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Maintaining doubt to keep problems open for exploration:

An analysis of law students' collaborative work with case assignments

Abstract:

This article examines how second-year law students act and interact to maintain legal doubt in solving case assignments in groups. Professional norms of inquiry within the legal domain include keeping an issue open for exploration and ensuring that all potentially relevant aspects of a case are considered before reaching a conclusion, as well as making the basis for such conclusions transparent. However, we do not know much about how students appropriate this core aspect of legal problem-solving. We analysed videotaped discussions in two student groups as they worked with cases in international law. The findings bring to the fore how (1) the students' interactions; (2) legal texts; and (3) the use of professional procedures and principles for investigation constituted an exploratory dynamic through which doubt was collectively produced and maintained in the group work. The analysis shows that in the process of getting deeper into aspects of the case at hand, problems were opened up and kept open by the students' construction of a number of intermediate questions. The relevance of such questions was tested in the group work, but also guided by texts and procedures that are linked in systematic ways. The article argues for the value of group work to support students in learning to take part in core knowledge practices that characterize legal problem-solving.

Legal doubt; knowledge practices; legal education; group work; collaborative problem-solving, learning

Highlights:

- The process of maintaining legal doubt is an interactional achievement in the group work
- Legal texts, concepts and procedures mediate and guide explorative actions
- Critical issues are investigated through formulation of a series of questions that count as legal questions
- The group work functions as a test bed for trying out and justifying arguments
- Group work facilitates joint exploration and makes investigative procedures transparent

1 Introduction

This article examines how law students in groups act and interact in order to maintain doubt in solving legal cases. As newcomers to a professional domain, students need to learn the norms and procedures through which knowledge is explored and applied in this specific knowledge community. This involves appropriating the discourse and conventions for how established knowledge is used to illuminate specific problems and their potential solutions; how tools like texts and other materials can be used in framing and solving problems; and what counts as relevant ways of reasoning and acting in the professional domain. In short, student learning is about taking part in and appropriating the knowledge practices that characterize the profession (Anderson & Hounsell, 2007; Jensen, Nerland & Enqvist-Jensen, 2015).

One aspect of knowledge practices concerns the processes through which questions are identified, opened up and thoroughly explored to arrive at a solid understanding or convincing solution. In such processes, it is crucial to avoid jumping to conclusions or establishing facts too early, as this may prevent deeper insights and justified claims. The strategies used to ensure proper investigations and to validate decisions vary across domains. Different knowledge communities have different techniques and criteria for *how* to reach justified conclusions (Donald, 2002; Knorr Cetina, 1999). Moreover, they may place different emphases and labels on related phenomena. In the STEM subjects, it is common to use the term ‘inquiry’ to denote in-depth investigation of knowledge and problems. In the humanities, it is more common to talk about critical thinking as denoting an investigative stance towards knowledge. The two may have several things in common, such as involving reflexivity in epistemic matters and rules of performance. At the same time, the labels used reflect characteristics of the different kinds of knowledge and insights produced in different domains.

In the legal domain, the term ‘doubt’ is used to express ways of keeping problems open until all conceivable aspects of the problem are thoroughly examined and the conclusion reached is well justified. Studies of legal practice from the courtrooms have identified doubt as a key aspect of legal problem solving and in ensuring sustainable development within this field of expertise. Berti, Good and Tarabout (2015) claim that the role of doubt in this field is equivalent to that of curiosity in science or surprise in philosophy, in the sense that doubt generates novelty and makes it possible to see issues from new angles. Likewise, in Latour’s (2010) study of practices in the French Council of State, doubt was identified as a value against which judges assess their work. His study illuminates how judges make many efforts to actively construct and maintain doubt in order to postpone conclusions and to ensure that all relevant arguments are critically explored. This happens, for instance, through repeated reviews of legal texts and through the use of contradictory drafts of decisions. These procedures bring a slowness to practice which ‘allows the law to ensure that it has doubted properly’ (Latour, 2010, p. 220). Even though legal knowledge does not reflect absolute certainty, a judgement has to be made in the end; once a case has been closed, there is no return. The main burden of ensuring that all relevant aspects are considered therefore lies ahead of arriving at a conclusion. Thus, legal doubt entails both keeping problems open for exploration and making the exploratory process transparent. Doubt is expressed in legal work as problems continue to unfold through rules for interpreting authoritative sources of law (e.g. Donald, 2002). Furthermore, transparency relates to justification by referring to authoritative sources effectuated in the construction of the legal questions which are raised and also by making alternative drafts of decisions public.

Whereas the task to maintain doubt is organized as a collective effort and distributed on several roles in the courtroom, *students* will need to learn how to enter into different roles and engage in actions and procedures in order to learn how to maintain doubt. A previous study on group work in an introductory course in a Norwegian law programme has shown how first-semester law students tended to jump to conclusions rather quickly in solving legal cases (Jensen et al., 2015). In this study, learning an exploratory approach through a thorough and stepwise examination of legal sources was identified as important for learning legal problem solving. From an educational perspective, an emerging question is how after the very first introduction period, students appropriate ways of maintaining doubt as they solve problems in educational settings. By perceiving doubt as a collective achievement in legal practice, where different roles, texts and procedures interplay (Latour, 2010), we will explore the characteristics of students' collaborative actions as they engage with complex legal cases. Our analytical focus will be on a) the characteristics of the students' interactions, which contribute to keeping problems open and ensuring that relevant issues are thoroughly explored; and b) what roles legal resources play in such processes. We analyse the students' interactions and their use of sources in the context of students' group work and their attempt to solve complex open case assignments in a 3rd semester seminar in public international law.

The article is organized as follows: First, we review relevant research on student learning in legal education with an emphasis on studies that focus on students' ways of resolving legal problems. Next, we frame our study conceptually by presenting a perspective on student learning as intrinsic to participation in knowledge practices, which are informed by discipline-specific tools and procedures *and* form the problem-solving process. We then present the empirical context and methodology, followed by an analysis of students' work.

2 Law students' learning and problem solving

Legal education has attracted researchers' interest both regarding law as a distinctive form of expertise and the highly concept-driven knowledge that characterises the domain.

One influential strand of research focuses on learning within legal education as a matter of appropriating the legal discourse by learning the particular ways of reasoning and constructing convincing legal arguments (e.g. Donald, 2002; Mertz, 2007; Burns, 1997). Previous studies within this strand have paid attention to challenges in the first year of law school and convey how students undergo a process of reorientation of their everyday understanding of human conflict. Such reorientation implies removing the contextual, narrative, and emotive features from human affairs and human conflict and is guided by a vocabulary of abstract, technical and nuanced terms and principles. In her ethnographic study of classroom interaction in eight law schools, Mertz showed how the *language of law* serves as a tool that enables first-year law students to 'stand back and weigh aspects of the problem at hand [...]' (Mertz, 2007, p. 10). The professional language and its concepts are thus important means in this transformative process.

Another strand of research has focused on legal reasoning (e.g. Stratman, 2002; Donald, 2002; Weinstock, 2016) and showed how such reasoning is guided by specific rules embedded in the institutional discourse. The legal discourse is very specialized and organized around formal concepts, which serve as tools. However, there is little research which addresses *interactional* aspects or questions of how students engage with *profession-specific tools* in educational settings in legal education. Some recent studies conducted

within other professional programmes have shown how ways of appropriating cultural tools and participating in relevant ways come across as interactional achievements in which engaging with the knowledge content of the activity is at the core (e.g. Damşa & Ludvigsen, 2016; Eriksson & Mäkitalo, 2013). There are also some quite recent studies from introductory courses in legal education that pay attention to how law students take part in knowledge practices and make use of tools in collaborative problem-solving.

One such study was conducted by Mäkitalo (2013). Concerned with the ways legal education provides possibilities for students to communicate and participate in a legal discourse, this study analysed interaction data from group work as beginner students were in the process of transforming a set of narrated events into a legal case. The analysis focused on how the students learn to categorize actions and events and on the enabling practices and resources involved as the students progressed in their engagement with the case over time. The analysis showed that the practice of justifying if a legal source was relevant or not was crucial for proceeding with the task. It also showed that the students' participation in practices such as categorization, and particularization and the use of re-versing questions enabled them to notice possible counterarguments as a starting point for detailed readings of the legal sources.

In a study from a problem based introductory course in a Norwegian law programme, three colloquium groups as well as teacher-led sessions were followed with a focus on the students' exploratory work as they collaborated on solving a complex case assignment (Jensen et al., 2015). The analysis revealed how the students, in framing and solving the case, enacted a variety of knowledge practices, such as integrating knowledge from various sources, elaborating on information and problems, specifying information in different sources and justifying the relevance of legal texts as part of their negotiation of stances. The study suggests that a richness of knowledge practices is important to secure a thorough investigation in the problem-solving process. This study also showed how epistemic resources, such as texts and methodological approaches, served to provide direction for the investigation process.

What emerges from these studies is, first and foremost, the important role that legal texts play in stimulating a variety of knowledge practices in the problem-solving process. Furthermore, the analyses of law students' collaborative work with case-assignments showed that questioning sources and temporary solutions and asking for justification of claims were important in the problem-solving process. Less is known about how students identify what questions should be raised and what is not yet resolved in order to move on with a task, or about how students handle the relationship between questioning and trusting the information at hand.

Even though previous studies have shown that language socialization plays a central part in developing a legal vision that enables a newcomer to the field to hear perspectives and ideas which they might previously have dismissed too rapidly, how students act in order to maintain doubt in educational settings where they work with complex cases is not in the foreground of these studies. In other words; how can the students be sure that their legal practice has 'doubted properly'? We will focus on how students ensure that relevant arguments are critically explored by zooming in on relations between tools, legal sources and interactions. Moreover, based on a view of doubt as a phenomenon that involves processes of testing, negotiations and breaking of opinions, we explore doubt as an aspect of collaborative problem-solving.

The analysis of student group work is guided by the following research questions:

1. How is legal doubt produced and maintained in the students' interactions?
2. What roles do the legal sources play in such processes?

By investigating these questions in the context of a second-year course within a 5-year master programme, the study also adds to existing research by providing insight into how students exercise core aspects of problem-solving as they are expected to be increasingly more independent in defining and solving legal problems. More insight into students' experiences and practices after the initial introduction period, but still at an early stage in the course of their education, is important since many challenges in university students' learning progression seem to arise during the second year (York et al., 2014).

3 Doubt as generated through profession-specific knowledge practices: A performative view

In exploring these questions, we employ a sociocultural perspective on knowledge practices and collaborative problem-solving (Säljö, 2009; Wertsch, 2007). From this perspective, knowledge is understood as socially distributed and embedded in language, material tools, and procedures of various kinds. Rather than having stable characteristics, knowledge emerges in specific ways in situated problem-solving through the way the participants approach, negotiate and make sense of the problem and the available resources. This implies seeing the activity as co-produced by the participants in situ, in which legal texts, concepts and course materials are potential mediational means. At the same time, situated actions are guided and regulated by the historically developed conventions that define a given field of expertise. For law students, this means that their ways of engaging in problem-solving are guided by conventions related to the institutional practice of legal education and relate to the norms and conventions of the profession as such, mediated through the legal texts and tools that have their origin in the professional world.

Institutional norms and conventions are incorporated in knowledge practices that provide direction for how to go about solving problems in a profession. Knowledge practices refer to collective ways of producing, sharing and assessing knowledge, which take distinct forms in different expert communities and which must be learned in order to become a skilful participant of the community (Knorr Cetina, 1999; Kelly, 2011; Jensen et al., 2015). Moreover, these practices are intrinsically related to the types of texts, instruments and other tools that are shared in the community and which incorporate historically developed knowledge and routines for particular forms of work. Such profession-specific texts are crucial for learning as they provide access points to established knowledge in the profession. They also carry a transformative potential as they allow people who engage with them to examine the world in new ways or to critically investigate the meaning potentials embedded in the tool itself (Wertsch, 2007).

As pointed out in the introduction, the role of doubt in legal practice is to ensure that all relevant aspects of a case are sufficiently explored and to avoid premature conclusions. We understand doubt in performative terms which implies to see actions as not only shaped by, but also as exerting effects on, the social world (e.g. Säljö, 2010; Fenwick, Edwards & Sawchuk, 2011). Doubt is seen an effect of students' work; generated by students talk and interactions as they formulate questions to the given, request explanations of stated knowledge claims, or call the area of application for a given rule into question. Importantly, such talk and interactions are intertwined with knowledge practices and cultural tools that characterise the legal domain (Mertz, 2007). Studies in other domains have shown that

forms of exploratory talk are involved in keeping problems open for exploration in collaborative educational settings (Littleton & Mercer 2013, Havnes et al. 2016). Such talk is, however, likely to take distinct forms in different knowledge domains. In this paper we therefore take an analytical interest in the forms of talk and interactions in the students' work as well as the role that cultural tools play in producing and maintaining doubt in the students' collaborative work. In the following section we describe the empirical study and our analytical approach.

4 Methodology

To examine how students act and interact to maintain legal doubt, we performed a case study of student group work as they solved case assignments in 3rd semester. We paid special attention to their use of legal sources.

4.1 Empirical context and data

The students we followed take part in a 5-year integrated master programme of law at the University of Oslo. In the Norwegian context, law-graduates enter into various forms of legal work both in public administration and the private sector.

At the beginning of their second year, the students were introduced to public law, both at the national level (called *Statsrett* in Norwegian) and the international level. The particular course we followed was included in a larger course in public international law. In the textbooks, this particular field is described as 'dynamic', as the constantly growing number of treaties reflects the increase in different forms of relations between international actors (Ruud & Ulfstein, 2011). Furthermore, the field is not easily delimited, as it can be defined by its legal subjects (such as states and international organizations and other international actors) or by its legal sources. It is also described as a contested area as '(...) some critical voices question whether or not public international law deserves to be characterized as law' (ibid p. 20, our translation). This transition and the dynamic and somewhat unclear boundaries which characterize the field of public international law makes this field particularly suited for exploring the role of doubt in legal problem-solving.

The course in international law was a non-mandatory seminar, which took place approximately three weeks before the exam. During the course of the week the students were expected to work with four different case assignments. The cases were all presented as open-ended one-page narratives which comprised several actors as well as sets of disputed actions and events that occurred at specific times in a temporal structure. In the process of engaging with the tasks, the students had a variety of textual resources at their disposal, such as one compendium with a selection of 300 'basic global and regional treaties', a selection of court decisions for the whole second year of law school and their textbooks. The course followed a structure which included teacher-led sessions in which introductions of new cases and summaries of the process of solving the cases were conducted. In between the teacher-led meetings the students were expected to spend two hours, at minimum, working through the cases.

Two groups, each comprising four students, agreed to videotape their group discussions as they worked through the cases in between the teacher-led sessions. An overview of the data is summarized in Table 1.

Table 1. Overview of the data

	Student group discussions	Teacher-led seminars	Interviews	Other materials
Participants in the study	Two student (colloquium) groups	Two seminar groups of 15–30 students, each led by one professor	Two student groups, two teachers	
Type of data	Videotaped meetings, duration 1-3 hours	Audio-tapes and field notes from participant observations of seminar meetings	Videotaped group interviews and audiotaped interviews with teachers (fully transcribed)	Course documents, case descriptions, legal sources
Amount of data	Eight meetings 18 hours	12 seminars 20 hours	Four interviews 5 hours	
Status of data	Core	Supplementary	Supplementary	Supplementary

4.2. Analytical approach

The ways that doubt was produced and maintained in the students' group interaction were explored and analysed in two steps: first, through identification of recurrent knowledge practices in the two groups, and second, through micro-oriented analysis of what constitutes these practices, including how they are performed in the students' interactions and what function they serve (Derry et al., 2010).

After repeated viewings of the video-recorded meetings, close descriptions of core activities in the two groups were made. This initial sorting and reduction of the data corpus can be described as thematic in the sense that the aim was to capture central principles that characterize law students' collaborative problem-solving (Braun & Clarke, 2006). The themes describe the different facets of the performance of law as an institutional practice made visible in the data. This initial thematic analysis identifies broader patterns in the exploratory dynamics of the students' work over time.

To explore the students' work in more detail and how they navigate different legal sources, we zoomed in on the interactional processes as the students attempted to find directions for further investigations. In order to get a better understanding of how doubt was maintained, we used the following analytical concepts to specify the students' talk and their use of available sources: *elaboration*, *specification* and *justification*. These concepts allow for opening up how such talk and use of sources related to norms for doubt; i.e. to explore all the relevant issues in relation to the problems by elaborating and specifying problems, concepts and information which need to be explored, *and* to make the exploratory process transparent by justifying their exploration.

In order to present the results from the analysis of the actions and interactions which makes it possible to maintain doubt in the problem-solving process, we have chosen to include

excerpts from one of the two student groups as they work with one of the four assignments. This group collaborated in a way that provided us with particularly rich data, as they deliberately organized their work so that they could test their ways of reasoning. They did not spend time on individual preparations before the group work, but collaborated on solving the cases from the beginning to the end, including exploring various legal sources together. The students also used the blackboard to structure their efforts as they explored the four case assignments throughout the week. Their collective orientation in their attempts to explore and solve the cases made it possible to get hold of the ways the students justified and negotiated how they should explore the problems in the cases and make sense of the available resources.

In the following sections, we will present the results from the thematic analyses (5.1) before we focus on the more detailed analysis of one group process (in 5.2).

5 Analysis

5.1 Dynamics of exploration in the students' group work

The case assignments can be characterized as open and complex. The main elements in the narrative that we zoom in on here are summarized in the following:

The students were introduced to the archipelagic federal state of 'Ying' in the federation of 'Banga', where old tensions between the minority population of Ying and the majority population of Banga came to the surface as the newly elected president (Zhang Dhele) started to adopt a series of laws which suppressed the Ying culture and allowed for the people of Banga to take over the archipelago's rich farmland. The State Parliament of Ying responded to these actions by claiming that the union should be dissolved and by deciding to try to bring a case against Banga before the International Court of Justice. Zhang Dhele also implemented several new 'initiatives' which led to the systematic killings of 70.000 people from the Ying population. In relation to this second part of the conflict, the students were introduced to another state: 'Imperia'. The students were informed that Imperia decided to provide Ying with weapons, military equipment and military advice after the Security Council, by a US veto, had blocked the possibility for the United Nations to take action against Banga. In the case assignment the students were presented with some of the main arguments from Ying, Banga and Imperia in their attempts to justify their actions.

Our first thematic reading of the data revealed a set of practices which was recurrent in both groups and contributed to maintaining an exploratory dynamic in the students' group work. Overall problems were maintained as they were reopened through the construction of new questions which were explored further. These practices were present at different phases of the process, and the students oscillated between the different practices as they decomposed and went deeper into the legal problems at hand. The following list shows the knowledge practices identified:

- Sorting the story into parties, conflicts and claims: Who are the parties? Who is in conflict? Who is claiming what from whom and when?
- Transforming claims or actions into (a) legal question(s): A question which is related to conditions for a certain rule.
- Identifying relevant legal sources to be explored.

- Collaboratively exploring and justifying concepts and principles in (and in between) legal sources.
- Relating concepts and principles in the sources to the details in the case and the specific question.
- Drawing (preliminary) conclusions to the previously set question.

In order to establish a shared starting point for identifying what needed to be explored, the students made attempts to get an overview of the different events in the cases. They identified the different judicial conflicts and claims by first organizing the stories into parties, conflicts and claims. Once different claims were identified, the students then moved on to transform these into legal questions.

An important principle for exploring knowledge in the legal domain is to construct questions that count as a legal question, which is reflected in one teacher's (teacher 1) statement in the interview: 'As a legal professional, once you've managed to set a precise legal question, then you're more than halfway there. A 'precise' legal question is defined by being 'close to the condition side of a rule' (teacher 1), e.g. a question that asks under what conditions a certain rule applies. However, such rule-related questions are not easily answered, as they require further investigation related to the specific problem at hand. To paraphrase the teacher, when the question is set, you are only halfway there. The analysis showed that the students moved in and between the process of defining the questions and exploring the legal sources. In other words, the activity of transforming particular claims into legal questions was interwoven with the students' search for a relevant source to explore and their exploration and justification of concepts and principles in legal sources. The process of oscillating between these practices contributed to further exploration of the case. However, in order to explore *how* doubt was maintained in the students' work, a more fine-grained analysis was needed.

In the next section, we present an in-depth analysis of one group process in one of the two groups. The excerpts were chosen to display *different ways* that doubt was maintained and how the students' questioning mode worked together with legal sources in moving between temporary achievements and new openings in the problem-solving. The detailed analysis of the selected excerpts was translated from Norwegian and transcribed (cf. appendix on notes on transcriptions). Some of the excerpts are condensed, which is illustrated by (...) in the transcript.

5.2. The micro-dynamics of producing and maintaining doubt

To zoom in on the micro-dynamics in the students' collaborative problem-solving, we followed one process in one group in more detail. This group consisted of four students who are all represented by pseudonyms. The students who participated in this group had met on a regular basis since the beginning of the very first semester for informal discussions of specific problems in the curriculum and to solve or compare suggestions for resolving assignments in different courses. At each meeting between the teacher-led seminars they found a room at the university which had a blackboard; as a starting point, the students took a few minutes to read through the cases together. We identified some differences in the students' contributions and they took on various roles and responsibilities in the group that served different functions in the group work, such as engaging in verbal discussions, writing on the blackboard, requesting clarifications of how to move forward in the problem-solving

process and reading from different sources providing the group with details relevant for solving the case assignments (see 5.1).

5.2.1. Identifying a question that allows for multiple explorations

The first challenge for the students was to identify a question that was precise enough to be explored, yet open enough to allow for investigation of several potentially relevant aspects of the case. To investigate how this was done, we enter into the group meeting as the students begin to explore the conflict between Imperia and Banga. The following episode is initiated as one of the students (Thomas) asks the others the following question: 'But what should be the question here?'

Excerpt 1

Turns	Verbal communication	Descriptions of actions
1. Jacob	How about if we ask, 'Do Imperia's actions represent a major interference in the national sovereignty of Banga?'	Looks at the case assignment while speaking
2. Thomas	Yes, but <u>that</u> comes later	
3. Jacob	Not now?	
4. Thomas	I think that first we may need to find a more general question about <u>that</u>	
5. Jacob	Yes	
6. Thomas	Such as, 'Did Imperia have the right, according to law, to use force' ... No, that will not be it...because then one will need to first decide if they had actually used force. Hehh:::	
7. William	But they didn't have [the right to]	
8. Thomas	[But was it] a violation of public international law, yes, to support...	
9. William	Is Imperia's support of...of (10s) uhmm	Holding the case description in front...looks at it...
10. Jacob	Ying	
11. William	The Yings, a violation of public international law?	
12. Jacob	Yes, that is a good starting point	

13.	Thomas	Well, that is what I can think of as the closest thing to a <u>main</u> question here. Because as part of this one can discuss ... if you supply rebel groups within a country, this counts as a...and then one must take into account whether or not it (Ying) is to be recognized as a state? ...	
14.	William	Uhm, yes	William writes the following on the board: Is Imperia's support of the Yings a violation of public international law?

We see that Jacob responds by testing out a question, saying, 'How about if we ask'. The relevance of the question seems to be acknowledged, but not the order of it. Thomas argues that the question 'comes later', and by saying so, he requests more exploratory work from his peers. The problem is not that the question is not relevant, but that it is too precise too soon—they might then overlook important elements that require further questioning. Hence they need doubt when questions become too precise. Thomas continues, arguing, 'We may need to find a more general question' (line 4). Together with his peers, he then attempts to formulate such a general and open question in a cumulative fashion. Thomas' formulation seems to build and rely on the objections from the others (line 6–11).

The collective functions as a gatekeeper, and whose role is to correct and prevent the group from formulating too precise a question too soon, because if they do so, their investigative process will be put on hold. Doubt is then maintained through a collectively acknowledged way of asking your peers to stop, to wait, and to think. Thomas says, 'but that comes later'—i.e. 'hold your horses', the question is relevant, but stated too soon. Jacob acknowledges this in line 5. The conclusion that William writes on the blackboard ('Is Imperia's support of the Yings a violation of public international law?') is acknowledged as such because it allows further exploration. This entrance question provided an epistemic space for producing and maintaining doubt so that they can explore the case further. However, at this point the students are not able to clearly identify what exactly they need to explore further.

5.2.2. Decomposing the problem through legal sources

The next excerpts demonstrate the important role the legal sources play in the process of specifying what the students will need to explore. As soon as the overall framing of the problem was acknowledged, the students started to search for relevant sources. Two legal sources were suggested: a court decision (the 'Nicaragua decision') and a specific international treaty (the Charter of the United Nations). They reminded each other that they should first consider legal treaties, as William suggests: 'so now we move on by asking what is considered as illegal support according to the UN Charter'.

What emerged from the analysis is that the students do not necessarily wait to explore legal sources until after they have defined a precise legal question, but rather that they use legal sources to find a direction for explorations that are not yet specific. In the following excerpts we shall see that the students' exploration *in and through* legal sources resulted in *new questions* that needed to be explored, which then served to avoid jumping to conclusions. We enter the group a couple of minutes later as the students have moved on to explore the UN Charter. At this point, Peter and Jacob had identified a specific article in the text (Article

2) and started exploring the text by systematically considering whether or not different subsections are relevant for their case.

Excerpt 2a

Turns	Verbal communication	Descriptions of actions
1. Jacob	Does 2.3 say anything about illegal support? (3s)...no it cannot be 2.3. (...). It must be 2.4, I think...Yes, here it says that, 'All members shall refrain in their international relations from the "threat or use force"' (5s) But here it says use of force...is <u>that</u> considered as support?	Peter and Jacob read aloud from the following sections: 2.5, 2.7, 2.3. Jacob shifts to subsection 2.4.
2. Thomas	Yes, that is what we need to ask, if the kind of support provided by Imperia can be considered as use of force	
3. William	That is exactly what the case in Nicaragua is <u>all about</u> .	Moving towards the blackboard.

Here the students begin to specify the question by considering the relevance of the sources for their case at hand. Jacob asks about the relevance of a subsection previously suggested by Peter (line 1): 'Does 2.3 say anything about illegal support?' However, after reading through the section silently, he soon concludes that it is not relevant for their case. Note that in their search for a specific section in the legal source, Peter and Jacob read aloud from different subsections in article 2. After considering several subsections, Jacob finally recognizes in one of them (2.4) a concept previously mentioned in the group, and he reads it aloud. Once more he asks his peers about the relevance of this particular section: 'use of force...is that considered as support?'

The students needed to secure a legal basis for their exploration. Both Thomas' and William's responses—'yes, that is what we need to ask' (line 2) and 'that is exactly what the case in Nicaragua is all about' (line 3)—signal that they begin to establish what they need to explore; i.e. they move towards a specific question. The function of the collective seems then to shift from maintaining doubt (as shown in excerpt 1) to ensure that the suggested question is in line with acknowledged ways of asking legal questions. Note that the group here returns to a question that Thomas tried to form in excerpt 1 (line 6). The difference is that the students at this point have identified an acknowledged legal source to justify the question for exploration.

However, this process of specifying the problem does not stop here, because soon after introducing the second legal source, i.e. the Nicaragua decision (line 3), William begins to question his previous recollection of what is at stake in the Nicaragua-case.

He questions the scope of the overall problem by suggesting that there might be more issues at stake in the Nicaragua decision that they will need to take into consideration in exploring Imperia's actions. Hence, they activate doubt to avoid missing out on issues that require exploration. William's question creates a tension in the group concerning what is considered illegal support according to the court decision.

Excerpt 2b

Turns	Verbal communication	Descriptions of actions
1. Thomas	But isn't it what the Nicaragua judgment says...that if one arrives at the conclusion that something falls below the threshold for use of force, then it is <u>not</u> a violation? (4s). At least that is what I have thought	Thomas stares at his selection of court cases.
2. William	(...) It says here something about the fact that 'trade' in the case of Nicaragua was not an instance of use of force. But it doesn't consequently conclude that such trade was not considered as a violation of public international law...	William starts to read from the Nicaragua decision, silently at first, and then aloud, while pointing at specific sections in the text.
3. Thomas	(...) Ok, but then we have three different concepts in Nicaragua. There is 'intervention', 'use of force', and 'armed attack'.	William moves back towards the blackboard.
4. William	But what should we ask now?	
5. Thomas	But then we start with the question: Does Imperia's support of the Yings represent a violation of the rule that prohibits use of force as it is stated in article 2.4. Yes, that is what we do first (20 s). And then we need to establish the threshold for use of force (2s). What does it mean to use force?	William writes a new question on the blackboard: Has Imperia violated the prohibition of force in 2.4?

Thomas responds to Williams's suggestion by providing a different interpretation of what is considered a violation according to this court decision (line 1). At the same time, other alternatives are also kept open as he stops and says, 'at least that is what I have thought'. The students' ways of questioning the relevance of suggested legal sources not only helps them select what is most relevant, it also makes visible the need for further exploration of knowledge in the sources (line 2–3). This identified gap in the students' recollection of the principle and Thomas' uncertainty of what is considered illegal support pushes them into a new round of exploration of the legal source. William starts to read the text and makes an attempt (line 2) to justify his previous claim that they need to consider more issues in their case.

The above interaction displays the practice of specifying a problem *through* the legal source. The function of specifying a problem is however not to conclude, but to explore more issues. At this point in the students' group work, the Nicaragua-case serves the function of reopening the overall problem and widening the scope of Imperia's actions as a legal problem. This comes through as the students, from their joint reading of the Nicaragua-decision, identify not only one, but three different concepts at stake in the decision (line 3). Note that at this point all four students engage in reading the text. Doubt is maintained through a collectively acknowledged way of challenging each other's ways of understanding

the main issues in sources and asking your peers to read the legal sources more thoroughly in order to elaborate on information in the sources that might be considered in identifying what questions to ask. This search for details for further exploration might be seen as an example of appropriated legal knowledge practices. Specifying the question as well as opening new problems is interactionally achieved by the different positions the students take in the interaction.

Excerpt 2a and 2b illustrate how the textual sources serve different functions: While the UN-Charter contributed to establishing what to explore as an acknowledged question in the profession (2a), the Nicaragua-decision contributed to reopening the overall problem and widening the scope of Imperia's actions as a legal problem. Doubt is maintained here by the way the students hold each other accountable for their temporary conclusions by requiring justification and securing a legal basis for their arguments.

As soon as the students have identified an acknowledged legal basis for the question of intervention (previously suggested by William), they returned to explore the Nicaragua-decision more closely. This time they identify relevant similarities between the two cases and the relation between the actors in the case. After investigating several alternatives, the students moved towards an argument that Imperia's actions should be seen as illegal support. However, this was only seen as a temporary closure in the process of exploring Imperia's actions as a problem in public international law. In the following section we will show how the students maintained doubt in the further exploration of Imperia's actions.

5.2.3. Maintaining doubt by exploring the scope of the problem

In the teacher-led sessions the students were reminded repeatedly of the importance of engaging in alternative discussions in order to broaden the scope for investigating legal problems (field notes). The teachers underlined that the students, in order to learn to see and explore relations between different questions in complex cases, needed to engage in more subsidiary discussions than legal professionals. One of the teachers pointed this out in the interview: '...while in court legal professionals can and tend to deliberately jump over the fence at its lowest point, the students need to go all the way and discover all possible routes'. This relates to the importance of securing that all relevant aspects are sufficiently explored, and to make the basis for decisions transparent. However the students were not given clear instructions as to how to identify the subsidiary discussions that should be performed.

The next excerpts show how doubt was maintained in the group work by the students' attempts to define the boundaries for exploration, and that engaging in a series of questioning enabled the students to handle the scope of the problem.

As part of the exploratory process the students attempt to identify the borders of what to explore by testing the relevance of suggested sub-questions. We enter the group work as William asks his peers if they are ready to reach a conclusion on the overall question that they agreed on previously (excerpt 1). He looks at the blackboard, points to the overall question, and asks, 'But now::: should we just state that the answer is 'yes' here?'

Excerpt 3a

Turns	Verbal communication	Descriptions of actions
1.	<p>Thomas Yes, their actions represent a violation of public international law (6s).</p> <p>And now, what is the next question? Do we ask if this violation can be justified based on self-defence? (2s)</p> <p>And then afterwards one can ask if it can be justified based on the principle of responsibility to protect.</p>	<p>William writes 'yes' next to the overall question: Is Imperia's support of the Yings a violation of public international law?</p> <p>Thomas looks at the other students and at the blackboard.</p>
2.	<p>Jacob (...) But is it a violation of public international law if it can be justified?</p>	<p>William draws a new column.</p>
3.	<p>Thomas No, but as a starting point it is in violation if there is no valid exception to the rule that can be used. I mean, that is just good old-fashioned legal work (5 s). We need to consider that now.</p> <p>But what is the legal basis for self-defence, Peter? (2s) Jacob?</p>	<p>Peter starts searching in the collection of treaties.</p>

In this excerpt we see how the suggested conclusion is viewed as only temporary in the students' exploration of the legal conflict, because as soon as the group has agreed to conclude, Thomas starts to ask his peers if they should explore *further* by looking at *different ways* of justifying Imperia's actions by presenting new and alternative questions (line 1). This way of asking for relevant exploratory routes in terms of alternative questions is made visible through chains of questionings as he suggests issues to explore 'now' and 'then afterwards' (line 1).

We also see that the students' ways of testing and asking each other for how to go about, i.e. what to ask and when, contributes to clarify methodological issues. The interaction between Thomas and Jacob (in line 2–3) illustrates how they need to make sense of the ways that problems are central but also transitory in the process of problem-solving, and that methodological rules contribute to keeping doubt maintained in the group work.

In the following excerpt we see that as soon as the students agreed to approach the question of self-defence, they engage in a new round of questioning of the relevance for their case.

Excerpt 3b

Turns	Verbal communication	Descriptions of actions
1. Thomas	Self-defence, Article 51::: What is it that we need to consider? (10 s) But I think that here we also need to take into consideration that Ying is <u>not</u> regarded as a state.	The students start to read from Article 51 and the Nicaragua decision.
2. Peter	Yes, I was about to say the same.	
3. William	Because no one has the right of collective self-defence if they are not a state...because then what has happened here in our case should be considered as internal affairs within Banga. So then maybe it's not...	Peter starts searching in the collection of international treaties.

Thomas asks his peers 'what is it that we need to consider?', and by doing so he signals the need to elaborate on what they will need to explore in their case. Note that while the other students start to read in the different legal sources, Thomas takes time to stop and think before he suggests that they first will need to take into consideration a previous conclusion in the case (line 1). This time the students collectively make sure they do not miss out on important preconditions for what to explore further. In addition to avoiding missing out on issues that need to be explored, doubt is also needed to avoid asking irrelevant questions. We see here that William makes an attempt to justify why collective self-defence probably should be excluded in their case.

The students moved on with their work and identified the limits of the problem. Through testing other possible ways of claiming self-defence, the students were pushed once more into exploring legal sources (Article 51). After exploring concepts and conditions for self-defence, the students concluded that the conflict in their case could not be seen as an instance of self-defence. As soon as the students started to approach the second alternative question (responsibility to protect), they recognized that there were no written legal sources to build on, and they soon engaged in a discussion on how to justify the exclusion of this question. It should be noted that neither the students nor the teachers rejected this principle as a point for discussion as such, but instead concluded that claiming 'a responsibility to protect' the Ying population would be a difficult argument to construct as it deviates from what is most commonly accepted in the profession. Finally, after considering all the different questions and legal sources, the students agreed to argue that Imperia's actions couldn't be justified according to public international law.

6 Findings and discussion

Acknowledging that the ongoing production and upholding of doubt is seen as a key feature of legal practice (Latour, 2010), we were interested in how students, in the context of group assignments, go about ensuring that their legal practice ‘has doubted properly’. Our main question was as follows: *How is legal doubt produced and maintained in the students’ interactions?*

The analysis showed how doubt was a collaborative achievement in the students’ group work, produced and reproduced in the way students interacted and took responsibility for asking questions, justifying claims and trying out arguments on each other. Both groups who participated in the study were highly question-driven in their work, in the sense that their process evolved through the construction of a number of questions which served both to *open up* and to *keep problems open* in their investigations of the cases at hand. The first thematic analysis revealed how the group processes involved a set of recurrent knowledge practices, in which the students oscillated between exploring claims in the case story and information in various legal sources. Furthermore, this explorative dynamic was driven forward through the search for questions that count as legal questions, i.e. they should be close to the ‘condition side’ of a rule and open for the exploration of significant judicial aspects. However, as shown in the analyses, such questions are not straightforward to answer. Rather, they give rise to a series of new questions when the different aspects of the condition side of the rule are further examined.

The in-depth analysis of the exploratory process in one group gave deeper insight into the characteristics of the interactional process which served to generate and maintain doubt. The first search for an overall legal question served to open up a problem space for the further process, from which multiple aspects of the case could be examined (excerpt 1). The overall question was broken down into several sub-questions, and the ways these sub-questions were constructed were not random. Rather, the students followed a structured approach regarding what questions were appropriate in what stage of the process. In some sense, the ways in which questions were raised and examined took the form of what has been described as ‘exploratory talk’ (Littleton & Mercer, 2013), which is characterized by being tentative and open and by asking for justifications in the probing of arguments. However, in contrast to what often appears in children’s and younger students’ dialogues, the interaction was distinctive also in its disciplinary content and in the use of profession-specific terminology.

The rules of inquiry in the legal domain place emphasis on ensuring that questions and arguments have a legal basis (e.g. Donald 2002), and the students thus requested from each other that such a basis was both investigated properly and made transparent in their work. For instance, the analysis of excerpts 2a and 2b showed that the students recurrently asked each other for reasons and justifications for how to frame legal questions; they challenged each other’s interpretations of concepts and principles in legal sources and they stopped and signalled the need to elaborate on information provided in the legal texts. Finally, the analysis of excerpt 3 showed how doubt was maintained through the students’ ways of questioning the scope of the overall problem by actively asking their peers for other possible judicial issues to explore and by formulating a series of legal questions for their peers to respond to. Hence, the talk in this study was distinct in its content and professional discourse, and reflected key knowledge practices in the legal profession (Donald, 2002; Jensen et al., 2015). Whilst the process did involve categorization of legal conflicts in relation

to established law, as highlighted in Mäkitalo's (2013) study, it also involved the constant generation of new questions to explore in order to avoid closing the case too early.

The distribution of roles and responsibilities among the students in the group was significant for the interactional process. Latour's study (2010) about judges' work in the French Council of State showed how responsibilities for maintaining doubt in courtroom practices are distributed among different actors. Contrary to the preconfigured roles in professionals' work, the students in our case needed to take different positions in order to ensure that different voices and perspectives were included in defining what to explore and what had yet to be resolved. The analysis of excerpts 2a and 2b showed how the students took turns in accounting for the need to maintain doubt. Hence, the group as a collective took responsibility for bringing what Latour (2010) describes as a 'slowness to practice' to ensure 'proper doubt', and for continuously making the legal support for their arguments transparent. The students too employed procedures such as repeated readings of texts and a systematic trying out of preliminary arguments and decisions to ensure that important aspects of the case were investigated. Moreover, procedures for reading and examining different legal texts were important in the construction of appropriate questions, and, as shown in section 5.2.3, principles for how to enter alternative discussions contributed to maintaining doubt. The enactment of these procedures was collectively achieved through the ways the students took different positions in the ongoing dialogue. The group process as such functioned as a test bed for posing questions and trying out arguments, which in turn served to generate and maintain doubt.

Hence, to understand how the students remained in an explorative mode and opened up different avenues for exploration, the mediating role of profession-specific concepts, texts and procedures is crucial. One main finding related to our second research question is that *legal texts and concepts served as important mediating tools which allowed for the exploration of problems to unfold in a structured manner*. For instance, excerpts 2a and 2b showed how the students' examination of core concepts in the legal texts led them to identify new questions in need of exploration. The question-driven forms of interaction are thus tightly interwoven with the use of professional language as a cultural tool.

Our findings here are in line with those in Mertz's study (2007), which underlined how the 'language of law school' enabled students to distance themselves from irrelevant details or emotive features in human conflicts by letting other possible solutions come into view. Our analysis supports Mertz's findings, but adds to these in two ways: First, while Mertz viewed the language of law school as a means for developing the specific habit of 'thinking like a lawyer', our findings shed light on how not only the language, but also profession-specific norms and procedures serve such a distancing purpose in students' problem-solving. These 'rules of inquiry' were important for the ways in which doubt could be generated and the legal problem could continue to unfold during the group process.

Second, our findings provide insights into the way procedures for legal practice guide students' work. In Mertz's (2007) study of classroom interactions, she found that procedural aspects of explorative work in law tended to be implicit in teacher-student interaction and were thus less accessible to the students. Our study from a different educational setting reveals how the students worked through procedures and texts, but also created a space for testing which questions to ask and for elaborating on the norms for investigation. It appeared that their ways of asking basic questions in relation to principles and procedures in the field of law provided opportunities for all the students to verbalize and share their understanding and to become aware of aspects they had not thought of previously. Here we see parallels to previous literature on peer-mediated learning which highlights the value of

colloquium work and peer discussions in student learning (e.g. Havnes, 2008). In addition to facilitating the externalization and justification of arguments, such activities provide important spaces for students to manage their own learning without direct interference from teachers.

By following the interactional process of one student group, it became clear that legal texts, concepts and procedures not only were important to mediate emerging understanding of the case, but also provided pathways for exploration through the way the texts and concepts built on each other. The legal domain, in which treaties and court decisions serve as authoritative sources of knowledge, is indeed textually mediated. Such treaties and court decisions are also connected in specific ways; they are developed over time, layer upon layer, and each text includes explicit references to previous texts in the sociogenesis of law. Whilst court decisions need to make the legal basis for the decision transparent and thus refer to treaties and sections, treaties also develop based on court decisions. Concepts such as 'illegal support' and 'prohibition of support' in the case examined above are addressed in, and thus can be traced across, the type of texts. In this way the legal texts, concepts, questions and procedures made up a *knowledge infrastructure* (Edwards, 2015) for students' work which allowed them to build questions and explore legal issues in a structured way, which also served to generate and maintain doubt. Throughout the process of testing questions and justifying the exploratory process, this knowledge infrastructure allowed for the problems to unfold in the students' work, but also to a certain extent allowed for the students to identify and discuss possible routes for how a problem can unfold.

7 Implications and suggestions

The two-step analytical strategy employed in this study has provided new insights into how students' joint efforts to maintain doubt involve the mobilization of epistemic, social and material relations in the process of engaging with legal problems. The findings bring to the fore how (1) the students' interactions; (2) the textual resources; and (3) the use of professional procedures and principles for investigation constituted an exploratory dynamic through which doubt was collectively produced and maintained. We suggest that maintaining doubt is an effect of sets of actions and interactions which are mediated by texts and procedures of legal problem-solving. The students' exploratory work comes across as question-driven and pre-structured. Yet, the tools and knowledge infrastructure along which the students move, contribute to the continuous unfolding of the problems. In this context, doubt is repeatedly 'performed into existence' (Fenwick et al., 2011, p. 4) in the web of relations comprising students' actions and interactions, the legal sources, procedures, questions and claims until the point is reached when the actors find that their legal practice 'has doubted properly' and the case is closed.

As knowledge is increasingly contested and in need of continuous justification across professions and disciplines, the focus on doubt addresses an aspect of knowledge practices which is significant for research on learning in higher education. At the same time, ways of ensuring a thorough exploration of problems are likely to take different forms in different domains, which need to be explored in their specificity. Therefore, we suggest more studies in higher education which investigate interaction in student groups in order to understand their collaborative knowledge work and learning as well as the interplay between talk, texts and other tools.

There is also a need to investigate these issues across a larger and more varied student body. The data presented in this article was selected from a well-established colloquium group characterized by a high degree of mutual trust between the students. However, other studies of student group processes have identified differences between groups in their strategies and achievements and have also pointed to the socially challenging aspects of group work (e.g. Damşa & Ludvigsen, 2016). In order to develop a better understanding of exploratory group work as a site for students' participation in knowledge practices in higher education, we suggest that future research should further examine the variation between groups and how such variation arises.

Finally, some implications for educational practices in higher and professional education can be drawn from this study. Our analysis illustrates the importance of providing law students with opportunities to practice the process of making their exploration transparent. While Mertz's study of student-teacher interactions in classroom settings showed that instead of making ways of exploring legal problems transparent for the students, profession-specific procedures remained implicit in the classroom interactions, our analysis from colloquium group work sheds light on the learning potential of group work and collaborative processes in learning this core aspect of legal problem-solving. In this group the students both worked through procedures and texts, but also made attempts to make their process transparent. However, such learning potential does not preclude the need for teacher support. On the contrary, guidance of procedural aspects of how to 'do' legal work needs modelling. We would therefore imagine that it would be useful for teachers in law school to activate students in group discussions also in classroom settings in order to facilitate joint exploration, make the investigative procedures of the profession more transparent and make students' current understanding approachable for teachers' guidance.

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Appendix Notes on Transcription

(5s)	Indicating a timed pause
here	Indicating emphasis
(...)	Indicating that a part of the interaction is not included
:::	Indicating elongated speech, a stretched sound
[]	Indicating overlapping talk