of the studied cases. We interpreted the use of uniforms with symbols from both practices as being quite visual examples of how students in professional education at

times are in interstitial positions in which the subject is partially estranged from both the student and the professional roles. As stated by Turner (1967, 96), symbols of liminality 'give an outward and visible form to an inward and conceptual process'. The structural 'invisibility' of a liminal person has a twofold character. They are at once no longer classified and not yet classified. In this regard, our study corroborates previous research on liminars, wherein these types of 'between-positions' have been shown to be significant markers of transformation (Cook-Sather 2006). Complementing a perspective in which the practitioner is theorised as being liminal, we also analysed the space that situates practitioners. This analytical facet indicated how a significant proportion of professional education involves spaces associated with work practice, educational practice and the social activities of student life. Similar to what the previous research on liminal space has suggested (Shortt 2015), the spaces we identified were 'mobilised' and reconfigured for different purposes, and these spaces thus hold the potential for different types of affordances for the practitioners. Finally, the empirical analysis also targeted the performances carried out by the practitioners in time and space as a way to trace liminality. In this regard, a central aspect of performance driven liminality was about the students acting like their future selves without the experience of having the necessary resources to accomplish that and feelings of alienation from professional practice due to experienced inability to perform functionally (for a summary, see Table 1).

Does liminality afford reflection?

While an in-depth analysis called for the separation of the facets of liminal practice, an analysis of liminal practice as an integrated whole is also necessary, as it allows us to explore whether there are contextual affordances for reflection in liminal practice. This linkage has previously been suggested (Beech 2011; Turner 1967) but not empirically assessed. In our view, the concepts of liminality and reflection share some common denominators that make a theoretical as well as empirical connections possible. First,

Table 1. Summary of findings and potential affordances for reflection.

Facets of liminal experience	Definition	Examples	Source of undeterminedness	Affordances for reflection
Practitioner	Partial positioning as a practitioner of work and education	Students in professional uniforms with student insignia	<i>Who am I?</i> Not being fully positioned. Falling outside of full participation of both practices.	Free to identify with several types of practitioners. 'Finding' who you want to be
Space	Spaces that are both/ neither education and/ or work	Patrol car compartment The doctor's expedition	<i>Where am I?</i> Spaces reconfigured and experienced in other ways than functionally intended	'Safe spaces' in-between Informality, backstage Semi-structure
Activity	Acting like you are a real professional from a student position and in a student setting	Post-scenario training conceptual angst Watching tutor's envisioning being in their shoes Acting 'male'	<i>What am I doing?</i> Doing tasks without knowing how to perform them Experience of failure, poor performance Feeling outside norm	Possibility to experiment with tactics etc. 'Seeing' the norm, spawning reflection on norm and self Mobilising counter-discourses

both processes can be seen as transformative, connecting past experience with future possibilities. Bjerlöv and Docherty (2006), for instance, discuss how collective reflection processes are about managing ambiguities as this process involves stages such as distancing, decentration and perpetual reformulations of perspectives. This has a number of similarities with the notion of ambiguity within the liminality literature, wherein liminal processes involve stages of separation or detachment from earlier presuppositions followed by uncertainties as well as the potential to pass 'thresholds' and acquire new outlooks (Meyer and Land 2005). Second, both liminality and reflective practice can be seen as processes characterised by unpredictability. As discussed by Boud (2010), practice-based understandings of reflection that emphasise how reflection is co-produced, contextualised and embodied means that reflection processes by nature are open ended, dynamic and unpredictable. Similarly, space-based definitions of liminality have emphasised how these spaces 'at the margin' are difficult to functionally define (Shortt 2015). This spatial overdetermination brings with it a potential to afford a range of reconfigurations. However, connected to this breadth of possibilities is also an element of unpredictability.

Taken together, these factors contribute to a state of *undeterminedness* as a defining characteristic of both liminality and reflection. In the reflection literature, reflection is often described as starting with a sense of confusion, a situation that is unsatisfactory (e.g. Schön 1987) or, as Dewey (1998) puts it, when our normal flow of activities halt at a 'forked road'. Similarly, the previous research on liminality has noted that it is a state of uncertainty (e.g. Hawkins and Edwards 2015) that might be experienced as problematic but also as a state of potential (Meyer and Land 2003). This is evident, for instance, in the police case, where failure to act as a future professional spawns reflection upon this role. In addition, in both cases, reflection occurs through an uncomfortable lived sense of being outside the prescribed norm (such as being female).

Building on the notion that undeterminedness lies at the heart of liminality as well as reflection, Table 1 presents a summary of our results, displaying the three identified facets of liminal practice and the examples described in the findings. Additionally, we have analysed the source of undeterminedness in each facet of liminality and suggest how this undeterminedness is also a possibility – an affordance for reflection.

Based on Table 1, it can be concluded that liminal facets hold the 'potential for reflection' due to their ambiguous, undetermined nature, which can be theorised to fuel reflection as an inherently 'problem driven' process. Liminality could, from a practice theory perspective be defined as a state in which a practitioner is in-between practices, in our case between spaces, roles and activities associated with student and work practice. Through this conceptual linkage, we have begun to explore the connections between reflection and liminal experience.

In the context of educational research, where an ongoing discussion has regarded the hardships connected with organising and formalising reflection (see Boud 2010), a liminal take on reflection offers an explanation to why reflection neither seems to be facilitated in formalised and organised contexts, nor in completely self-directed 'free-time' as both these states of being lack and counteract a necessary element of undeterminedness. In the case of complete self-direction, both case studies contain examples when students are in a relaxed state socialising, joking during idle time, 'fidgeting with their phones' in a non-reflexive state. Conversely, in formalised training activities,

there is a present 'organising risk' to reflection as increased organisation give predictability as well as stable positioning, something that threaten a careful balance between organised and spontaneous practice. This is something we have encountered numerous times in the interviews and observations as a striking lack of reflection. What the analysis of liminality adds, is the insight that both these states can be seen as practices which are relatively well-defined and associated with known *practitioners*, *spaces* and *activities*. To reflect upon, and investigate one's own understanding of these practices, liminality seems to offer *undeterminedness*, that opens up the possibility to see practices from other perspectives.

In conclusion, using a practice theory framework and a cross-case comparative approach, this study has opened up a discussion about the linkages of liminality and reflection. More specifically, we aimed to examine whether and how liminality might afford student reflection, and we assert that the concept of liminality holds a potential to add to the research on reflection, as a liminality lens directs the attention to how a state of undeterminedness seems to be important in reflective learning.

In order to better understand the linkages of liminality and reflection, a natural progression of this study would be to go more in depth into specific aspects of liminality, such as space, activity or the lived experience of practitioners. For instance, an emergent finding in this study was how liminality seemed manifest itself differently for male and female students. In some instances, female students reported feelings of being estranged when performing in male coded practice. Further research on how gender plays into liminal experience is needed to better understand these mechanisms.

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