Using critical pedagogy and legal design methodology to develop the traditional problem question.

The author reports there are no competing interests to declare

Foreword

This article attempts to locate legal design methodology in the problem-based learning spectrum. In doing so it considers which taxonomy ought to be used to assess legal problem-based learning questions; it also ranks the two different forms of legal problem-based learning questions against Jonassen and Hung's paradigm for good problem design. It concludes that by adopting a critical approach and minimising academic voice within the question we centre our student's unique socio-cultural voice, in doing so we may produce more innovative solutions to legal problems.

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Introduction:

Both vocational and liberal constructions of legal education[1] utilise problems for educational gain. This article endorses the view put forward by problem-based learning theorists that not

[1] - see Guth's view of a liberal education, "one which does not oppose the teaching or exploration of practice relevant subjects or the learning of professional knowledge and skills; but one where these are acquired, if indeed they are, because they facilitate or come with the wider learning that constitutes a liberal education." Jessica Guth & Chris Ashford (2014) The Legal Education and Training Review: regulating socio-legal and liberal legal education?, The Law Teacher, 48:1, 5-19, DOI: 10.1080/03069400.2013.875304 (accessed 28/11/2023).

all problems are equal.[2] It discusses legal problem-based learning and concludes that, if critically employed, legal design methodology may be used to enable problem-based learning's full spectrum of possibility.

Legal educators will be familiar with the type of legal problem question derived from the casebook method. [3] This will be termed throughout as the 'Traditional Problem Question'. Traditional Problem Questions (TPQ) prescribe a hypothetical scenario in which a legal problem has *already* arisen. Students are required to follow a 'breadcrumb trail' laid by the academic to solve the problem by identifying the legal and factual information they need to synthesise a solution[4]. Students may execute the solution using traditional lawyer skills (writing, drafting, advocating etc.).[5] There is no prescribed process, however students are encouraged to solve the problem systemically. There is almost always a known solution to these problems.

The legal design movement brings with it the potential to produce innovative solutions to legal problems. It does so primarily through empowerment of the non-lawyer[6] by using iterative design principles[7] to create human-centred and more accessible 'legal things'

[2] David Jonassen & Woei Hung, "All Problems Are Not Equal: implications for Problem Based Learning", edited by Andrew Walker, Heather Leary, Cindy Hmelo-silver, *Essential Readings in Problem-Based Learning, Exploring and extending the legacy of Howard S Barrows* (Purdue University Press, 2015).
[3] Myron Moskovitz, "Beyond the Case Method", (1992) Vol 42 No 2, Journal of Legal Education. 241-270 - https://www.jstor.org/stable/42893216 (accessed 14/10/2023).
[4] Ian McCall, "Online Enhanced Problem-Based Learning: Assessing a Blended Learning Framework", (2010) 42 The Law Teacher, 44; Y Joel Wong, "Harnessing the Potential of Problem-Based Learning in Legal Education", (2003) 37 The Law Teacher, 157
[5] Suzanne Kurtz, Michael Wylie, Neil Gold, "Problem-Based Learning: An Alternative Approach to Legal Education", (1990) 13 Dalhousie Law Journal, 797.
[6]Rossana Ducato; Helena Haapio; Margaret Hagan; Monica Palmirani; Stefania Passera; and Arianna Rossi; "purposes" (Legal Design Alliance, Manifesto V1) < https://www.legaldesignalliance.org/#purposes> (accessed 11/01/2023).
[7] Margaret Hagan, *Law by Design* (prototype ed. Open access book) < https://lawbydesign.co/about-feedback/ (accessed 11/01/2023).

(information/ products/ services/ organisations/ systems).[8] Legal design has evolved through the convergence of preventive law principles,[9] critical legal principles[10] and visual law.[11] It has been facilitated by the development and availability of technology.

A technique commonly used in legal design is the 'sprint' method. It is this which may be adapted into an educative tool to expand the traditional problem question. Unlike traditional problem questions, Simulated Legal Design Sprints (SLDS) do not prescribe a hypothetical scenario, they simply suggest the problem in open ended terms for example – How can we execute a contract remotely? Students use the following process to arrive at a solution: (1) collectively define the problem. (2) Individually or in small groups sketch solutions (3) Dump as many ideas as possible so that they may be filtered ranked and a particular idea explored further. (4) Prototype that idea (5). Validate through peer and instructor feedback.[12] The question is ill-defined and prospective, with the potential for a multidisciplinary approach and a wider range of solutions. The reduction of academic voice in the question represents a critical pedagogic approach.[13]

[8] Ibid Hagan (n 7) ch.1 pp1.

[9] Gerlinde Berger-Walliser, Thomas D Barton and Helena Haapio, "From Visualization to Legal Design: A Collaborative and Creative Process" (2017) 54 American Business Law Journal 347.

[10] Legal Design Podcast, "At the Intersection of Legal and Design Thinking with Michael Doherty" (7/03/2021) < http://legaldesignpodcast.com/2-episode-at-the-intersection-of-legal-and-design-thinking-with-michael-doherty/> (accessed 11/01/2023).

[11] Lisa Toohey, Monique Moore and Sara Rayment, "Teaching innovation in the age of technology: Educating lawyers for digital disruption using visually-oriented legal design principles", Edited by Emily Allbon and Amanda Perry-Kessaris, *Design in Legal Education*, (1st edn. Taylor and Francis, 2022), https://www.perlego.com/book/3517513/design-in-legal-education-pdf (accessed: 12/01/2023)).

[12] Richard Mabey, Juro - Legal design sprints: the cheat code to better processes, 2019 <https://juro.com/blog/legal-design-sprint-contracts> (accessed 31/ 07/2022).

[13] The similarity to Freire's 5 stage critical approach to curriculum articulation, as described by Giroux is striking - see Georgios Grollios, Henry A Giroux, Panayota Gounari, Donaldo Macedo, *Paulo Freire and the curriculum* (Edn 1 Routledge 2015) https://www.perlego.com/book/1567651/Paulo-Freire-and-the-curriculum (accessed 11/01/2023).

However, as noted by Pope[14] "all design methods… can serve to perpetuate oppressive power structures if we apply them uncritically". This article argues that by utilising legal design principles to enhance problem based legal education, we can amplify student solution building beyond the ability to replicate the solutions of the pedagogue.[15] In doing so we empower students to bring their own unique socio-cultural[16] perspectives to a legal solution. Consequently, there is a greater possibility that students will articulate innovation beyond the confines of hegemonic legal and educational power.

This article seeks to explore whether by using a critical pedagogy in conjunction with design thinking, we can develop the traditional problem question. It does so by comparing the effectiveness of traditional problem questions with legal design sprints. It measures effectiveness against the paradigm for good problem design developed by Jonassen and Hung.[17] It concludes that by using legal design sprints we can ask questions which provide wider access to the problem space through which students can practice innovation; and which are more conducive to the ideal conditions for adult learning.

Problem based learning, the drive for innovation in higher education:

By way of background, the drive for problem-based learning has been fuelled by current educational policy for European universities. The Bologna Process seeks to ensure European universities and colleges are competitive in an international market' [18]. In response to this,

[14] Hallie Jay Pope, "Designing to dismantle", Edited by Emily Allbon and Amanda Perry-Kessaris *Design in Legal Education*, (1st edn. Taylor and Francis, 2022, Available at: https://www.perlego.com/book/3517513/design-in-legal-education-pdf (accessed: 12/01/2023)).

[15] Paulo Freire*, Pedagogy of the Oppressed,* (Translated by Myra Bergman , Penguin Classics, Penguin Random House 2017) p.50.

[16] Berger-Walliser (n 9) p.21.

[17] David Jonassen & Woei Hung, "All Problems Are Not Equal: implications for Problem Based Learning", edited by Andrew Walker, Heather Leary, Cindy Hmelo-silver, *Essential Readings in Problem-Based Learning, Exploring and extending the legacy of Howard S Barrows* (Purdue University Press, 2015).

[18] Renae Acton, "Mapping the Evaluation of Problem-Oriented Pedagogies in Higher Education: A Systematic Literature Review" (2019), 9 Education Sciences, 269.

problem-based learning is being used to develop 'transferrable...skills [including] oral and written communication, critical thinking, self-management and innovation'. Consequently, educators are confronted by a drive from policy makers to cultivate not only problem solvers but innovators.

In the Higher Education Credit Framework[19] these concepts are best represented in the 'problem solving and enquiry' and 'synthesis and creativity' elements of the credit level descriptors.[20] The scales being tipped at around level 6 away from 'formulating creative proposals' towards 'formulating and developing innovative proposals'. At level 7, there is a requirement for 'innovation to be contextualised in unpredictable contexts'. This contextualisation speaks directly to problem-based learning techniques.

Whilst those studying law have opportunities beyond the profession, it is important to note that many will wish to practice the law.[21] Where becoming a lawyer is the student's aim, post-graduate studies take the form of vocational education. The Bar Standards Board have long had a strong focus on vocational problem-based teaching and assessment.[22] Further, the contextualisation of knowledge is the main ideological driver behind the 'functional knowledge' assessments of the level 7 Solicitors Qualification Exam (SQE) 1 and 2.[23] These assessments use two forms of problem-based learning; 1, single best answer questions and 2, skills assessment. Provided that the student passes the SQE they must go on to demonstrate

[19] Quality Assurance Agency, "Higher Education Credit Framework for England: Advice on Academic Credit Arrangements" Second edition (2021) <https://www.qaa.ac.uk/docs/qaa/quality-code/higher-education-credit-framework-for-england.pdf> (accessed 11/01/2023).
[20] Southern England Consortium for Credit Accumulation and Transfer (SEEC), "Credit Level Descriptors for Higher Education", (2021) <https://seec.org.uk/wp-content/uploads/2021/05/MDX_SEEC-Descriptors_Update-May-2021_Version-2_For-screen_AW13885.pdf> (accessed 11/01/2023).
[21] Solicitors Regulation Authority, "SQE assessment specification", (undated), <https://sqe.sra.org.uk/exam-arrangements/assessment-information/sqe1-assessment-specification>, (accessed 11/01/2023).
[22] Bar Standards Board educational Framework; Our information for Vocational Bar Training providers (AETOs) (barstandardsboard.org.uk) , (accessed 26/05/2023).
[23] Bar Standards Board - Bar Training: Curriculum and Assessment Strategy August 2021 Curriculum-and-Assessment-Strategy-October-2022.pdf (barstandardsboard.org.uk) , (accessed 17/05/2023).

evidence of 'innovation and originality', in the vocational stage of training to meet threshold level 3, which allows them to qualify as a solicitor in England and Wales.[24]

Therefore, as legal educators we must ensure that we provide our students with opportunities to innovate. Berger-Walliser and others,[25] claim that by using design methodology in legal education, 'information is made intellectually accessible and functional; that the process of creating negotiated visualisations makes ideas tangible; facilitating both feedback and self-criticism, revealing inconsistencies that language may not be able to detect and facilitating cross cultural empathy'. They claim that 'the process of design thinking is fundamental when bridging the gap between the formulaic analytic skills used by those studying law and the creative analytic skills used by lawyers to problem solve'. Therefore, utilising legal design in the context of problem-based learning for law could produce the innovation sought by regulators and the professions.

Indeed, legal design is increasingly being incorporated into legal education as identified by Allbon and Perry-Kessaris, in their book 'Design in Legal Education'.[26] In their view "legal education is and ought to be aimed at prompting and facilitating people—including students, publics and clients—to work effectively with law". They describe design initiatives being implemented from the "top", encompassing an abstract overarching approach; to the "bottom" through the concrete tasks that teachers and learners complete. It is towards the lower end that I position my contribution.

[24] Solicitors Regulation Authority, "Threshold Standard", (undated), <https://www.sra.org.uk/solicitors/resources/continuing-competence/cpd/competence-statement/threshold-standard> (accessed 11.01.2023).
[25] Berger-Walliser (n 9) p.352
[26] Emily Allbon, and Amanda Perry-Kessaris, *Design in Legal Education*, (1st edn. Taylor and Francis, 2022, Available at: https://www.perlego.com/book/3517513/design-in-legal-education-pdf (accessed: 12/01/2023)).

Prior to embarking upon this discussion, it is worth noting that problem-based learning 'now has an almost unclassifiable array of species'.[27] For the purpose of this work, I use the definition offered by Boud and Feletti, [28] 'Problem-based learning is an approach to structuring the curriculum which involves confronting students with problems from practice which provide a stimulus for learning'.

Problem based learning, seeking a taxonomy of problem types against which to compare traditional problem questions and legal design sprints:

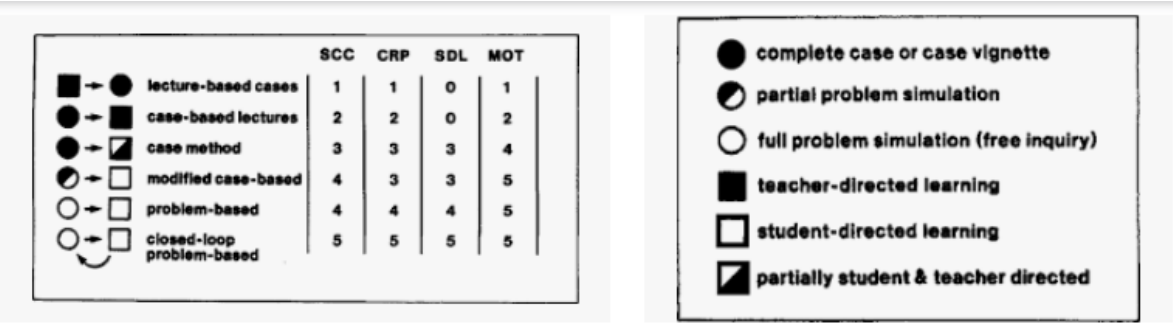
Boud and Feletti[29] claim that problem-based learning is particularly suited for higher education as it can be utilised to suit the conditions required for effective adult learning, such as;

- Active learning - through students posing their own questions and seeking answers; Integrated learning – via exposure to overlapping disciplines through learning in context;
- Cumulative learning – when experiences become progressively more complex but non-threatening; And
- Learning for understanding - rather than for recall of isolated facts.

[27] David Boud & Grahame Feletti, *The Challenge of Problem-based Learning,* (1st Edition, Routledge, 2014), https://www.perlego.com/book/1577032/the-challenge-of-probelmbased-learning-pdf , (accessed 11/01/2023.
[28] Boud (n 27) p.27.
[29] Boud (n 27) p.30.

In order to engage the conditions required for adult learning the problems encountered by students must be suitably pitched[30] and curated for different educational levels. This means that as legal educators we ought to use a taxonomy to categorise problems according to their type so that we may deploy them effectively.

The first comprehensive taxonomy of problem-based methods was created by Barrows[31] for medical education. This taxonomy categorises the nature of the problem (left) and the level of instructional intervention required (right)[32].



Kurtz, Wylie and Gold[33] adapted Barrows' taxonomy to apply to law. In their work they categorise legal problem type and instructional level. By conducting a literature review they concluded that whilst the first 3 types of problem based learning in the Barrows taxonomy were commonly found in legal education (1) lecture-based case (2) case based lecture (3) case method; the latter, (4) modified case based (5) problem based (6) closed loop problem based were less commonly found. Kurtz, Wylie and Gold re-categorised the problem type by

[30] David Jonassen & Woei Hung, "All Problems Are Not Equal: implications for Problem Based Learning", edited by Andrew Walker, Heather Leary, Cindy Hmelo-silver, *Essential Readings in Problem-Based Learning, Exploring and extending the legacy of Howard S Barrows* (Purdue University Press, 2015). https://www.perlego.com/book/15600596/Essential-Readings-in-Problem-Based-Learning-Exploring-and-extending-the-legacy-of-Howard-S-Barrows (accessed 11/01/2023).

[31] Howard Barrows, "A taxonomy of problem based learning methods", (1986) 20 6 ASME Medical Education, 481-486.

[32] Barrows (n 31) - for the purpose of this paper, only problem design is considered.

[33] Suzanne Kurtz, Michael Wylie, Neil Gold, "Problem-Based Learning: An Alternative Approach to Legal Education", (1990) 13 Dalhousie Law Journal, 797.

ascending difficulty starting from (1) written fact problems containing all facts (2) written fact problems requiring students to obtain facts (3) simulated clients (4) real clients. Kurtz, Wylie and Gold stopped short of developing a paradigm for the effective use of this taxonomy recommending instead that learning outcome dictates the method used.

However, there are limitations to this approach firstly, with the exception of real clients, all other problems are written by teachers either based on their narrow sociocultural perspective[34] or based on decided cases. In many legal disciplines this reflects the experience of a privileged few. Secondly, being discipline specific, the taxonomy has little dynamicity as the solutions focus narrowly on legal skills for, example advocacy or negotiation. Thirdly, whilst the drive within this taxonomy for functional knowledge (application in context) is clear, the drive for innovation is limited as the solution or skills pathway is already predefined and the solution is replicative. As such, this taxonomy cannot be adapted easily to accommodate new and evolving ways of solving problems enabled by changes in practice or new technology. Therefore, whilst Kurtz's taxonomy may be suitable to assess the design of traditional problem questions it cannot extend to innovation.

For similar reasons, Barrows' taxonomy was criticised by Jonassen,[35] who went on with Hung, to develop an interdisciplinary taxonomy of problems and a suggested paradigm for the design of effective problem questions.[36] This taxonomy was able to articulate the gamut of problem solving more broadly to include innovation. The taxonomy sets out five types of problem, ranked from simplest to most complex starting with: (a) diagnosis-solution, (b)

[34] Berger-Walliser (n 9) p.352.
[35] David Jonassen, "Toward a Design Theory of Problem Solving" (2000) 48 Educational Technology Research and Development, 63.
[36] Jonassen (n 30) p.8

decision-making, (c) situated case/policy problems (usual category for law), (d) troubleshooting, and (e) design problems.

In this work they assess the effectiveness of a problem by considering the following variables:

Fig:1

Complexity (comprising)	
(C1) breadth of knowledge/ of problem space	This may be defined as the number of branches at each decision node and depth of search to a solution node. This knowledge includes the information, concepts, principles, and procedures needed for solving the problem
(C2) attainment level	The degree of abstractness of the concepts
(C3) intricacy of procedures	This parameter includes the number of steps to be executed in a solution path and the extent of complexity of the tasks and procedures in these steps.
(C4) relational complexity	The number of relations that need to be processed in parallel during a problem-solving process.
Problem structuredness (comprising)	
(P1) intransparency	The higher the degree of intransparency (that is, the more we do not know about the problem), the more ill-structured the problem is.
(P2) heterogeneity of interpretations	The more open the problem is to interpretation, the more ill-structured the problem will be.

(P3) interdisciplinarity	The degrees of interdisciplinarity required or the uncertainty as to this when the problem is first encountered introduces some degree of difficulty in constructing a complete problem space.
(P4) dynamicity	The dynamic nature of variables or operators contributes greatly to the ill-structuredness of the problem
(P5) competing alternatives	This parameter refers to the extent to which the number of conceivable options for executing operators in various states and solution paths exist within the problem space.

How the above variables combine dictates which category the problem falls into.[37] For example, 'diagnosis-solution' problems, concern identifying the cause of a problem, with a clear goal. Situated case or policy problems are the usual problem type found in law. These problems are typically factually complex often without a clear cause or path to solution. The difference between the case problem and diagnosis-solution or decision-making problems is that case problems have a reasoning path and pre-determined solution, while the other two do not. However, the known reasoning paths and solutions to situated case problems do not reduce the complexity.

Design problems are usually in the most complex and ill-structured category. They are very ill-structured and intransparent. This is due to the "multiple criteria for evaluating solutions, which is highly subjective, changes over time, or are unknown until the end of design process….Thus, the degrees of intransparency, dynamicity, heterogeneity of interpretations,

[37] For further information see - The table of Problem Difficulty Profile and Amenability to PBL of 5 types of problem, David Jonassen & Woei Hung, "All Problems Are Not Equal: implications for Problem Based Learning", edited by Andrew Walker, Heather Leary, Cindy Hmelo-silver, *Essential Readings in Problem-Based Learning, Exploring and extending the legacy of Howard S Barrows* (Purdue University Press, 2015).

and legitimacy of competing alternatives of design problems tend to be at an extremely high level, which makes them highly ill-structured".[38]

Jonassen and Hung provide the following paradigm for "Good" problems (those most conducive to adult learning).[39] Good problems should be:

- Open ended, ill-structured, however, with a moderate degree of structuredness.
- Complex, the degree of complexity should be challenging and motivating, engaging students' interests.
- provide opportunities for students to examine the problem from multiple perspectives or disciplines.
- adapted to students' prior knowledge.
- adapted to students' cognitive development and readiness.
- Authentic, that is, contextualised as to students' future or potential workplaces.

In summary problems most conducive to adult learning ought to be moderately ill-structured (near the median) and slightly above average in complexity [Fig 2]. Subsequent work by Moallem[40] places emphasis upon the use of supporting ill-defined problems with visual tools such as concept mapping (this is prevalent in legal design).

Fig 2

[38] Jonassen (n 37).
[39] Boud (n 27).
[40] Manhaz Moallem, Woei Hung & Nada Dabbagh, 2022. *Introduction. In: The Wiley Handbook of Problem-Based Learning.* (1 ed. Wiley 2019).

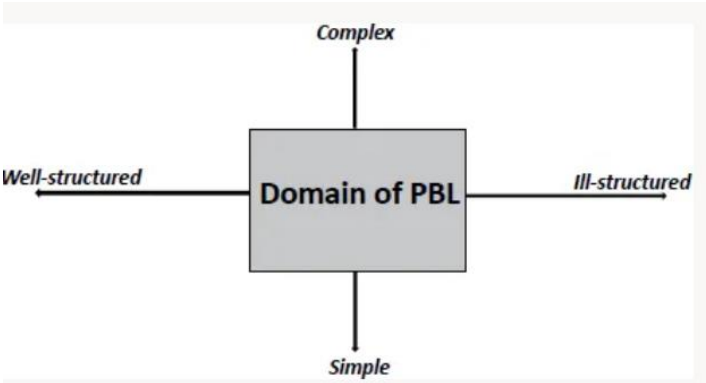


Figure 2. Domain of PBL

An application of this matrix; and assessment against the paradigm is to follow.

Where do simulated legal design sprints and traditional problem questions sit in the Jonassen and Hung taxonomy and, against their paradigm for good problem design?

Using the criteria set out by Jonassen and Hung, I shall assess the complexity and structuredness of both traditional problem questions and simulated legal design sprint questions. I shall then locate simulated legal design sprints and traditional problem questions within the taxonomy and determine which best fits the paradigm for good problem design.

By way of illustration the reader is asked to imagine a traditional problem question concerning public order, the student is given a scenario in which a processional protest has broken down, the protestors commit damage to a property and the police have acted outside of their powers. The reader is then asked to contrast this with a simulated legal design sprint in which the student is asked to design a technological solution to facilitate legal and safe processional protest.

Simulated legal design sprints and traditional problem questions mapped to the Taxonomy:

Complexity

(C1) Size of problem space/ breadth of knowledge

In the traditional problem question the size of the problem space is confined by the scenario given and the clients. Simulated legal design sprints consider a problem prospectively as such no problem scenario is given, students must create and confine this. Further, the problem is viewed holistically with all stakeholder needs to be accounted for (here the police, the organisers, and the protestors as well as potentially the ambulance service or the intelligence services). Due to the increased size of the factual problem space, the breadth of knowledge and boundaries of the problem are greater in simulated legal design sprints. The statutory framework is the same in each, however in developing user empathy, the simulated legal design sprints are likely to throw up additional associated issues, for example managing the fear of the protestors, the uncertainty and pressure upon the police, the use of live facial recognition or data collection and storage.

(C2) attainment level

The concepts in the problem space for this topic are not highly abstract (as is sometimes the case with legal conceptual knowledge). The prescribed factual scenario reduces the abstraction significantly in a traditional problem question. The simulated legal design sprint requires a greater attainment level as the learners are themselves reducing the abstraction through the process of design.

(C3) intricacy of procedures

There are more steps to be executed in simulated legal design sprints as factual scenarios are not confined, thus a range of user behaviours must be imagined. The traditional problem question is written with a solution pathway in mind and indications are set out in the question as a 'breadcrumb trail' towards the correct answer which reduces intricacy.

(C4) relational complexity

In general, this depends upon how a traditional problem question is written as there may be many ‘clients’ to advise, however the difference is that in traditional problem questions the student is not required to process competing needs in parallel because the lawyer serves a single client. The benefit of simulated legal design sprints is that the problem is yet to occur, and the lawyer is bound to finding a preventative solution rather than serving an individual client. Thus, through multi-stakeholder analysis parallel relational complexity is increased in simulated legal design sprints.

(P1) Intransparency

In traditional problem questions the students are given all or most of the facts they need, they have also encountered the applicable law. The student needs to apply the two together to form a reasoned solution. In simulated legal design sprints the student knows less about the problem from the outset, they must consider, analyse and sketch the problem making it more intransparent.

(P2) heterogeneity of interpretations

In a traditional problem question the interpretations are fixed by the question writer. The question writer imposes upon the student their experience or knowledge of the problem, confining the factual space and solution pathway. The process of sketching the problem in simulated legal design sprints allows students to bring their own unique socio-cultural interpretation of a problem. The process of negotiating the group visualisation of the problem space allows for specific socio-cultural representation in a way that traditional problem questions do not. This could be of fundamental importance when considering how to solve problems with specific equalities related dimensions, like for example stop and search, or, as here, protest. The multiple interpretations of a problem required in simulated legal design sprints make them more heterogeneous.

(P3) interdisciplinarity

Simulated legal design sprints embrace interdisciplinary practice, through the use of technology, human centred behavioural psychology, and visual design as well as its strong focus on prototyping and iteration. In the example provided there is clear potential for students of human rights, legal technology, policing, and psychology, technology and informatics to work together to explore practical and legal requirements. Traditional problem questions are designed to confine problem solving to the legal domain only.

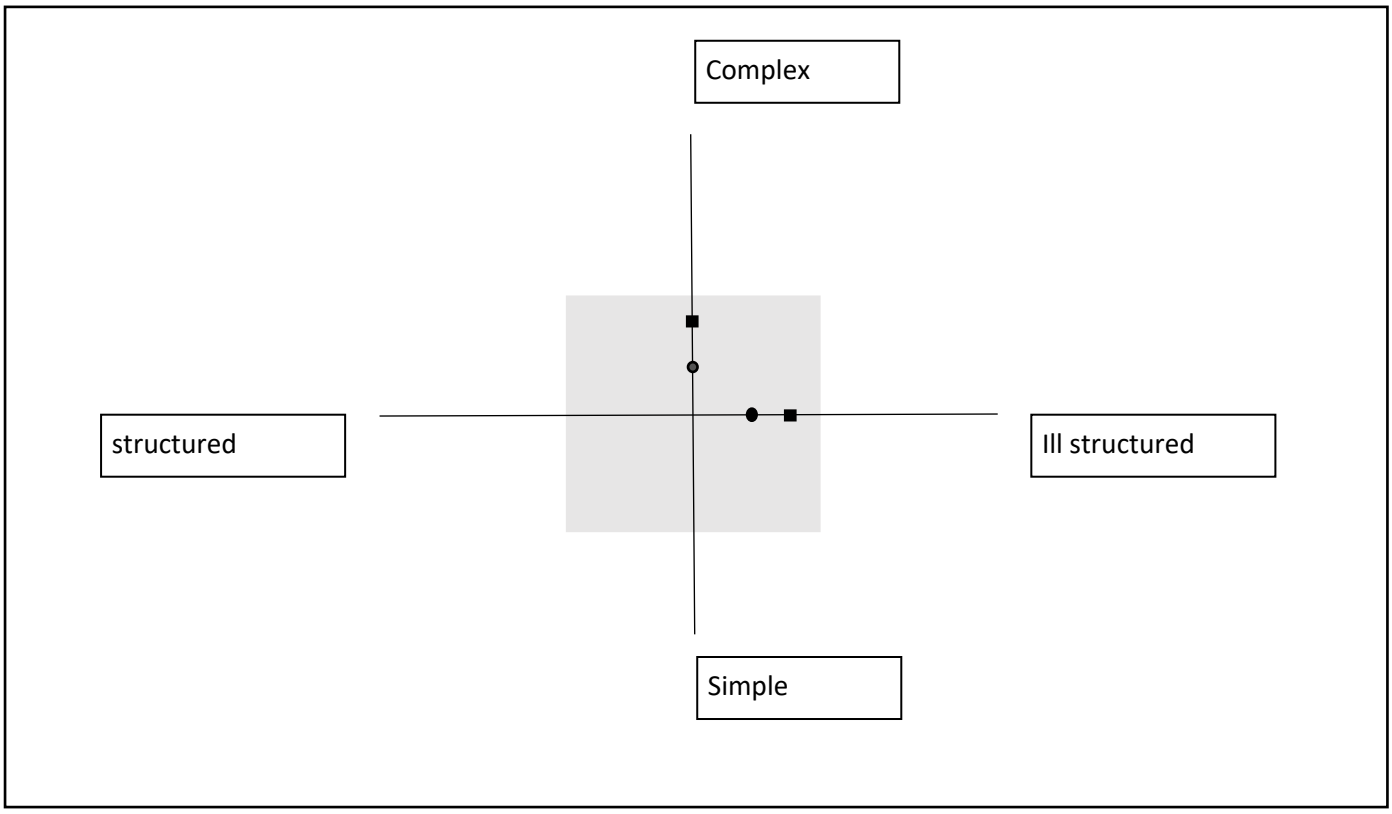
(P4) dynamicity

The variables in traditional problem questions are confined by the retrospective nature of the question, as the problem has already occurred the variables are fewer. Legal design and its focus on preventative law present greater dynamicity. Although from the perspective of dealing with the law alone the dynamicity is likely equal in each.

(P5) Competing alternatives

Legal design does not confine problem solving to the use of traditional lawyer skills of advising, drafting, advocating etc. Solutions are informed by human centred need and may be anything from a leaflet to a self-executing crypto-contract, as such there are more competing alternatives in simulated legal design sprints.

Figure 3



Shaded area - effective zone of adult learning in PBL

Simulated Legal Design Sprints - square

Traditional Problem Question - circle

Based on the characteristics identified above, simulated legal design sprints offer greater complexity and ill structuredness, and as such are more conducive to the conditions required for more sophisticated and challenging learning.[41]

When mapped onto the paradigm, simulated legal design sprints are:

[41] Boud (n 27).

- More ill-structured than traditional problem questions, however, a moderate degree of structuredness is provided by concept mapping which reduces the abstractness of the problem.

- More factually and legally complex than traditional problem questions, although, the extent to which this is 'motivating' needs to be determined qualitatively.

- Able to better provide the opportunity for students to examine the problem from multiple perspectives at once due to the minimised story element of the scenario.

- Similarly adapted to students' prior knowledge of the law as a traditional problem question, but they widen the factual basis upon which the task is premised.

- More complex and as such must be adapted to students' cognitive development and readiness to fulfil the paradigm, it is therefore suggested that they may be most effective at levels 5, 6 and 7 (see below) although this must be tested practically.

- Authentic and contextualised as to students' future or potential workplaces as are traditional problem questions. Whilst simulated legal design sprints are likely to provoke innovation as required by the higher education framework and Solicitor's Regulation Authority threshold criteria, traditional problem questions will produce functional knowledge and their format is more likely to constructively align[42] with SQE1 assessments.

Conclusion:

No research has been found which attempts to identify legal design methodology on the problem-based learning spectrum. The discipline-specific nature of the Barrows taxonomy[43]

[42] John Biggs, "Enhancing teaching through constructive alignment", (1996) 32 Higher Education , 347.
[43] Barrows (n 31).

(as adapted to law by Kurtz[44]) fails to accommodate the evolving nature of practice of law using technology and cannot account for the complexity of legal design problems. Therefore, the appropriate taxonomy to use is that developed by Jonassen and Hung.[45] This has a paradigm against which 'good' problem design can be measured. When situating both types of question within this taxonomy, legal design problems are more complex overall, and are closer to the paradigm for 'good' problem design, being moderately ill-structured (near the median) and slightly above average in complexity. As such they more closely align with the conditions for effective adult learning.[46]

Where greater functionalisation of knowledge or innovation are the required outputs, problem designers must open the problem space. Designers ought to have in mind the above taxonomic criteria for complexity and structuredness when selecting problems to match the credit framework for higher education in the UK. For example, level 4 questions might fit the more traditional framework whereas Levels 5, 6 and 7 might also harness legal design methodology where both the problem and solutions are identified by students.

As educators, creating problem spaces which ask students to decode our narrow socio-cultural experiences and confine the range of solutions is counter innovative. In critical educational theory students must be allowed to construct their own reality[47] in order to avoid replicative (banking) solutions which maintain the status quo. In legal design, the empowerment of the end user and the development of user empathy opens the possibility to innovate beyond the status quo of standard legal solutions. Therefore, by reducing academic voice and liberating the problem from predefined solutions students are able to solve legal

[44] Kurtz (n 33).
[45] Jonassen (n 30).
[46] Boud (n 27).
[47] Freire (n 15).

problems using language of their own articulation, the process provided by legal design lends itself well to facilitating this articulation.

As expressed by Giroux, a starting point for critical pedagogy is 'taking students' real life experiences and making them meaningful in order to engage them critically'. In redefining notions of societal power, we are not concerned with 'debunking existing forms of schooling and educational theory, [but] re-working them, contesting the terrains in which they developed and building upon them the democratic possibilities inherent both in schools and the visions that guide our actions'.[48] Legal design allows us to do this by opening the problem space to increase student voice, agency, creativity and innovation.

The roots of the legal design movement in the United States are founded in civic responsibility.[49] Many universities use legal design labs to solve 'wicked' socio-legal justice issues.[50] In doing so they create a pedagogic space to test the socio-legal aspects of research by way of experiential learning.[51]

Many scholars see legal design as a critical discipline,[52] as it can distribute power away from lawyers in a way which is human centred and empathetic. This can be difficult to reconcile with the goals of the profession.[53] However, industry is already rejecting the notion of the concentration of power solely within the legal sphere. Fiona Phillips of HSBC cites as "game

[48] Stanley Aronowowitz and Henry Giroux, *Education Under Siege* (1st Edition, Taylor Francis, 2003).
[49] Kathryne M. Young, "What the Access to Justice Crisis Means for Legal Education", (2021) 11 University College Irvin Law Review, 811.
[50] Hagan (n 8) 1; Jackson (n 59) 1; K Galloway and others, "The Legal Academy's Engagements with Lawtech: Technology Narratives and Archetypes as Drivers of Change", (2019) 1 Law, Technology and Humans, 27.
[51] Siddharth Peter de Souza and Lisa Hahn, "Socio-legal methods labs as pedagogical spaces Experimentation, knowledge building, community development" edited by Emily Allbon and Amanda Perry-Kessaris (edn) in *Design in Legal Education*, (Routledge 2022)
[52] Doherty (n 10), Hagan (N 7); Dan Jackson, "Human-Centred Legal Tech: Integrating Design in Legal Education", (2016) 50 The Law Teacher, 82;
[53] Lisa Toohey, Monique Moore and Sara Rayment, "Teaching innovation in the age of technology: Educating lawyers for digital disruption using visually-oriented legal design principles" Edited by Emily Allbon and Amanda Perry-Kessaris (Design in Legal Education, 1st edn. Taylor and Francis, 2022) Available at: https://www.perlego.com/book/3517513/design-in-legal-education-pdf (accessed: 12/01/2023).

changing", the concept that the law might be designed for the people it is meant to serve.[54] Design thinking has been shown to decrease transaction costs, increase understanding and trust between contracting parties, and produce reputational benefits as well as competitive advantage.[55] The Centre for Ethics and the Legal Profession[56] cites 'design thinking' as the second most important priority for future commercial success.

Carpenter[57] argues that legal design is one of 5 multi-dimensional skills that lawyers of the future will require. "Legal design allows lawyers, who are not native creatives, to become creators," says Alexandre Menais, executive vice-president and general secretary at Atos. This article argues that we can also do this for our students. By educating using legal design theory, we can harness critical pedagogy and produce more innovative graduates. By opening the problems space using design methodology, we give our students the opportunity to not only functionalise their knowledge, but also to innovate.

[54] Reena SenGupta, "How 'design-thinking' can help lawyers do a better job", The Financial Times, 11 February 2021, How 'design-thinking' can help lawyers do a better job | Financial Times (ft.com) (accessed 18/05/2023).

[55] Katri Nousiainen, "General theory of legal design in law and economics framework of commercial contracting", Journal of Strategic Contracting and Negotiation (2022) 5 4 General theory of legal design in law and economics framework of commercial contracting - Katri Nousiainen, 2021 (sagepub.com) (accessed 18/05/2023.)

[56] Centre on Ethics and the Legal Profession, 'Report on the State of the Legal Market' (2020) Thompson Reuters.

[57] Anna Carpenter, "legal project management", edited by Catrina Denvir, *Modernising Legal Education*, (Cambridge University Press 2019) 5. VLE Books https://r1.vlereader.com/Reader?ean=9781108604710 (accessed 11/01/2023).