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Published in:
International Data Privacy Law

Publication date:
2022

Document license:
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Citation for published version (APA):
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Teaching Data Protection & Privacy Law in a Digital Age

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Abstract: In this paper, we identified five fundamental principles for developing data protection law courses in today’s digital age. The paper outlines the broader context of the transformation of legal education in a digital age; describes the importance of integrating legal-thinking and design-thinking with a deeper understanding of the underlying technologies and user-interfaces; and introduces the main features of a new approach to teaching data protection and privacy.

The main argument of the paper is to suggest that the data protection lawyer of the future will become a key intermediary of innovation – or a ‘transaction engineer’ – who helps facilitate and coordinate new forms of business and other social relationships; contributes to harnessing the benefits of disruptive technologies, automation and digital connectivity to build next generation legal services; and contributes to the development of a legally compliant and socially responsible technological infrastructure.

To perform this function effectively, however, data protection professionals need to develop a new mindset, along with several new skills and capacities, including a better understanding of the technological architecture of a post-digital transformation world, as well as the power and importance of legal design.

Crucially, this means re-visiting the law school curriculum and legal education, more generally. From a pedagogical perspective, we propose a task-oriented, “sandbox”, and “gamified” approach to data protection law that delivers a more meaningful student experience in which students are given the space to experiment via engagement with timely and practical problems.

Keywords: Legal education, data protection, legal design, e-learning, transaction engineers, design patterns, proactive legal thinking, gamification.

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1 Introduction

Data protection law and questions of privacy, more generally, are amongst the most disrupted and disruptive sectors of the legal industry today. Algorithm and data-driven companies are driving the market across multiple sectors of the economy. Moreover, the exponential growth of these technologies is creating new business models. Companies across every sector of the economy are becoming open platforms that offer new products and services to their customers and clients. The healthcare, Fintech and banking sectors are good examples of such data-driven disruption.

Technological changes make it possible to gather, integrate and analyse vast amounts of data in unprecedented ways. Recent events such as the Snowden revelations of mass surveillance by intelligent services and government agencies, the Facebook-Cambridge Analytica scandal which concerned the obtaining of the personal data of millions of Facebook users without their consent, and court decisions such as the Schrems II case, which invalidated the EU-US Privacy Shield framework of data transfers, have raised awareness and concerns about the protection of personal data among legal professionals, the business sector, and the public, more generally. Regulators have responded to such concerns with far-reaching regulatory interventions, such as the General Data Protection Regulation (GDPR) in Europe and the California Consumer Protection Act (CCPA) in the United States.

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2 Marcelo Corrales Compagnucci et al., ‘Legal aspects of decentralized and platform-driven economies’ in Marcelo Corrales Compagnucci et al. (eds.) Legal Tech and the New Sharing Economy (Springer, 2019), 1-14.
8 California Consumer Privacy Act of 2018 [1798.100 - 1798.199.100].
In addition, the recent COVID-19 pandemic has exacerbated the effects of the digital transformation. According to an analysis from the United Nations Conference on Trade and Development (UNCTAD), the pandemic has pushed us further into a digital world, and changes in behaviour are likely to have lasting effects when the economy returns to normal. Restrictions on human movement and interaction have highlighted frustrations with static and unfriendly documents that are disconnected from digital processes and systems. The pandemic has increased the uptake of technology-based solutions, tools, and services, accelerating and amplifying the global transition towards a digital economy. This has, in turn, enabled computer-aided services, telemedicine, telework and online education to proliferate.

Given the centrality of data and data protection to our future, it is vital that data protection becomes a central pillar of legal education, and it is for this reason that we have set out to identify principles that might drive the development of a new style of data protection education at a master’s level, which integrates an in-depth understanding of law, cutting-edge technologies, and legal design. This will provide students with an opportunity to build upon basic knowledge they acquired as undergraduates and help them to understand – from an interdisciplinary and technical perspective – how data protection law can interact with innovative products (software and hardware) and services in real-world settings. Moreover, it seems clear that future data protection regulation will be increasingly embedded in the architectural design of the technology itself, following the ‘privacy by design and by default’ approach. As such, data protection lawyers will work in multi-disciplinary teams, comprising coders and designers.

This new operating environment means that students must acquire a new way of thinking and data protection lawyers of the future will become innovation intermediaries or ‘transaction engineers’. As such, next generation of data protection lawyers will play a vital role mediating

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14 Articles 25 (1) and 25 (2) of the GDPR.

between various actors, organisations, and communities, coordinating, and reinforcing a dialogue between diverse professions and businesses. The data protection lawyer of the future needs to be able to understand not only the technical and legal issues involved, but also the necessary human-machine interactions and the interfaces between the various stakeholders and complex systems. Information design will be integral to presenting messages – both legal and technical – in a way that reduces friction and enables successful outcomes in a form that is legally compliant. As such, transaction engineers will be the linchpin that facilitate business innovation and user creativity across multiple sectors of the economy.

This paper, therefore, aims to identify and describe some fundamental principles for the advancement of data protection education in this new context, exploring new teaching methodologies and student learning outcomes. Section 2 briefly outlines the broader context of the disruption of education in a digital age. Section 3 suggests that lawyers have been at their most effective when operating as transaction engineers that create opportunities for new forms of business and other social relationships and suggest that this provides a model for the data protection lawyer of the future. Section 4 identifies core principles that can form the basis for designing a programme based on our experience as lawyers and educators. Section 5 concludes.

2 The Disruption of Data Protection in a Digital Age

Over the last half-century, digital technologies have transformed the world. The emergence of computer-based devices and communication infrastructures have triggered multiple economic, social, and cultural effects. The term, ‘digital transformation’, is often used to refer to this shift from analogue, electronic and mechanical machines to networked, digital devices and the on-going social effects associated with the proliferation of these new technologies. This process of digitization began in earnest with the launch of the Intel microprocessor in California in the early 1970s and has been driven by an ongoing series of technological innovations, most significantly cheaper and smaller digital hardware (first PCs and, more recently, smartphones); global communication networks and mass connectivity (the Internet); and cloud-based data storage & algorithm-driven processing.

With ever-shorter innovation cycles, it seems obvious that these new digital technologies will continue to transform every aspect of our lives. Constant technological disruption is now the new normal and old-world ideas, practices and organisations are becoming less relevant, even if they are still, obviously, influential. And to be clear, the digital transformation is a global event: the era of the American Internet is over, and it is smartphone users from China and India that

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*technologies and the disruption of the legal profession’ in Marcelo Corrales, Mark Fenwick and Helena Haapio (eds.) LegalTech, Smart Contracts and the Law (Springer, 2019) 253-272.
increasingly dominate and drive global trends. Software has gone from being a tool in assisting work to a fundamental infrastructure that defines and gives meaning to our everyday lives. Software is, as tech entrepreneur and venture capitalist, Marc Andreessen, so dramatically, but nevertheless accurately, put it in 2011 in *The Wall Street Journal*, ‘eating the world’.¹⁷

Until recently, education has been relatively insulated (compared to the business world) from the disruptive impact of the digital transformation. However, the recent pandemic – and the forced adoption of online and other digital tools – seems likely to accelerate this process of disruption. The new, post-pandemic operating environment creates enormous challenges and competitive pressures for all education, including legal education in data protection law. Key questions include: *What* should we be teaching our law students today? *What* skills and capacities best prepare today’s students for the complex and uncertain world of tomorrow? *How* should we adapt traditional educational methods for a new digital age?

Education has, from an historical perspective, tended to be backward-looking, and knowledge based. Transmitting the settled body of knowledge of the past has functioned as the starting point for our whole approach to education. For instance, in a legal context, students have traditionally analysed existing laws and previous court decisions. The idea has been that if you understood the historical development of law and the settled, established principles of the legal system, you would be able to solve future problems via the application of old doctrines and precedents to new situations. From time to time, ‘gaps’ might be uncovered, but the default position was a firm confidence in the capacity of the settled system of the past to manage any problems that arose in the present or future. Law was backwards looking, but in a way that allowed it to engage successfully with the present and the future.¹⁸

A similar logic extended to other fields of what we might term professional education: MBA programmes, for example, employed a similar ‘case study’ approach in a business context and old solutions – typically earlier success studies – are examined and then applied to find solutions in new situations.¹⁹

The responsibility of the educator in this approach to education was to acquire and then transmit this body of settled, authoritative, expert knowledge. And in a world of information asymmetries, the educator-student relationship was, by necessity, a hierarchical one. After all, the teacher possessed all the knowledge (desired by the student), and this knowledge provided the source of their credibility and legitimacy as educators. In a legal context, some practical experience as a lawyer or other legal professional was always deemed important, but the ultimate source of

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an educator’s authority was possession of the right kind of knowledge and the ability to communicate it in a classroom environment.\textsuperscript{20}

However, this model seems far less suited to a world of easy access to information, self-learning, and fast-paced, technology-driven economic and social change. Prior experience may no longer be relevant to an ever-changing reality. If the future is likely to be very different from the present or past, it doesn’t make sense to focus too much attention on transmitting information that is already readily available and (anyway) seems likely to be rendered less relevant by changing circumstance.

Moreover, in a digital age, the transaction costs of acquiring relevant and up-to-date information are low. Whereas in the past, educators enjoyed a monopoly over the possession of the relevant body of knowledge, we now live in a world where knowledge is only ever a Google search away. Therefore, the focus of education in data protection law needs to shift away from a knowledge-oriented approach towards a more forward-looking model focused on skills and capacities. How then do we prepare the next generation for dealing with unknown future problems? What skills are going to be most useful in this new world? And what is the role and the responsibility of educators in this new model? These are the questions that everyone involved with legal education needs to be asking. Ignoring this change is only doing a disservice to our students and those programmes/faculties/universities that are quickest to adapt stand to benefit. In the same way that business has been transformed over the three decades by the arrival of digital technologies, it is not unreasonable to believe that legal education will face similar levels of disruption over coming decades.

For a start, everyone is going to need a much better technical grasp of the core technologies surrounding computers, communication networks, and developments in digital technologies, such as artificial intelligence.\textsuperscript{21} For many of us, the underlying technologies that are driving the digital transformation remain a mystery, and that is a problem. Practical technical knowledge needs to be integrated into the curriculum of data protection law courses, and coding and data analysis seem a good starting point.\textsuperscript{22}

But we also need to identify other subject-specific skills and capacities that are important in a world of constant change. The focus should be on building skills that will assist the next generation in making better decisions under conditions of cognitive and normative uncertainty. This is where design-thinking can add extra value. Higher education can play a crucial role in defining the future – as a platform or sandbox for experimenting with different visions of


tomorrow’s world. But this vision of education as a sandbox should not trigger a descent into science fiction or fantasy. Instead, visions of the future must be grounded in real-world problems and the creation of workable solutions. But – unlike the real world – there is time to reflect, and ‘failure’ is not punished. Educational institutions thereby offer a safe space and the freedom to think big and the environment to test out new ideas. This is what universities can offer if done right and forms the basis of what we are proposing here.

3 The Lawyer of the Future as Transaction Engineer

When thinking about the skills and capacities that legal education needs to be developing in and transmitting to students, it is important to consider the function and needs of the legal profession in a digital age. What will the data protection lawyer of the future look like and how might legal education contribute to building the right kind of skill set to fulfil this function. In this regard, it might be helpful to examine the role of lawyers in earlier periods of technological change. Crucially, lawyers can play and have played a vital role in co-creating solutions around the development and deployment of new technologies. In this context, the history of the legal profession can provide some clues as to the type of role that lawyers might usefully play and the skills that are of most value.23

From a historical perspective, at least in the context of business, lawyers have been most important and effective when they have created opportunities for new forms of business and other social relationships. Consider the development and growth of Silicon Valley as a center for digital technologies in the early 1970s.24 While the idea of the clustering of similar businesses was a significant source of innovation, there is a broad consensus that the legal industry was important in the development of technology firms and in facilitating innovation. For example, lawyers were responsible for drafting the innovative contractual provisions that protected high-risk investors – for instance, angel investors and venture capitalists – from the relational and performance risks associated with investing in young companies and inexperienced founder-entrepreneurs.25 Moreover, the involvement of lawyers in both non-legal and legal activities, such as deal making, matchmaking, gatekeeping, and conciliating, also served as an important sorting device for entrepreneurs that needed more than just investors to start and scale their young businesses. Finally, the contractual mechanisms and the lawyer-dominated market for reputation reduced information asymmetries between the entrepreneurs and investors and, as such, were necessary to bring the demand- and supply-side of venture capital together.26

23 See Fenwick and Vermeulen supra note 15.
25 See Bernstein supra note 15.
26 See Vijay Mehta, ‘Principal-agent issues in private equity and venture capital’ (2004) available at: https://repository.upenn.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1013&context=wharton_research_scholars (Accessed 21 June 2021); Daniel Schmidt ‘Entrepreneur’s choice
We can see from the Silicon Valley example how lawyers functioned as socially useful relationship engineers. Law firms operated as crucial intermediaries that brought together various parties with different but mutually compatible interests and novel forms of expertise. Lawyers were not only acting in the interests of their clients, but a secondary effect of their work was to open a new space for innovative young start-ups to flourish. On this type of account, the often-neglected contribution of local law firms to the institutionalisation of venture capital and venture capital contracting goes some way in explaining the success of Silicon Valley.

Following in this tradition, data protection lawyers of the future will need to be able to assume the role of ‘project managers’ or, at least, active participants in multi-disciplinary teams that will design new solutions for the problems of the future. As such, a capacity to operate effectively in diverse teams will take on a much greater significance than has previously been the case. The ability to work with, communicate with, and mediate between a range of ‘partners’ will be increasingly required. In the digital world, this means that data protection lawyers will have to work closely not only with their traditional professional ‘partners’ such as notaries, accountants, or financial advisors, but also with software engineers, developers, designers and other technical experts and specialists (depending on the particular project/transaction at hand).

In this new model of legal services, law firms and in-house legal departments will become more like ‘platforms’ with an emphasis on connecting legal and other experts and managing the resulting collaboration and transactions. In a world of platforms, this type of ‘matchmaking’ and project-based partnership, will mean that lawyers and other legal advisors need to be aware of the way network technology, data-driven platforms and infrastructures, apps and other code-based technologies operate. Such co-creation involving partnerships between multiple actors can be crucial to building a better digital future.

The problem, however, is that lawyers in general, have often failed to perform this function of being proactive engineers that add value. Instead, they become a hindrance or obstacle to any form of transacting or relationship building, let alone creative or innovative transacting. This can happen for multiple different reasons, but the tendency to proceduralise solutions, to adopt overly legalistic language, and to employ ‘standard form’ templates is a major factor. Fixed and standardised solutions are often imposed on complex, dynamic transactions resulting in frustration

28 Fenwick et al., supra note 9.
and difficulties, especially for clients. The list of complaints is familiar: lawyers are verbose, they do not listen, they are unresponsive, they are constantly saying ‘no’, they charge too much, they are not technologically or commercially minded, they spend too much time on trivial issues, they do not keep clients informed, they constantly ‘over-lawyer’, and they do not communicate clearly and concisely. As a result, lawyers have developed a reputation as one of the least trusted professions.

Finally, lawyers are now confronted with an increasingly complex regulatory environment. In the context of data protection and privacy, for example, the GDPR has created a new and unprecedented degree of legal risk. A striking feature of the GDPR is its global reach and this has prompted legislators to carry out reforms in other jurisdictions outside of the EU. However, many uncertainties remain regarding the scope, direction and effects of new technology and the law. Addressing the many challenges, therefore, requires going beyond any one disciplinary perspective or frame of reference. Similar laws elsewhere – the CCPA in the US for example – adopt similar principles and approach, but subtle differences introduce legal risk requiring legal professionals. A more fluid and flexible attitude is required to manage the new legal risk that these complex legislator interventions have created. And emerging technologies such as cloud computing, big data, artificial intelligence (AI), machine learning, robots, blockchain, smart contracts and other automated systems, will surely cause further disruption, requiring lawyers, judges, and regulators to adapt once again.

4 Principles for Integrating Law, Technology and Design in the Legal Education of Tomorrow

The pandemic created enormous frustrations for students and teachers. Most universities were locked down and the HyFlex modality implemented by some universities proved to have advantages and disadvantages. The advantage was the possibility of offering something ‘like’ the

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on-campus experience: universities did not need to shut down completely. However, the result was a disconnection for some online students who struggled to engage with the content. And yet, it would be wrong to think that everything was functioning well before the pandemic. Education was increasingly disconnected from the fast-changing realities of a digital age. As such, the return to normal offers an opportunity to re-consider our approach to education. So here we identify five principles that might inform the future design of legal education, illustrating them with examples from data protection. Our goal is to improve the student experience and capacity for self-directed learning, and to offer them the skills necessary to succeed in a post-digital transformation world.

### 4.1 Understand the Interests and Needs of the Students

The first step is to get to know the students.\(^{34}\) Who are they? What skills and knowledge do they already have? What do they want from the class and want to improve? What are their expectations and aspirations? There is some value in formalising this process. For example, an online survey followed up by either in-person or online face-to-face’ meetings with either individual students or small groups of students depending on class size. The objective of this ‘survey plus face-to-face meetings approach’ is to collect pertinent information and analyse students’ perceptions and expectations concerning the study programme. This takes time but adds genuine value, both in delivering a more customised experience and in managing expectations of what is possible and desirable. Equally, it offers students the chance to understand more about the course tutors and their interests and background, which can build trust and confidence.

Having implemented this type of exercise on several occasions, recurrent patterns have emerged. First, there is the diversity of the contemporary student body, both in terms of background and the range of (often unexpected and interesting) pre-existing knowledge and relevant skills. Second, there is the strong interest amongst students in learning more about the practical side of law, which is often frustrated in traditional, education settings and approaches. There has always been a tension between the theoretical and practical elements in legal education, but it becomes increasingly clear that a more practical orientation is essential, and that theory must be introduced in practical settings – theory meets practice – rather than as pure theory disconnected from practice.

An additional benefit of a ‘getting to know each other exercise’ is to compare the reality of the student body with the so-called ‘implied student’.\(^{35}\) The implied student is an analytical concept used in educational settings to investigate, understand, and improve teaching methods. It can be thought of as the bundle of characteristics of the optimal student that is presupposed in the teaching plans, readings, discussions, evaluations, and other arrangements for a course. In other words, it is a hypothetical construct that the teacher has, either explicitly or implicitly, of the role

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\(^{34}\) Bjørn F Johannsen, Lars Ulriksen and Henriette Tolstrup Holmegaard, ‘Who are the students?’ in Lotte Rienecker et al. (eds.) *University Teaching and Learning* (Samfundslitteratur, 2015), 115-132.

model or ideal student. Every class has an implied student and reflecting on and teasing out the characteristics of such a model can add value by obliging a teacher to think about their audience and what they want from the group.

Nevertheless, there will always be some degree of mismatch between the implied student and the real students in a class. A benefit of getting to know the students is that this construction can be compared with empirical finding about the actual students that attend the class, and this gap can be closed. This, in turn, can help teachers to redesign and customise the study programme based on the student’s actual knowledge, prior experience and expectations. For example, in a previous course, the fact of having some students working at the police raised the idea to focus more on the criminal and forensic aspects of data protection law. This also triggered the idea of having special sessions on more specific topics and having a few guest speakers with special knowledge on these subjects. This dynamic and reflexive exercise of thinking about the kind of student that the course presupposes as the ideal and comparing them with the actual composition of the class, facilitates the identification of more relevant and engaging content that creates a more satisfying learning experience for everyone. It also gives students a sense of ownership over the course and its content, if they feel the course content is being re-designed with their interests in mind.

In addition, we are influenced by Lave and Wenger’s ‘social theory of learning’ and the idea that learning always takes place in a particular context and situation. In their account, they discovered that when we are learning we pursue four elements: meaning: we try to get the sense and meaning of an issue; practice: learning is related a specific practice when we do something; community: learning is also related to a sense of belonging and becoming a part of the community; and identity: learning is a social becoming. This means that we must understand how students can transfer their knowledge from one place to another and we need to provide right context for it. Again, reflecting on these questions together with students provides a mechanism for constant self-criticism and improvement.

4.2 Embrace Active Learning and Problem-Solving

Law faculties have tended to follow a traditional teaching and learning approach centred on the classroom experience. The teacher – as source of knowledge and authority – is front and centre with the typical lecture-based format followed by a Q&A session at the end. Traditional evaluation methods consisted of a final oral or written examination in which students were expected to reproduce what they learned. While this approach has some advantages, we believe that it is

becoming obsolete or, at least, much less relevant. There is an increasing need to rethink teaching and learning materials and methods in legal education, and they should be better aligned with specific learning environments and activities.\textsuperscript{38} It is important to combine active and passive elements of teaching to engage the students with the experience as pointed out by Dewey’s social learning theory. Dewey focused on learning and experience. He considered that education should be an archetype of the social environment and that students learn best when they are participating in a natural social setting.\textsuperscript{39} This means that we must make the students engage with the experience and give them activities to learn - having students simply discuss something together is not enough.

Active learning is based on a student-centred and collaborative approach in which the responsibility of learning is placed on the student. It is associated with the idea that students take a more leading and active participation while the role of the teachers changes accordingly. In active learning, teachers become facilitators, monitoring the learning activities rather than one-way providers or intermediaries of information.\textsuperscript{40}

Active learning is a recurring theme in education debates. The advantages of active learning are manifold. Active learning stimulates the attention and can generate a fruitful discussion during the class. This also allows to receive peer feedback from the students which in turn sparks critical thinking. Active learning should be relevant and within a meaningful context. Students learn by doing.\textsuperscript{41} Some examples of active learning techniques used in our classes are case studies, group projects, debates, and assessment activities such as online quizzes. All these methods encourage active participation and promote a sense of achievement after the class. Quizzes, for example, are more fun than a formal test and proved to be effective in the past.

Another good example for engaging students in active learning, particularly in legal education, is role-playing. In role-playing, students take the role of a person or stakeholder group, allowing them to apply the content they have learned, but also to think about and see the world from a different perspective. This technique can be combined with a problem-based learning activity where they can work through ‘ill-structured problems’. Ill-structured problems attempt to mirror real world problems with conflicting data, theories, assumptions, and values.\textsuperscript{42}

The idea of ill-structured problems seems relevant in a legal context. After all, lawyers are familiar with the idea of ‘hard cases’ – cases where the interpreter faces unclear linguistic expressions or conflicting legal precedents.\textsuperscript{43} In a data protection context, think of the landmark

\begin{itemize}
  \item Rick Gloccheski, ‘Rethinking teaching, learning and assessment in the twenty-first century law curriculum’ in Christopher Gane and Hui Huang (eds.) Legal Education in the Global Context (Routledge, 2016).
  \item Samuel Fournier St-Laurent and Bruno Poellhuber, ‘Change process of two post-secondary teachers in the early adoption of an active learning classroom’ in Robert Cassidy et al. (eds.) Active Learning: Theoretical Perspectives, Empirical Studies and Design Profiles (Frontiers in ICT and Frontiers in Education, 2019), 158.
  \item St Laurent and Poellhuber supra note 47.
\end{itemize}
Google Spain case\textsuperscript{44} which concerned the tension between the freedom of the press and the so-called right to be forgotten.\textsuperscript{45} In this case, there were different parties involved. Students could be divided into three groups: One group could represent the view of Google Spain SL and Google Inc. Another group could represent the view of the plaintiff Mario Costeja Gonzalez, and the other group of students could represent the position of La Vanguardia newspaper. Students could maintain their role throughout the entire class. This way they could learn and experience the content in a deeper way and to think beyond the boundaries of the classroom setting.\textsuperscript{46} Such an approach also creates a more collaborative experience. Students need to get to known each other and the role-playing can create the opportunity for students to interact with each other and create team spirit. This will provide a source of friendship and camaraderie among the students and such a collaborative mindset can provide a source of motivation for personal and professional growth.

An alternative to relying on real-world cases, like the Google case, is for the class tutors to develop a hypothetical hard case or pick up on challenging real-world inspired situations and get the students to work through the problem over the course of the class. Some data protection specific problems might include developing so-called privacy labels or thinking about developments in cloud-based computing and privacy. For example, several start-ups right now are focusing on the idea of a so-called user-held data model.\textsuperscript{47} These companies help individuals gather and integrate their personal data from multiple different sources such as wearables, sensors, as well as online services into one single place (the so-called ‘personal data cloud’). A personal data cloud enables not only the storage of the most up-to-date personal data from multiple sources but also creates opportunities for individuals to get everyday value from their own data. Such value is generated on the individual’s side: individuals can gain better insights, recommendations, and nudges utilising apps that activate this cloud-stored user-held data. Thinking about the diverse legal and regulatory issues involved in deploying such a business model would be an example of cutting-edge, active problem-solving in a data protection and privacy context.

4.3 Integrate Design Thinking with Proactive Legal Thinking

Instead of litigating or providing \textit{ex-post} services, many lawyers – particularly corporate in-house counsel – now work proactively and preventively, especially in the fields of contracting, data protection and legal technology. In a compliance-driven environment, there is a much greater \textit{ex

\begin{itemize}
  \item \textsuperscript{44} Google Spain, Case C-131/12. Google Spain SL and Google Inc. v Agencia Española de Protección de Datos (AEPD) and Mario Costeja González. ECLI:EU:C:2014:317.
  \item \textsuperscript{45} Article 17 of the GDPR.
  \item \textsuperscript{46} SERC, Carleton, ‘Active learning, role-playing’ available at:
  \item \textsuperscript{47} For example, see Prifina \url{https://www.prifina.com/} (Accessed 8 June 2021).
\end{itemize}
ante focus and much of this work is done in multidisciplinary teams. Lawyers may, for example, be involved in providing technologically enhanced legal services or helping to build platforms, systems, services, or solutions that provide legal protection ‘by design’ – i.e. solutions that enable and empower people, including people without any legal background to do their job in such a way that complying with legal requirements is built-in and easy to accomplish. Promoting clients’ chances of success and preventing unnecessary problems can be framed as practicing Preventive Law or Proactive Law. It can also be framed as practicing Legal Design. Devising course content that cultivates this knowledge and skills is our third principle.

In the context of the kind of transactional lawyering advocated here much of the lawyer’s work is about defining the future in such way that various risks – business, economic, security – are mitigated. And the best time for legal input is when planning a system, platform, notice, or other activity. When systems and solutions work for their users in this way, reactive legal help is much less likely to be required. Instead of firefighting after the event, the lawyer of tomorrow will be expected to focus on supporting collaboration and contributing to desirable outcomes, creating opportunities, and preventing problems before they arise. This requires communication, policies, and processes that are not only legally functional but also accessible and usable for the people who work with them. Lawyers need to develop the necessary know how to produce such communications and effective outcomes, and this is where proactive legal thinking and design thinking becomes essential.

The pioneers of Proactive Law were among the first to ask questions about the functionality, usability, and user experience of conventional contracts and legal documents.

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48 In the words of David Howarth, ‘[l]ike engineers, transactional and legislative lawyers want to make something useful that works for their clients. … Unlike the objects created by engineers, lawyers’ objects are embodied not in metal or concrete or plastic, but in relationships between people, and they are designed in words rather than in drawings.’ See David Howarth, Law as Engineering. Thinking about What Lawyers Do (Edward Elgar, 2013), 67.


51 Louis M. Brown, Preventive Law (Prentice-Hall, 1950). One of his fundamental premises was that in curative law it is essential for the lawyer to predict what a court will do, while in Preventive Law it is essential to predict what people will do.


53 Legal Design Alliance, Legal Design Manifesto n.d; see also, Marcelo Corrales Compagnucci et al. (eds.) Legal Design: Integrating Business, Design, & Legal Thinking with Technology (Edward Elgar Publishing, 2021).

54 See, eg., George Siedel and Helena Haapio, Proactive Law for Managers: A Hidden Source of Competitive Advantage (Gower, 2011); Gerlinde Berger-Walliser, ‘The past and future of proactive law: An overview of
When they joined forces with information designers, the dysfunction and unnecessary complexity in extant legal communications became obvious, both in research and also, increasingly, in practice. With the development of digital content, new professionals – computer scientists, computational linguists, technical writers, and developers – entered the field, helping to bring Proactive Law closer to practice and embed its goals in new systems and solutions. In recent years, across several continents, researchers and practitioners have started to explore new ways of simplifying the communication of complex legal messages. Computable and smart contracts have emerged, along with simplified and visualised contracts and privacy communication, all of which seem to share similar objectives in this regard.

When looking for ways to solve complex human problems, it has become commonplace to search for answers in and from design methods, principles, and practices. The British Design Council’s Double Diamond is often used to describe a typical design process: one where it is crucial to first determine the right problem – meaning right from the users’ point of view – and then taking action to solve it. Too often, this first step does not get as much attention as it deserves. The first diamond – discover and define – helps us understand, rather than assume, what the real

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problem is. This often involves talking with the users and defining the problem in a new way. The second diamond – develop and deliver – encourages us to find many possible solutions to the problem and prototype and test them early and at small-scale, so that we can reject the ones that do not work and improve those that do.

As such, Legal Design borrowed from architects, software engineers and interaction designers the idea of ‘design patterns’ as a useful way to identify and share good practices in resolving recurring problems. An early example is offered by Juro, a UK-based contract automation platform. Working with Stefania Passera, a design scholar and practitioner, they set out ‘to build a privacy notice that people could actually read.’ The project succeeded, and their privacy policy became one of the most commonly-cited policies in the world, frequently used as an example of clean information design and best practice in the field. In addition to a short summary, ‘your privacy at a glance’, the privacy policy used clear headings, bullet point summaries, layering and visuals to show what people want to know – and if they want to know more, they can click on a provided link and find out more. A timeline shows when and how Juro collects data as people interact with their service. The summary page and the full policy were so impressive that many people started to copy them. In the spring of 2021, the creators decided to make the design patterns of the privacy notice and the code base on GitHub openly accessible for those who want to deploy them in their own privacy notice.

Merging proactive legal thinking with design thinking, in this way, helps lawyers put users at the centre and creates solutions that work for users and not against them. At the same time, those solutions can promote transparency, autonomy, privacy, security, fairness, and accountability. Applying these methods, future lawyers working as transaction engineers can learn to create solutions, for example privacy communication and terms, that are legally functional, and that

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63 Juro, ‘Get your free privacy policy template’ available at: https://info.juro.com/privacy-policy-template (Accessed 9 June 2021). The text of the policy will need to be customized, and a credit with links is required.
people can read and understand. Hands-on exercises can be used so students can learn to master the use of design patterns and existing templates that can help them in this endeavour.\textsuperscript{64}

Implementing this kind of approach in legal education can be done by introducing students to general design principles and focusing on examples of best practice like Juro. The combination of proactive thinking and design principles provides students with the resources and experience to develop their own unique solutions to the real world or hypothetical problems discussed in the previous section.

At the same time, students need to be made much more aware of the technologies and the capacity of technologies to achieve the goals of proactive lawyering. Lawyers do not need to become coders or designers themselves – coding and design will remain distinct skills and roles that take on an ever-greater importance. But the lawyer of the future will need to equip themselves with the necessary knowledge – or literacy – to seamlessly partner with, and mediate between, multiple perspectives, and facilitate the successful interfacing of human and machine. In a data protection context, for example, this means familiarising students with various privacy enhancing techniques such as: authentication, deidentification, encryption, pseudonymization, anonymization, homomorphic encryption among others. Moreover, it is important to understand how these technologies are applied in different real-world situations and settings such as profiling, criminal investigations, face recognition, deep fakes, digital health, scientific research, social media platforms, dark patterns, AI, distributed ledger technologies (blockchain) and smart contracts among others.

By examining current real-world cases across different areas of technology, this learning activity outlines some of the main features of this on-going transformation process, in particular the diverse privacy and data protection issues that relate to science and technology and how they could apply proactive legal thinking and design-thinking.\textsuperscript{65} The goal is to map the evolution of these technologies and to find the best way of harnessing different cutting-edge technologies and, at the same time, reducing the ever-growing gap between new technology and data protection law.\textsuperscript{66}

\textsuperscript{64} For design pattern libraries, see eg, WorldCC Contract Design Pattern Library available at: https://contract-design.worldcc.com/ (Accessed 9 June 2021).

\textsuperscript{65} Marcelo Corrales, Mark Fenwick and Helena Haapio, ‘Digital technologies, legal design and the future of the legal profession’ in Marcelo Corrales, Mark Fenwick and Helena Haapio (eds.) Legal Tech, Smart Contracts and Blockchain (Springer, 2019).

4.4 Gamify Learning

In a recent interview, tech entrepreneur and influencer, Elon Musk, said that we need to ‘gamify learning’ and ‘conventional education should be massively overhauled’.\(^6^7\) This is in line with the future generation mindset. ‘Learning should not be a chore, but a problem-solving game’ as Musk put it. He mentioned the example of his own children and how he needed to ‘prise’ the controllers from them, and this indicated how successful the games industry has been in capturing consumer attention.

By gamification, we mean the introduction of typical elements from games (e.g., narrative and storytelling, classes and roleplaying, points and levels, competition and problem-solving, exploration and adventure, and a recognition of the power of the flow experience) to other fields of human activity. We can learn a lot from the most successful games and game design. Companies like Epic – producers of the hugely successful Fortnite – are masters at capturing and retaining user attention. And this is achieved by a combination of technology – games are software, after all – and implement human-centred design.\(^6^8\)

Moreover, developments in the gaming sector often pre-empt developments elsewhere in the economy and popular culture. Right now, for instance, there are important developments in VR gaming (where players use a virtual headset to play the game) and several major players in technology now see VR headsets as the next big technology. Facebook, for example, recently acquired Oculus the producer of one of the leading headsets (the Oculus line) and have also bought smaller start-ups companies that produce games for these headsets.\(^6^9\) Clearly, in making these acquisitions, key figures in Facebook signal that they believe that these technologies can be deployed in other contexts, most obviously for communication, for meetings, and education. A second example is blockchain gaming, in which games run on a distributed ledger. There are several interesting possibilities here, but perhaps the most intriguing are related to cryptocurrencies. Traditionally, in-game currencies have operated in-game only, but with a blockchain cryptocurrency it is possible for gaming currencies to be used outside the game in the real world.\(^7^0\)

The fact that so many large tech companies – Apple with its Arcade gaming platform and Netflix’s recent announcement that they will expand their gaming operations shows how gaming is increasingly shifting into the mainstream and the line between gaming and other sectors of the


\(^{70}\) For example, a leading player in this sector is the company Enjin: https://enjin.io/ (Accessed 10 May 2021).
entertainment and technology industries is blurring. Games are becoming much more sophisticated these days and understanding the world of gaming can offer powerful insights into near-future technology trends and cultivate skills that can be deployed in other non-gaming settings. In doing so, we must understand the different elements that make a game successful and think about how these might be deployed in an educational and legal context. This is a crucial exercise if we want to include more of these contemporary gaming ingredients in our courses, lectures, and presentations. In the same way that digital technologies from today are incomparable with those of twenty years ago, so are games and there is much value to be derived from engaging with gaming, particularly for understanding user-engagement.

This line of thinking confirms the ‘motivation and perceived locus of causality’ model presented by Ryan and Deci. Motivation (extrinsic and intrinsic) is a fundamental aspect and driving force of any learning. Facilitating incentives and engagement with others as part of the learning process is crucial. This is where gaming techniques and activities can become useful as they give students the opportunity to work together in a learning-oriented way. In For the Win, for example, Kevin Werbach and Dan Hunter suggest that not only the gaming industry has to benefit from a greater time investment in understanding game design principles, but business and education also stand to gain. Interestingly, the authors of this book are both lawyers and they were forerunners in introducing the first course on gamification at the Wharton School. According to the authors ‘a well-designed game goes right to the motivational heart of the human psyche.’

By adopting a gaming mindset, we can see future opportunities and can deal with the many of the digital and design challenges we will have over the next ten years. To survive and flourish in a video game or in a world of exponential technological change, students need to be inquisitive, creative, and bold. Students must retain an open mind and constantly experiment. This will provide them with the skill set necessary to survive and flourish in a digital age.

In making this argument, we do not claim that the world is a game or that we should approach the world’s most pressing challenges as if we are playing a game. That would be irresponsible. Building the infrastructure of 2030 is an extremely serious task. But we do believe that if you want to help make that world a better place, a gaming mindset can be a huge advantage. Games also help students to retain more of the information. Learning can be made a more intense experience. We want our students to explore, experiment and deal with the immense uncertainties. We want our students to become legal engineers, architects, and designers.

It is for this reason we introduced a gamified ‘legal design hackathon’ experience into our education programmes. In one version of the hackathon, students are divided into teams, and they must search for privacy design patterns and so-called ‘dark patterns’ which are spread all over the Internet and often mislead consumers. Having searched and identified the dark patterns, they then must propose ideas how to solve the problems with such dark patterns. This learning activity can incentivise students; like a game, they must walk through a sequential series of tasks or levels: finding problematic cases, identify the issues; develop solutions in a team; and sell those solutions to a panel of experts. Incentives – a reward system, for example – is created by introducing a competitive element between teams at each stage, and this can also create a more exciting and engaging experience for everyone.

Of course, it also important to be aware of the potential challenges and caveats of gamification. Rewards, for instance, are one of the most important elements of game design – reward encourages users to stay engaged in a gamified context. However, despite the substantial amount of motivations studies under game rewards in gamification, it is still unclear the optimum for timing and frequency of rewards. That is, how often we should award students and when in the gamification process we should provide rewards. Although extrinsic rewards can motivate and encourage positive behaviour, they can also have the opposite effect. Sometimes giving people a bigger reward to perform a certain task will make them do it less and worse. Education reformer Alfie Kohn published a book on this phenomenon titled *Punished by Rewards.* In psychology, this is also known as the ‘crowding out’ problem, because extrinsic motivators tend to crowd out intrinsic ones. Several research studies confirm that the crowding-out effect is very real and that adding extrinsic rewards to intrinsically motivated tasks has proved to produce less effort and poorer-quality work. Consider the example of teaching children how to read or making them to do their homework. Parents and teachers employ all types of extrinsic motivators (punishments and rewards). The extrinsic motivator will initially work but it will dramatically stop producing positive effects at some point. For this reason, gaming activities must be carefully designed in order not to fall into this reward paradox.

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76 For an empirical study about the timing and frequency of rewards for students in a gamification application see, Fan Zhao and Dahai Guo, ‘Rewards in gamification’ in Xiaowen Fang (ed) *HCI in Games, First International Conference, HCI-Games 2019* (Springer, 2019), 453-462.
79 Ibid, 61.
4.5 Create a Safe Space for Experimentation

The concept of the ‘sandbox’ has been used widely in technology regulation in recent years to describe a process of controlled experimentation whereby start-ups are released from regulatory obligations that would otherwise apply in exchange for handing over to regulators the data generated in the deployment of new technology in a real-world setting. The view is that such data can enable regulators to better understand trends in the tech sector and make better regulations, i.e. a sandbox addresses information asymmetries that exist between public and private actors in the tech ecosystem. It also offers start-ups the opportunity to test innovative new products in a real-world environment. We believe that a sandbox can also function as an important concept for education and educators, as it can provide a similar level of controlled freedom within which students can deploy the skills and resources described in previous sections.

An important feature of a sandbox in a business and regulatory context is that it facilitates and encourages blue sky, out of the box thinking amongst all stakeholders, especially start-ups and regulators. Start-ups are freed from some of the constraints of legal risk and regulators are given information to innovate in regulatory design. Educators can learn from such an approach. Encouraging students to get creative in thinking about future challenges for privacy is the last principle that we would highlight. This would mean encouraging students to examine near future privacy issues in ubiquitous computing such as cloud computing, big data, autonomous vehicles, Internet of things (IoT), and wearable devices. In addition, other on-going technological trends could be examined such as AI, robotics, and automation, blockchain technology, smart contracts, and quantum computing. Again, the key point is for such creative thinking to be connected to tangible instantiations of these technologies and a problem-solving, gamified approach.

Such a creative approach can also be applied to imagining future regulatory schemes and trends. Here we would point at two promising strategies for meeting the technological challenge taking the example of the AI developments in the Fintech sector. First, ‘dynamic regulation’, in the form of experimental regulatory schemes that aim to provide a space for responsible AI-related innovation. There is already evidence to suggest that jurisdictions that adopt a more proactive approach to technological regulation can attract greater investment. The second strategy relates to so-called innovation ecosystems. It is often argued that such ecosystems are most effective when they afford opportunities for creative partnerships between well-established corporations and AI-focused start-ups and that this aspect of a successful innovation ecosystem is often overlooked in

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81 Ugo Pagallo et al. ‘The rise of robotics and AI: Technological advances and normative dilemmas’ in Marcelo Corrales, Mark Fenwick and Niko Forgó (eds.) Robotics, AI and the Future of Law (Springer, 2018), 8.
the existing discussion. Students might be invited to consider these more experimental regulatory approaches and to identify privacy and data protection concerns that they may create.

Finally, students must feel safe to speak freely and constructive feedback provided. Peer feedback or peer review is at the core of many contemporary evaluation practices – students are assigned other students who will comment and evaluate both oral presentations and written assignments. This allows students to make the necessary changes based on the input they receive from their peers and at the same time develop capacities in business and legal judgment. A crucial feature of a sandbox – either for children or regulators – is that it offers such a safe space for experimentation and a similar idea should inform the educational deployment of this concept.

5 Conclusion

The role of lawyers and the required skill set is constantly evolving. This paper views the lawyer of the future as a crucial intermediary operating in the flatter, multi-disciplinary teams of a digital age, working with technology to deliver human-centred solutions. To perform this function effectively, however, lawyers require a much better grasp of the concepts and capacities of new technology, but also the principles of human-centred design. They are likely to work as members of cross-professional teams where it is not enough to know the law and identify legal issues – it is also about collaborating with people from other disciplines and co-creating solutions that are operationally and legally functional. The principles presented here are a first attempt to think about how course and programme design might better integrate these other perspectives into legal education, focusing on the issue of data protection regulations. It emphasises a human-centric approach, seeking to promote successful outcomes and prevent problems before they arise. The merging of design with technology has the potential to transform the legal profession. It can help to create new digital products and service and make legal information less complex. As such, legal education also needs to shift away from a knowledge-focused approach towards a more forward-looking model focused on skills – rather than content alone. The task-oriented approach, including sandboxes and gaming active learning activities presented here can help students to have a more meaningful experience by experimenting and engaging more directly with practical problems.

And as a final thought: we would tentatively suggest that these principles are transferable to other fields of law, particularly those fields that involve digital technologies and where meaningful and effective engagement with end users – either business or consumers – is vital.

82 Mark Fenwick, Erik P.M. Vermeulen and Marcelo Corrales, ‘Business and regulatory responses to artificial intelligence: Dynamic regulation, innovation ecosystems and the strategic management of disruptive technology in Marcelo Corrales, Mark Fenwick and Nikolaus Forgó (eds.) Robotics, AI and the Future of Law (Springer, 2018), 81-103.