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Making the case for virtual law cases: introducing an innovative way to teach law

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ABSTRACT

Concerns have been raised about how well legal education prepares law students for the reality of their future work life. Some research suggests that law students find it difficult to transfer and apply theoretical knowledge to decision-making in real-life contexts. This article presents a novel way, virtual law cases (VLCs), to teach and learn legal knowledge, analytical reasoning and decision-making skills in a safe environment without real-life repercussions. The paper sets out a number of steps when developing a virtual law case and illustrates the different elements that are included. The article also reports the results of the pilot testing with other colleagues, legal experts, as well as with law students in a Swedish legal education context. Early evidence suggests that colleagues and legal experts are confident that using VLCs is a valuable way to teach legal reasoning and decision-making, and that VLCs offer students a tool that allows them to see how legal fields are interconnected.

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KEYWORDS Virtual law cases; legal education; administrative law; online learning

1. Introduction

Concerns have been raised about how well legal education prepares law students for the reality of their future work life; some research suggests that law students find it difficult to transfer and apply theoretical knowledge to decision-making in real-life contexts.¹ Knowledge, in other fields, suggests that digital learning resources offer students an opportunity to practise decision-making and reasoning skills in relation to complex material.² There is, however, little empirical work on how such digital learning resources

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¹For an introduction to some of these key themes, please consult Katherine R Kruse, "Legal Education and Professional Skills: Myths and Misconceptions about Theory and Practice" (2013) 45 *McGeorge L Rev* 7. The concerns raised here date back to the 1930s, suggesting that this continues to be an important matter in legal education. Elsewhere, see also: Karl N Llewellyn, "On What Is Wrong with So-Called Legal Education" (1935) 35 *Columbia Law Review* 651. In the European context, others have identified risks in that students adopt mechanistic and rote-learning approaches to learning law; see for example: Chloë J Wallace, "The Pedagogy of Legal Reasoning: Democracy, Discourse and Community" (2018) 52 *The Law Teacher* 260, and also Hazel Dawe, "Learning Achievement Goal Theory and Teaching Students Legal Problem Solving" (2019) *The Law Teacher* (forthcoming).

²See eg Anne H Berman and others, "Virtual Patients in a Behavioral Medicine Massive Open Online Course (MOOC): A Qualitative and Quantitative Analysis of Participants' Perceptions" (2017) 41 *Academic Psychiatry* 631.

could facilitate law students' learning. In this article, we present the concept of virtual law cases (VLCs) as a way to facilitate law students' transfer of theoretical knowledge to practical legal reasoning and decision-making. VLCs are digitalised, didactic material, which offer students an opportunity to practise critical and analytical reasoning and legal method through case-based, digital material. The article starts with a brief description of legal education in Sweden. A number of specific challenges legal education faces today are identified, as well as opportunities afforded by campus and digital education. Subsequently, an overview of virtual cases supported by research from other contexts and professions is presented. Finally, we outline the design process involved in designing and testing VLCs.

2. The Swedish legal system today

Legal scholars within comparative law often describe the Swedish legal system as a mixed system, with elements of both common and civil law.³ As is the case in civil law countries, almost all areas of law are encapsulated in Swedish legislation; however, unlike in civil law countries, Swedish law has never been subject to all-encompassing codification. In Sweden, the supreme courts have an important role in forming the *law in force*,⁴ but their scope of action cannot be compared to that of common law judges in other countries such as the US or the UK.⁵ Swedish law is based on a positivistic theory of law consisting of five main legal sources: legislation, *travaux préparatoires* or preparatory work, case law, legal scholarship, and customs.⁶ Consequently, the Swedish legal system places high demands on a lawyer's analytical thinking and reasoning abilities on a host of different, and at times diverging, sources.

Swedish law is increasingly influenced by international agreements, conventions and soft law. In addition, increased regulation of society and the politicisation of law add to the already complex nature of the law. An example of the politicisation of the law is environmental law, where, in some cases, it is left to the court to strike a balance between competing ecological, social, economic and other interests, without much guidance from the legislator.⁷ The substantive expansion of law leads to higher demands on lawyers to be able to orientate themselves in a previously unknown regulatory body.

3. Legal education in Sweden

Legal education in Sweden is governed by a number of qualification requirements, outlined in the Swedish Higher Education Ordinance.⁸ All students must achieve a set of intended learning outcomes in order to graduate, but the composition of each legal

³Laura Carlson, *The Fundamentals of Swedish Law* (3rd edn, Studentlitteratur AB 2019) 38 et seq.

⁴In German: *geltendes Recht*. For a discussion on the term *law in force*, see Marie Sandström, "The Concept of Legal Dogmatics Revisited" (2005) 102 *Archiv für Rechts-und Sozialphilosophie (ARSP) Beiheft* 133.

⁵See for a general introduction from a US perspective, Richard A Posner, *How Judges Think* (Harvard University Press 2008). For a Swedish perspective, see Mauro Zamboni, "The Positioning of the Supreme Courts in Sweden – A Democratic Oddity?" (2019) 15 *European Constitutional Law Review* 668.

⁶For more information see Laura Carlson, *The Fundamentals of Swedish Law* (3rd edn, Studentlitteratur AB 2019); regarding legislation pp 43–45, preparatory works pp 45–48, case law pp 48–50, legal scholarship p 51, customs p 51.

⁷For examples, see Chapter 3 Sections 5–8 Swedish Environmental Code. For an English translation, see Ds 2000:61. Decision by the Supreme Administrative Court (*Högsta förvaltningsdomstolen/HFD*), HFD 2014 ref 8. Decisions by the Land and Environment Court of Appeal (*Mark- och miljööverdomstolen/MÖD*), MÖD 2017:7 and MÖD 2019:5.

⁸2nd appendix of the Higher Education Ordinance (1993:100).

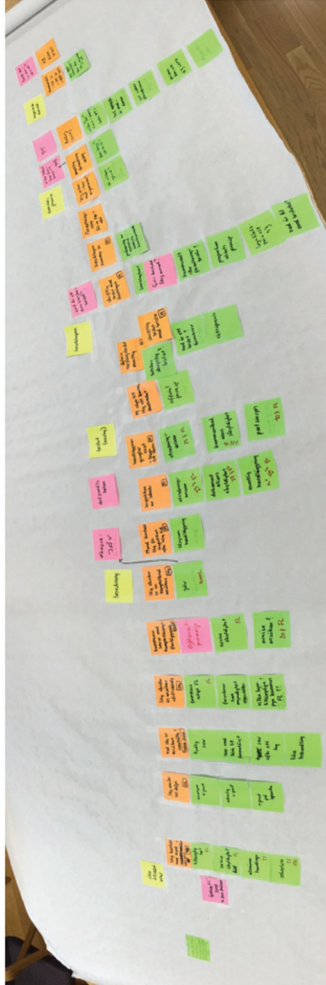


Figure 1. Mapping the case.

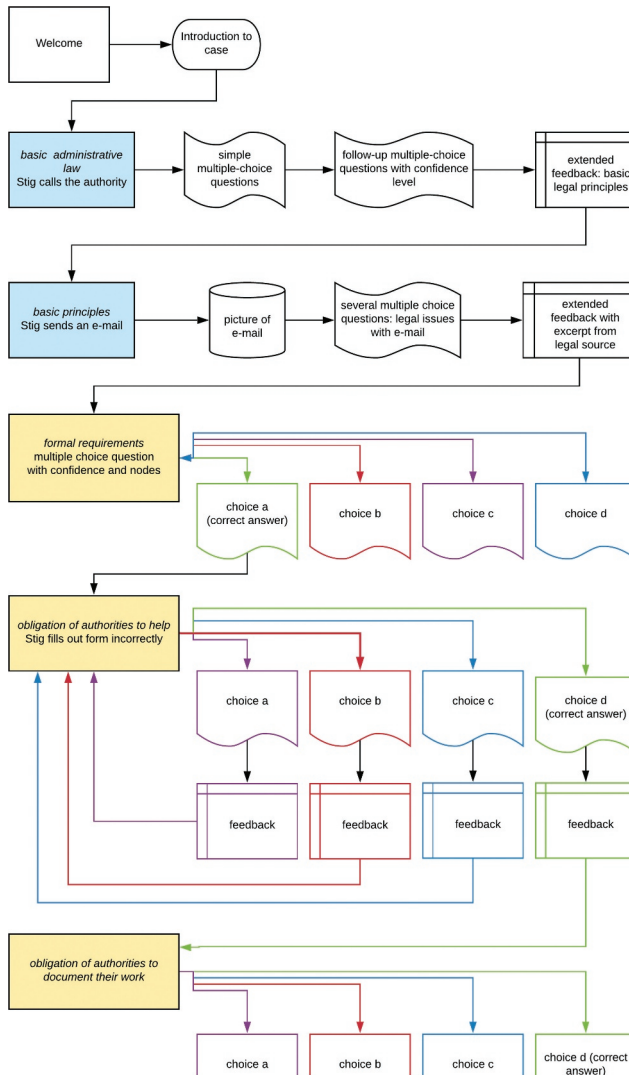


Figure 2. Virtual law case pathway with nodes. NB: This is an excerpt only, the case continues.

education programme is determined independently, by the individual higher educational institution. Admittance to legal education is based on a merit system. The law programme in Sweden (270 ECTS credits) is a four-and-a-half-year programme offering an academic education as well as a professional qualification, leading to the degree of Master of Laws (LLM). This dual academic and occupational approach is shared by other professional programmes such as teaching, medicine and engineering, all of which have all become increasingly academised in recent decades.⁹

⁹For further discussions on the alleged tension between academisation and professional practice in higher education, see Marie Magnell and Lars Geschwind, "A Seamless Blend of Research and Professional Practice: Dual Coupling in Engineering Education" (2019) 38 Higher Education Research & Development 807.

Traditionally, legal education in Sweden has emphasised campus interaction over distance learning. The number of students varies between higher education institutions, from 80 to 270 students per course. Legal education in Sweden is provided by public universities and is fully subsidised by the state, with no tuition costs for the students. Owing to financial restraints, teaching in smaller groups has been cut in recent years at the law departments, where this study takes place. On average, law students in Sweden have only eight teaching hours per week.¹⁰ The rest of the time is devoted to self-study.

Typically, a course starts with a series of lectures, often mixed with more practical exercises, problem-solving activities in smaller groups of 30–40 students and case study seminars, where cases, primarily from the supreme courts, are discussed. For problem-solving classes, cases and scenarios are designed specifically for and aligned to classroom settings. The legal problems are mainly designed to support the students' learning of substantive law, and may therefore not reflect the complexity of the law in a practical context. The problems are generally straightforward and simplified, illustrating a smaller subsection of a legal field, but the legal problems are rarely able to provide the systematic and comprehensive overview required by a practising lawyer. In addition, the practical exercises are supplemented by in-depth seminars where students practise analysing authentic court verdicts from the supreme courts.

Case study seminars, though they generally use real case material, are often focused on legal material and the outcomes of cases rather than legal method or the craftsmanship of practising law.¹¹ Moreover, case studies in the Swedish context seldom use step-by-step problem-identification and problem-solving sequences, where new and more complex material is added incrementally. Instead, our experience suggests that very often students are exposed to vignettes as a way of initiating further reflection on specific legal issues. So, often the case study is one where the outcomes of court procedures are presented and students are trained in understanding the logic of the decision, and how the court may have arrived at this specific outcome. The consequences of such a learning method may be that students are quite capable of discussing what the court has concluded in a specific case – but they may be less well equipped to repeat the process of legal reasoning that led the court to that conclusion, for example if circumstances change and more complex material is added to an ongoing case.

Here, we identify a challenge for legal education in that students do not get enough practice in learning how different components of the law are interconnected. As a lawyer, one is expected to identify the legally valid arguments from a number of non-hierarchical, sometimes discordant, legal sources, in order to create a legal solution that is both materially appealing and systematically coherent. Swedish legal education, however, tends to put the emphasis mainly on the legal solution only. Consequently,

¹⁰This can be compared to medical students who have an average of 13.8 hours of teacher-led instruction per week. See further UKÄ, "Lärlarledd tid i den svenska högskolan" (Report 2018:15).

¹¹This paper does not address the case-based teaching method per se; for an extensive discussion on that see further: Josef Redlich, "The Common Law and the Case Method in American University Law Schools: A Report to the Carnegie Foundation for the Advancement of Teaching" (The Foundation 1914); William M Sullivan and Carnegie Foundation for the Advancement of Teaching (eds), *Educating Lawyers: Preparation for the Profession of Law* (1st edn, Jossey-Bass/Wiley 2007); James R Maxeiner, "Educating Lawyers Now and Then: Two Carnegie Critiques of the Common Law and the Case Method" (2007) 35 *International Journal of Legal Information* 1; David C Vladeck, "Law School 2.0" in Edward Rubin (ed), *Legal Education in the Digital Age* (Cambridge University Press 2012).

we fear that students of law may not be well prepared for the complex reality that lawyers face in their professional life.

3.1. Legal education in the digital age

Legal education faces a range of other challenges too. Historically, legal education has been criticised for not utilising new forms of technology as a way of modernising the curriculum.¹² At the same time, our experience suggests that more law schools are using some form of web-based multimedia material to enhance legal education.¹³ This runs in parallel with global trends towards the development of digital learning resources as a complement to traditional campus-based education.¹⁴ Some of the examples include the development and introduction of recorded lectures as a way to replace and *flip* the classroom experience,¹⁵ as well as other computer-aided learning tools for law students.¹⁶ Internationally, there are also reports of multimedia cases and simulations being used to train law students' reasoning and practical skills.¹⁷

Digital learning resources afford students opportunities to train in safe environments, asynchronously. More specifically, digital learning resources provide threefold advantages, allowing students to engage with material: *in preparation* for teaching and learning; *in conjunction* with teaching; and also *after teaching* as a way of processing material and concepts addressed previously. When used as a complement to campus-based education, digital learning resources offer students an opportunity to consolidate their learning processes, enabling them to process and mobilise the knowledge they have acquired. Moreover, developing digital learning resources also offers law teachers a key opportunity to develop their teaching, giving them the opportunity to consider the design of different aspects of teaching and learning.¹⁸ Returning to the Swedish context, it is important to acknowledge that classes can contain up to 200–300 students during each course, as such a classroom-based solution would demand far more resources, in terms of both teachers and finances than are today widely available in the Swedish public university context. Consequently, digital learning affords an interesting avenue for exploration that

¹²David IC Thomson, *Law School 2.0: Legal Education for a Digital Age* (LexisNexis 2009). Similar sentiments are articulated in Marcus Smith, "Integrating Technology in Contemporary Legal Education" (2019) *The Law Teacher* (forthcoming) who argues that legal education needs to align to future-ready workplaces with higher demands in terms of new forms of communication and data analysis.

¹³Uno G Fors and Åsa Skoglund, "A Pilot Study of Virtual Cases in Law Education" (2013) 4(3) *European Journal of Law and Technology*; see further Marcus Smith, "Integrating Technology in Contemporary Legal Education" (2019) *The Law Teacher* (forthcoming). Moreover, there is an ongoing discussion in *The Law Teacher* about the use of multimedia tools: Stephen Edward Colbran and Anthony Gilding, "An Authentic Constructionist Approach to Students' Visualisation of the Law" (2019) 53 *The Law Teacher* 1.

¹⁴Fors and Skoglund (n 13).

¹⁵Tanya M Marcum and Sandra J Perry, "Flips and Flops: A New Approach to a Traditional Law Course" (2015) 32 *Journal of Legal Studies Education* 255.

¹⁶Kristoffer Greaves, "Computer-Aided Qualitative Data Analysis of Social Media for Teachers and Students in Legal Education" (2016) 50 *The Law Teacher* 24.

¹⁷Shawn Marie Boyne, "Crisis in the Classroom: Using Simulations to Enhance Decision-Making Skills" (2012) 62 *Journal of Legal Education* 311.

¹⁸Developing learning resources is of value from a staff development perspective. This is addressed in an empirical study on MOOCs in Cormac McGrath and others, "Exploring Dimensions of Change: The Case of MOOC Conceptions" (2017) 22 *International Journal for Academic Development* 257; Thomson (n 12); David C Vladeck, "Law School 2.0" in Edward Rubin (ed), *Legal Education in the Digital Age* (Cambridge University Press 2012).

may facilitate the practical training of legal reasoning. However, to the best of our knowledge, these types of methods are not widely used.¹⁹

3.2. *Introducing virtual law cases*

In light of the aforementioned concerns, we hereby present VLCs as a novel and supplementary source of learning for law students' training in critical, analytical reasoning and decision-making.²⁰ By developing VLCs we aim to offer students an opportunity to address legal problems in a realistic, sequential way. Further, we believe that using VLCs as a complement to campus-based education offers students an opportunity to process material in a systematic, but also multi-sensorial way, and may consequently enhance students' knowledge retention and concept mobilisation. It would also be a valuable complement to the rather limited amount of campus-based education that is currently on offer to students.

The concept of VLCs builds on a 20-year research tradition in medical education and borrows from a field of research and development called virtual patients. In the context of medical education, virtual patients (VPs) are defined as "interactive computer simulations of real-life clinical scenarios for the purpose of healthcare and medical training, education or assessment"²¹ and are recognised as a key technology for teaching clinical reasoning skills. VPs allow the learner: to play the role of a healthcare professional; to identify relevant information from a set of anonymised patient-related data; to decide on a selection of physical exams; to order laboratory tests; and to make diagnostic and therapeutic decisions without any real-world repercussions.²² Virtual patients have been used in practically all forms of health science education, from medicine and nursing to behavioural medicine and psychology, but are also used in other contexts like engineering, and economics.²³ Further, VPs allow students to reflect on the consequences of their decisions and actions, time on task and success in completing the problem, enabling students to engage in self-regulated learning.²⁴ Borrowing from those practices, we introduce VLCs as a way for law students to enhance their critical and analytical reasoning and decision-making skills, albeit in the context of a controlled environment.²⁵ More specifically, we argue that VLCs may offer students the opportunity: (a) to identify the legal problems/issues; (b) to decide which parts of legislation are relevant when handling such problems; (c) to decide on what constitutes relevant legal evidence; (d) to identify any remaining lack of knowledge/evidence and to decide how to proceed; (e) to process a legal matter in accordance with procedural law; (f) to decide on the legal outcome; and (g) to explore the consequences of their own actions in a safe environment.

¹⁹Anne Hewitt, "Can You Learn to Lawyer Online? A Blended Learning Environment Case Study" (2015) 49 *The Law Teacher* 92.

²⁰*ibid.*

²¹Rachel Ellaway and Ken Masters, "AMEE Guide 32: E-Learning in Medical Education Part 1: Learning, Teaching and Assessment" (2008) 30 *Medical Teacher* 455.

²²Natalia Stathakarou and others, "MOOC Learners' Engagement with Two Variants of Virtual Patients: A Randomised Trial" (2018) 8 *Education Sciences*, Article no 44; Lars Henningsohn and others, "KIUrologyX: Urology As You Like It – A Massive Open Online Course for Medical Students, Professionals, Patients, and Laypeople Alike" (2017) 72(3) *European Urology* 321.

²³Anne H Berman and others, "Virtual Patients in a Behavioral Medicine Massive Open Online Course (MOOC): A Qualitative and Quantitative Analysis of Participants' Perceptions" (2017) 41 *Academic Psychiatry* 631.

²⁴Samuel Edelbring and others, "Integrating Virtual Patients into Courses: Follow-up Seminars and Perceived Benefit" (2012) 46 *Medical Education* 417.

²⁵Boyne (n 17).

The aim of the rest of this paper is to present how virtual law cases may be designed, developed and tested in legal education settings.

4. Developing a virtual law case

The following description of developing a VLC focuses on the field of administrative law. Administrative law is a complex area, where many areas of law overlap, which is why it was considered a good fit. The research and development team consisted of experts in law, administrative law and an expert in educational design and research.

The VLC was designed, developed and optimised in an iterative manner. The starting point involved choosing an area within administrative law that was not discussed substantially in class but that could provide good examples for the interaction between different relevant legal statutes. In accordance with an outcome-based education²⁶ the Administrative Law and Administrative Procedure Law course (21 ECTS) is governed by a number of intended learning outcomes. They include the following five which were relevant for the case.

By the end of the course students should be able to:

- demonstrate knowledge and an understanding of central issues in administrative, municipal and administrative procedure law, including the systematics and terminology in the field;
- demonstrate an ability to use relevant legal methods to apply and interpret rules of administrative, municipal and administrative procedure law;
- demonstrate an ability to use legal methods to systematically, critically and independently identify, formulate and analyse issues in administrative, municipal and administrative procedure law;
- demonstrate the ability to adopt a professional approach;
- critically assess and evaluate issues in administrative, municipal and administrative procedure law in relation to relevant social issues.

These learning outcomes were used as starting points for the discussions on how to develop the virtual law cases, enabling the team to map out the types of questions, activities and associated artefacts that would be needed to make each VLC as authentic as possible. An alcohol licence application was chosen for the case content and material. This was considered a good choice as it involves several subsections of administrative law, namely the Administrative Act (*förvaltningslagen (2017:900)*), the Local Government Act (*kommunallagen (2017:725)*), the Alcohol Act (*alkohollagen (2010:1622)*), the Freedom of the Press Act (*tryckfrihetsförordningen (1949:105)*) and the Public Access to Information and Secrecy Act (*offentlighets- och sekretesslagen (2009:400)*) but also because it gave the team a chance to develop material that corresponded to the demands set out in the intended learning outcomes above.

4.1. Designing the case

In this section we outline how the VLC was designed, how we created questions, and what different types of feedback were included. We also provide information about the technical platform that was used.

²⁶See 2nd appendix of the Higher Education Ordinance (1993:100) for specific information.

The team brainstormed about how an alcohol licence application process might unfold, and then, using a storyboard technique, we mapped out a plausible, step-by-step process in applying for an alcohol licence. The brainstorming sessions focused primarily on the legal issues and parts of administrative law, see above, that could be covered. These steps were then written down on post-it notes and laid out, as a sequence of events that could occur, on a large roll of paper, see Figure 1. The legal issues were subsequently mapped and assigned a specific step in the case.

In total there are 114 nodes or main actions in the VLC pathway. The information in the case includes introductory texts to the different sections, pictures to illustrate parts of the scenario, pdf documents with decisions made at different stages during the process or letters and emails exchanged during the case, questions and/or feedback. A few nodes include videos, either to explain parts of the scenario or to provide more detailed feedback by other experts within administrative law. The pictures, pdf documents and videos were used in order to make the case as realistic as possible.²⁷

The questions were designed to follow standards for question formulation.²⁸ Different types of question formats were used in the case; three questions requested open-ended responses and 25 were multiple-choice questions (MCQs).²⁹ In most cases, the students cannot continue with the case but are forced to return to the question if they pick the wrong alternative. By varying different question formats and by modifying the feedback that the students received, we aimed for a high level of interactivity.³⁰ An overview of a few typical questions is presented in Figure 2 below: boxes to the left represent basic principles that were in focus, boxes with waves represent questions and/or answer alternatives, boxes with double lines represent feedback provided to the student. Lines and arrows between the boxes represent available options to move between the boxes. In several cases the students can go backwards and forwards between an answer and different possible alternative answers.

To give an idea of the questions used, we present two examples of questions (translated from Swedish into English) in Tables 1 and 2 below, ranging from rather simple to the most complicated and challenging question in the case. Both questions are multiple-choice questions.

Table 1. An example of a simple MCQ.

Question: The Administrative Act stipulates far-reaching requirements for authorities' service and accessibility. Which fundamental principles are met through these requirements?	
A	Efficiency of public authorities
B	Principle of openness
C	The right of parties to be informed
D	Authorities' obligation of service

²⁷Sören Huwendiek and others, "Design Principles for Virtual Patients: A Focus Group Study among Students" (2009) 43 *Medical Education* 580, 584.

²⁸For more detailed information on how to construct multiple-choice questions, please consult: S Millard and B Chavez, "Writing Multiple Choice and True/False Exam Questions. A Good Practice Guide" (Lecture Notes, 2012).

²⁹We acknowledge that MCQs may not always be the best way to assess student knowledge. In this case they were used after students had done extensive reading; the MCQs were used to drive the case towards a predictable outcome. When developed among peers, MCQs may also be of good quality; see further: Bunmi S Malau-Aduli and Craig Zimitat, "Peer Review Improves the Quality of MCQ Examinations" (2012) 37 *Assessment & Evaluation in Higher Education* 919.

³⁰Compare Sören Huwendiek and others, "Design Principles for Virtual Patients: A Focus Group Study among Students" (2009) 43 *Medical Education* 580, 583.

Table 2. An example of a more complex MCQ.

Question: On Friday 26 April 2019, Karim (the case manager) meets Stig (the applicant) outside the intended location for the pub, in order to inspect the facilities. During the inspection, Karim asks Stig several questions, and Stig answers extensively. Stig notices that Karim does not take any notes or record the meeting. Karim explains that he forgot his iPad at the office but that he will add his notes to the case file as soon as he is back at the office on Monday morning. Karim asks Stig to email him a summary of the information that he provided orally during the inspection, so it can become part of the grounds for the decision. This scenario gives rise to a few questions.

Which of the following statements is correct from an administrative law perspective?

- A Karim has to document his observations from the inspection as well as the oral information provided by Stig according to Section 27 Administrative Act. Stig has therefore no obligation to also provide the information in writing because information can be provided orally according to Section 24 Administrative Act.
- B Karim has to document his observations from the inspection as soon as possible according to Section 27 Administrative Act. Stig has no obligation to also provide the information in writing because information can be provided orally according to Section 24 Administrative Act.
- C Karim has to document the information provided by Stig during the inspection as soon as possible according to Section 27 Administrative Act. Stig has therefore no obligation to also provide the information in writing because information can be provided orally according to Section 24 Administrative Act.
- D Karim has to document his observations from the inspection as well as the oral information provided by Stig as soon as possible according to Section 27 Administrative Act. Stig has therefore no obligation to also provide the information in writing because information can be provided orally according to Section 24 Administrative Act.

4.2. Feedback

Different types of feedback were provided: simple correct/incorrect information (feedback), and longer feedback texts with more extensive explanations for the different options with an explanation of why a specific response was wrong, with the students being redirected back to the original question.³¹ In some cases, extensive feedback was also provided when an answer was correct, in order to offer the students an opportunity to further deepen their knowledge.³² In many cases, feedback included excerpts from preparatory works, references to decisions or case law, as well as excerpts from and references to other legal sources. In one instance, the feedback consisted of three videos in which one of Sweden's leading experts in administrative law was interviewed on the issue in question.

4.3. Technical platform

Owing to previous experience with the open source software OpenLabyrinth³³ (OLab), this was used to build the case. OLab allowed the various types of questions and also different artefacts to be added to the case. In addition, OLab is web-based and can be easily run on different platforms.

³¹For a more extensive discussion on how feedback can be created for virtual environments, see Natalia Stathakarou and others, "Modelling Feedback in Virtual Patients: An Iterative Approach" [2018] *Studies in Health Technology and Informatics* 201.

³²Compare Sören Huwendiek and others, "Design Principles for Virtual Patients: A Focus Group Study among Students" (2009) 43 *Medical Education* 580, 584.

³³OpenLabyrinth – Virtual Scenarios and Education Research <<http://openlabyrinth.ca/>>. OLab is one of a few tools available for designing and building virtual cases. For a more extensive explanation of OLab and its requirements see Anne H Berman and others, "Virtual Patients in a Behavioral Medicine Massive Open Online Course (MOOC): A Qualitative and Quantitative Analysis of Participants' Perceptions" (2017) 41 *Academic Psychiatry* 631.

5. Testing the case

The following sections report on the ways in which we tested the cases in different iterations: on colleagues, for the purpose of validating the case pathways, and the questions, and subsequently on students in order to see how they engaged with the material, and also to elicit their experience of using the VLC.

5.1. Face validation by experts

Face validation of the model was performed with other staff at the department who are experts in the field of administrative law but who were not involved in the project in any other capacity. Validation was conducted since VLCs represent a new form of teaching and learning law, and apart from the many examples of virtual patients in medicine and other fields, there are very few examples in legal education that could offer insights into the process of design and validation. Validation targeted the relevance of material and the accuracy of the chosen pathways; in other words, whether the pathways represent a credible legal process, but also to ascertain if the case was perceived as an authentic learning module for legal education. As described earlier, the case presents students with a sequence of events that they have to navigate. The students have to assess legal documents, identify relevant sections in administrative law and also answer questions pertaining to different elements of administrative law. The questions were developed and vetted by three of the authors and subsequently tested for construct validity by an educational developer expert. Examples of questions are shown in [Tables 1](#) and [2](#) above.³⁴

Face and external validity were achieved by testing on colleagues the pathway in the case and the questions. We invited the colleagues, all legal experts, to a meeting, during which they were presented with the case, given the questions in pairs and then asked to navigate the case and reason how they might best solve the questions, and what the best solutions were to each specific problem. This process gave the research team insights as to whether the questions were appropriately challenging but also enabled it to assess what kind of associations and possible interpretations arose when addressing the questions. The validation meetings were monitored by the first author CMG, who is a specialist in education research and methodologies, and the three co-authors CS, AG and ÅÖ, all lawyers. After the validation meeting, the experts were then invited to give oral feedback to the team. Subsequently, changes were made in the sequencing of the case and the questions were modified.

After the first final version of the case was developed, six students (four females and two males) were invited to test the case. All these students were enrolled in the law programme and had all successfully completed the course in administrative law. The testing followed two steps, which are reported here separately: an initial testing using a think-aloud protocol, and a focus group interview used to examine their experiences of using the case.

³⁴The questions are translated from Swedish.

5.2. Think-aloud protocol with students

We utilised a think-aloud protocol³⁵ to monitor and understand how students engaged with the VLC. Think-aloud protocols invite participants to solve a problem, in this case, navigate the virtual law case and verbalise whatever crossed their minds as they navigated the case. According to research in cognitive psychology, think-aloud protocols tend to slow down the thought process but do not have a negative impact on problem-solving itself.³⁶ The think-aloud protocol was monitored by CMG, who has previous experience of using think-aloud protocols, as well as CS, who is a lawyer and could relate to issues of administrative law that were discussed. The main focus of the think-aloud protocol was to identify how students navigated the case, how they reasoned about the questions they were asked, how and why they chose the alternatives they did and how they reasoned when consulting different statutes in the legal code. CS and CMG made notes of the dialogue between the pairs of students and these were reported to the other co-authors. During the think-aloud protocol session the authors noted the students needed 75–90 minutes to complete the full VLC. Given that this was a first experience with the case it is difficult to gauge optimum time for solving the case. Moreover, there is good reason to allow more time during a learning sequence than, for example, a case that is designed to measure student knowledge retention.

5.3. Focus group interviews with students

Following the test run of the case, CMG and CS held a focus-group interview with five of the students, referred to in the findings section as respondents. Focus-group interviews are a well-established method for collecting qualitative data at group level.³⁷ The interview focused on the respondents' experiences of the virtual law case. The interview followed a semi-structured approach, focusing on a number of central questions such as: How did you experience the case? How was it to solve the problems in pairs? How was it to consult the Swedish Code of Statutes to find the answers to the questions? How did you resolve conflict in your pairs? Using a semi-structured approach means that the respondents were encouraged to elaborate around any of the questions addressed above and to address issues they wanted to bring up themselves. Before the interview, each respondent was presented with an informed consent and was asked to sign or decline participation. The respondents were also informed that they could revoke participation at any time and were assured that their data would be treated confidentially.

The focus of this paper is primarily on describing the design of a virtual law case; however, here we present briefly the findings of the focus-group interview. The respondents' responses can be summarised in four categories which are explained briefly below, illustrated by vignettes: authenticity; collaboration and resolving conflict; working with primary sources; and thinking of the whole. We also provide a number of

³⁵For further reading on think-aloud protocols, see Clayton Lewis, "Using the 'Thinking-Aloud' Method in Cognitive Interface Design" (Research Report RC9265, IBM TJ Watson Research Center, 1982). See Riitta Jääskeläinen, "Think-Aloud Protocol" in Yves Gambier and Luc van Doorslaer (eds), *Handbook of Translation Studies*, vol 1 (John Benjamins Publishing Company 2010) 371.

³⁶See Riitta Jääskeläinen, "Think-Aloud Protocol" in Yves Gambier and Luc van Doorslaer (eds), *Handbook of Translation Studies*, vol 1 (John Benjamins Publishing Company 2010) 371.

³⁷Isabella McLafferty, "Focus Group Interviews as a Data Collecting Strategy" (2004) 48 *Journal of Advanced Nursing* 187.

questions from the respondents to illustrate key elements of the themes. For the sake of confidentiality, the quotes are anonymous.

5.3.1. Authenticity

The respondents felt that the virtual law case presented them with a realistic scenario and an authentic sequence of events that they felt could arise in their future professional role as lawyers. Moreover, they reported that during the legal education to date, there had been few opportunities to work with law material in a sequenced fashion like that presented in the case. The respondents reported that it was beneficial for them to see, potentially, real-life artefacts that they believed they would encounter in their future roles as lawyers. Examples of such artefacts included applications for the alcohol licence, decisions take by the case manager and email correspondence between various stakeholders.

The case felt really authentic, like something you would really encounter in the future.

It was cool to see the real decisions and other ... mmm ... things like emails, and documents. I know this is what I will be assessing in the future.

The respondents reported a similar response to that of the expert colleagues when first encountering the case, namely, that they felt it was a genuine example of a real-life sequence of events in a case.

5.3.2. Collaboration and resolving conflict

The interview addressed how the respondents reacted when doing the case together with other students, and how they experienced solving conflict when they were faced with solving a problem together and had to arrive at consensus. The respondents reported that the collaborative dimension of the case was very useful for their thinking process. It enabled them to justify their own convictions and then argue for their own interpretation of the law, or argue for their own interpretation of how to assess and answer questions, or evaluate if different parts of the alcohol application and responses were written correctly or not. The respondents reported that this was a positive experience, and that, given that the case was a low-stake learning activity, where their individual scores were not registered, they felt comfortable working with a peer; however, they also reported it was good to be able to make mistakes without there being consequences, which meant they could learn from their mistakes.

It was nice to work with someone else, to get different perspectives. It gave me a chance to re-evaluate my position.

Yes, well, you know, with certain questions it was really good to discuss with your partner, to explain what you thought and learned from the questions, but also by identifying the parts of administrative law that were relevant.

The pilot study only addresses the virtual case as a learning opportunity, but it was clear that the respondents saw this as an opportunity to collaborate and learn from one another, and to use one another to test ideas when consulting the different legal sources.

5.3.3. Working with primary sources

During the VLC, the respondents were obliged to use authentic case material, that is to say, actual forms, documents, email correspondence and decisions made during

different points during the process. The respondents were also obliged to consult the Swedish Code of Statutes, which they had access to via a web-browser. The respondents reported that using these types of sources was perceived to be authentic and worthwhile. Moreover, the respondents reported that identifying, analysing and using different sections of the Administrative Act, the Local Government Act, the Alcohol Act, the Freedom of the Press Act and the Public Access to Information and Secrecy Act were particularly beneficial, offering them insights into what they believe their future work as lawyers will consist of. The respondents reported that it was relevant for them to practise analysing and interpreting the various Acts.

Mmm, it was great to have to find, identify and then examine the specific sections of the law. I know we have read them before, but now one reads them with a purpose, to solve a problem.

Generally speaking, it is better to have a legal text and to look up the sources, get practice in legal method since you are allowed to use all the sources available.

I particularly appreciated the depth of the case. I mean, we got to dig deep and understand and assess the subsidiary legislative passages. That was fun, but challenging.

Working with primary sources was seen as one of the most valued aspects of the virtual case.

5.3.4. Thinking of the whole

The respondents reported that the virtual case offered them a chance to work across the breadth of legal knowledge by assessing different documents and artefacts, answering questions and consulting different subsections of administrative law. The respondents reported that the case gave them a bird's-eye view of administrative law. Moreover, they reported that this way of approaching the law was quite new to them, and they had not experienced such a holistic approach previously during the programme.

I think it was good, you were challenged to demonstrate a wide range of skills at the same time, critical thinking and legal method, working with legal sources, formulating around the law, and seeing how the different parts were interconnected, and you could practise and repeat the central administrative law terms.

It really gave you a holistic perspective, thinking about specific acts, and subsidiary legislation, seeing it all as part of one linked system, that was fun.

5.4. Limitations

The study has a number of limitations. It is well known that there is a latent power relationship between teachers and students. We endeavoured to establish a good rapport with the respondents by inviting them to attend the event, we informed them of what they were going to do and how we would be observing them, before they tested the case.³⁸ We also decided not to have the administrative law expert, ÅÖ, attend the test, as a way to reduce any nervousness on the part of the respondents through having an expert in the vicinity. We informed them that they could revoke their participation at any time. These measures align with the common ethical principles of

³⁸Building rapport and trust are important parts of conducting interviews; see further Cormac McGrath, Per J Palmgren and Matilda Liljedahl, "Twelve Tips for Conducting Qualitative Research Interviews" (2019) 41 *Medical Teacher* 1002.

research but also ensured that the students were under no pressure. Finally, all the respondents who tested the case had already passed the course; consequently, respondents with great difficulties or those who had failed the course were not included. This limitation could be addressed in the future by large-scale, randomised testing of virtual law cases. Currently, we have only limited evidence to suggest that students' learning is facilitated by the VLC. The interviews gave some insights, and the teaching team too were enthusiastic, but more research is needed, ideally in experimental settings with intervention and control groups.

6. Conclusions

The aim of this article was to present the way in which we designed, developed and subsequently tested a VLC. The paper sets out a number of steps involved when developing a VLC and illustrates the different elements that we have included. Early evidence suggests that colleagues and legal experts are confident that using VLCs is a valuable way to teach legal reasoning and decision-making; moreover, VLCs offer students a tool that allows them to see how legal fields are interconnected. The design elements we set out may provide inspiration to others when designing virtual law cases, whether they use OLab or other technology. Similarly, we could see that the students were very engaged, reporting that the VLC gave them a sense of interconnectedness; it also offered them authentic cases to test their legal knowledge, analytical reasoning and decision-making skills in a safe environment without real-life repercussions. In developing the case, we opted for collaboration between students in order to test the validity and the perceived authenticity. In a learning sequence we envision the cases being inserted in a course, or as part of a module, allowing students an opportunity to test their knowledge, but also offering them an opportunity to learn. VLCs may be done individually or together with others, in a synchronous or asynchronous manner. VLCs may also be used to examine students' knowledge; however, this will be the focus of future work. Currently, the case is being used in the administrative law course, and the focus of coming work will be on large-scale testing, where we hope also to test VLCs in randomised settings to see if there is a measurable effect on law students' learning; this is something we hope to return to in future papers.

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