Replicating Lecture Hall Interactions Using Metaverse Pedagogies

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Abstract. There have been various instructional shifts in the tertiary education sector due to the pandemic. Legal academics have been gently forced to move beyond their primal instinct to teach face-to-face. Instead, they had to become innovative and integrate technology to make the teaching and learning pedagogy more engaging on a virtual platform. The pandemic has enabled law academics the fortitude to explore creative teaching pedagogies in order to replicate the conventional lecture hall interactions on a virtual platform. Various online teaching pedagogies have been incorporated into law schools in Malaysia, including the adoption of Gamification, Augmented Reality, Neuro-Linguistic Programming and Virtual Legal Practice experience, etc. However, law schools are sceptical and partially resistant as to which Metaverse pedagogy can be incorporated into the law programme post-pandemic. This research will examine the possible manner of integrating Metaverse pedagogies in legal courses including lectures and seminars, mooting and advocacy courses, legal attachment modules, and virtual libraries. It is submitted that law schools can leverage the collaborative capabilities of virtual worlds - from enabling virtual class collaborations and practising advocacy skills using simulations, to the interactive use of virtual libraries for research and enhancement of legal knowledge. The paper will specifically map the face-to-face teaching pedagogy with the Metaverse equivalent. It will contribute to the existing body of literature as it broadens the understanding of the available online teaching pedagogies and usage of Metaverse in legal modules. This research will be beneficial to law academics and students, educational institutions and educational technology providers.

Keywords: Legal, Pedagogy, Metaverse, Education, Technology

1 Intoduction

There have been various instructional shifts in the tertiary education sector due to the pandemic. Legal academics have been gently forced to move beyond their primal instinct to teach face-to-face. Instead, they had to become innovative and integrate technology to make the teaching and learning pedagogy more engaging on a virtual platform. The pandemic has enabled law academics the fortitude to explore creative teach-

ing pedagogies in order to replicate the conventional lecture hall interactions on a virtual platform. Various online teaching pedagogies have been incorporated into law schools in Malaysia, including the adoption of Gamification[4], Augmented Reality[1][3], Neuro-Linguistic Programming[2] and Virtual Legal Practice experience, etc. However, law schools are sceptical and partially resistant as to which Metaverse pedagogy can be incorporated into the law programmes post-pandemic. It is submitted that law schools can leverage the collaborative capabilities of virtual worlds - from enabling virtual class collaborations and practising advocacy skills using simulations, to the interactive use of virtual libraries for research and enhancement of legal knowledge.

This research will examine the possible manner of integrating Metaverse pedagogies in legal courses including lectures and seminars, mooting and advocacy courses, legal attachment modules, and virtual law libraries. The paper will specifically map the face-to-face teaching pedagogy with the Metaverse equivalent. This will be done by first explaining what teaching pedagogies are and its importance in the dissemination of legal knowledge. Next, an examination and stratification of the available Metaverse applications, and technologies will be carried out. Lastly, the specific teaching pedagogy will be mapped to each proposed Metaverse application. This research will contribute to the existing body of literature as it broadens the understanding of the available online teaching pedagogies and usage of Metaverse in legal modules. This research will be beneficial to law academics and students, educational institutions and educational technology providers.

2   Teaching Pedagogies

There is a strong consensus that the performance of the students and the legal education system is dependent on the quality of teaching. In fact, Barber states that 'the quality of an education system cannot exceed the quality of its teachers' and concluded that 'the best school systems are those that have the best teachers'.[12] Evidently, educators play a pivotal role in guiding and nudging the students towards the correct answers and, in shaping students into practice-ready lawyers, equipped with the knowledge and skill set required for such a heavy task. Thus, the teaching methods employed by academics in the dissemination of legal knowledge is pivotal to the absorption and understanding of legal knowledge. However, identifying the teaching method without understanding the theories underpinning the method may prove counterproductive. This is because understanding foundational theories of pedagogy aid in expanding the knowledge surrounding teaching methods and their effectiveness. As such, Cownie states that "[a]s law teachers in a university, members of the academy, we should not only be familiar with the philosophy and theory of education, we should also be able to put them into practice, to integrate them into our teaching methods, to be confident that just as our research is based firmly on theory and takes account of the latest developments in the field, so it is with our pedagogy".[12] In essence, academics, legal education institutions and today, even educational technology providers, can have a better grasp of the most effective teaching methods as well as the technological applications that can successfully replicate these methods.

Nonetheless, it is useful to carry out a quick analysis of the origins and meanings of the word pedagogy in order to appreciate its importance in the realm of education. The term pedagogy has a long-standing history in the Western world. The etymological meaning of the term pedagogy may be examined from its Greek, Latin and French roots. The Greek word 'paidagōgeō' is a combination of the words 'país, genitive, paido', meaning child and the word ágō, meaning lead; literally-to lead the child. [42] While the Latin derivation translates to 'child instruction' and its French roots translate to 'having oversight of a child'. [42] Evidently, the respective etymological roots demonstrate that the term pedagogy is equatable to words such as 'guidance', 'teaching' and 'instruction'. In fact, the modern-use of the term in English refers to the whole context of instruction, learning, and the actual operation involved therein. In English the term pedagogy is used to refer to 'instructive theory'. In fact, educational historian Brian Simon described pedagogy as the 'science of teaching', while Robin Alexander defined pedagogy as 'both the act of teaching and its attendant discourse', framed by 'ideas, values and evidence'.[12] From the aforementioned it can be deduced that pedagogies describe the teaching methods adopted by the academic. Thus, legal pedagogy is the instructive theories surrounding the teaching methods in legal education.

Essentially, legal academics are expected to have a succinct and concise grasp of the subject matter, upon which they should formulate a teaching plan using the most appropriate teaching method to disseminate the particular legal knowledge. It is important to identify the most suitable methods to disseminate legal knowledge because legal education is a cognitive[25] (process of learning from lower to higher order thinking skills) based programme with a minimal focus on the affective domain (feelings and emotions), and nearly no focus on the psychomotor (physical) domain [25]. Essentially, the practical teaching methods suitable for psychomotor-based programmes such as cooking or baking may be inadequate in a law programme. Additionally, teaching law is vastly different from teaching science-based subjects such as medicine and engineering, or art-based subjects, such as literature and history. Rather, teaching law requires a mixture of methods employed across these subject areas as it is classified as a social science subject (a combination of science and arts) involving the study of societies. As such legal pedagogies are unique in nature and have been through several changes influenced by various factors including but not limited to, learning or measurable outcomes in other education programmes, influence and pressure of external market forces, etc. Additionally, the pandemic has accelerated the use of technologies with movement restriction control orders imposed in most nations and as such teaching pedagogies have seen a massive technological shift. The biggest contributor and motivator being the applications in the Metaverse which will be explored in detail in the next part of this paper.

3   What Is Metaverse?

The origins of Metaverse technologies trace back centuries to rudimentary sensory illusions and to recent advancements in computing. [14] For decades Extended Reality (XR) and 3D technologies have contributed to the advancements in many scientific

fields. However, the term Metaverse only rose to fame with the recent announcement by Mark Zuckerberg to rebrand Facebook with the name 'Meta'. [8] This created a sudden upsurge in interest on the significance of the new name. The hype surrounding this phrase led to the development of many metaverse technologies as curious techno-philes have attempted to utilise the existing Metaverse applications and maximise its benefits in the commercial, non-commercial and educational realms. However, the very first reference to the term 'Metaverse' can be found in the 1992 American science fiction novel 'Snow Crash'. Neal Stephenson coined the term 'Metaverse' in order to depict a dystopian virtual reality, in which users can engage in social, cultural, economic activities, and other daily activities as oneself in the form of digital avatars in a three-dimensional virtual reality world. This is similar to Go et al's definition which describes Metaverse as a "3D-based virtual reality in which daily activities and economic life are conducted through avatars representing their real selves".[20] It can be conferred from the aforementioned that Metaverse loosely translates to the expansion of reality into a virtual space.

Regardless, many scholars and developers have attempted to provide a more conclusive definition of the term 'Metaverse' with a specific set of parameters as to its usage and technology. However, this is to no avail and currently a universal definition of this term is non-existent.[37] This is because Metaverse is a nascent concept that is continuously evolving. Every Meta-user and developer interpret the term differently in accordance to their personal development, use and perception.[22] It may be easier to understand the term Metaverse by first examining its etymology. Metaverse is a combination of the Greek word 'Meta', which signifies 'transcendence' or 'beyond', and the word 'verse' or 'virtuality' which represents 'universe' or the 'totality of something'. Hence 'Metaverse' is an amalgamation that reflects the interactions or engagements users have that transcend or go beyond the universe.[5] Metaverse alters the human experience fundamentally, using technology that can go beyond our physical reality. This definition emulates an earth that is digitally expressed through the internet, smartphones and other media technology.[24] It could therefore be concluded that metaverse is not limited or constrained to the use of digital avatars, or to the appearance and interactions in three-dimensional virtual reality environments.[44] In fact, Metaverse can be personalised to the user or developer's individual preferences and ideas in relation to how they intend to operate in the alternate environment.[45] In 2006, the Acceleration Studies Foundations (ASF), conducted research and released a metaverse roadmap. The roadmap classifies metaverse into four types, which include augmented reality, lifelogging, mirror world and virtual reality.[5] The research proposes that Metaverse should be perceived as a connection point or an amalgamation of the real world and virtual reality.[5]

Based upon those findings, Augmented Reality (AR) is described as a form of Metaverse that uses technology to superimpose digital objects onto the physical world, such that the user remains in their physical form in the physical world, whilst being able to interact with digital objects that are overlaid in the real-life environment.[5] This is achieved using smart gadgets such as tablets or smartphones. Essentially, Augmented technology adds a new function to an existing real-world system or space. In the

Metaverse, this is technology that superimposes more information on the physical environment we currently perceive. This is in contrast with simulation technology that only provides a unique environment that models reality. An example of this technology would be the famous 2016 mobile game Pokémon Go.[49] Here, users can catch Pokémons that are only visible through the mobile phone application when held against a real-world backdrop, whether public spaces such as parks or private spaces such as a room in the user's house.[49]

Lifelogging is a type of Metaverse that captures synchronous or asynchronous interactions displayed on the Internet such as Instagram and Facebook 'live' and 'stories', TikTok reels, YouTube etc. [5] The projection of the live or recorded interactions is an augmentation of oneself and can be considered to be part of the metaverse realm. The 'mirror world' on the other hand, is a Metaverse application that involves replication or 'mirroring' of the physical world. It appears in an enhanced virtual model as a reflection of the real world, as if reflected in a mirror.[5] Google Earth, Maps and Waze are good examples of this application. Although Google Earth solely emulates geographic information systems, research has proven that interactions can also take place in the mirror world through virtual educational spaces. These include the use of MS Teams, Zoom, Google Meet and other Learning Managements Systems (LMS) where classroom interactions operate in real time.[40] All these applications have been extensively used by educators and educational institutions during the pandemic, including Malaysian law schools.[47] In these virtual meet applications it is not the physical world that is mirrored, rather it is the interactions that are reflected. For instance, dissemination of legal knowledge and interactions between peers in the physical lecture hall is replicated during the lecture sessions on Google Meet.[5]

Lastly, Virtual Reality (VR) technology is a type of Metaverse application that allows users to experience fully immersive interactions in a three-dimensional environment through the use of VR headsets.[5] Users are able to represent themselves in the form of avatars that resemble the user's features in the virtual world, while physically existing in the real world. The artificial tech in this application allows users to customise their own avatars by choosing their desired skin colour, features, height, gestures, greetings and even fashion sense. Or users may choose to upload their images and allow the Artificial Intelligence (AI) technology feature to accurately design an avatar that resembles the user. The users can carry out a plethora of actions and other interactions with digital objects in the virtual world using the VR handheld controllers. The metaverse in the virtual reality world can appear as in the mirror world or it may be designed in an entirely different manner from reality, depending on the objectives of the developers. Examples include Meta, Second Life, Sandbox, Roblox, Spatial etc. These applications allow the avatars to engage in virtual games, educational role plays and other interactive experiences and allows students to learn without the hindrance of physical boundaries.

The immersive technologies used to access Metaverse, whether augmented, virtual or mixed, are best represented by the term "extended-reality" (XR) or "cross reality"; a catch-all term for immersive technologies used to access the Metaverse. The spectrum depicts technologies as being situated between a completely computer-generated virtual

environment (high virtuality) on one end and the physical reality on the other (no virtuality).[28] Physical reality constitutes the sensory experiences students have during physical lectures that are naturally available to them in this physical environment. When the lecture hall environment is perceived or processed in real-time using audio-visual hardware such as smartphones, tablets, laptops or headsets, students are then placed along the XR continuum based on the degree of virtuality, or in other terms the ratio of virtual versus physical content being experienced. [28] Previously, XR technologies were incredibly expensive, bulky and served industry-specific purposes. However, today with the availability of stronger processors and high-resolution screens in smart gadgets such as mobile phones, tablets, laptops, as well as accurate motion sensing devices, XR is ever-ready to easily make the jump from industry laboratories to our living rooms, offices and most importantly our lecture halls. [14] Essentially, Metaverse and XR technologies are here to stay. They are actively transforming the way we work, socialise, play and, teach and learn. Legal educational institutions everywhere should grasp this opportunity and make headway in the educational Metaverse realm.[57]

4   Lectures & Seminars

Legal programmes have traditionally and predominantly prioritised lectures which run for a period of two or three hours. This is followed by a one- or one-and-a-half-hour tutorial/seminar dedicated to tasks or activities that require the students to apply the learned legal principles covered in the lecture to factual scenarios. In lectures, the students are passive learners, attending lectures to receive the knowledge from the lecturer. The theory of behaviourism whereby knowledge is viewed as a commodity that can be transferred from teacher to student best describes the pedagogies underpinning lectures. The students are assumed to be empty vessels waiting to be filled with legal knowledge. Here, lecturers focus purely on disseminating legal knowledge followed by mini quizzes or self-checks to ensure that legal knowledge is received, remembered and understood, aligning with Bloom's lower order thinking skills.[26]. Lectures started out very similar to religious sermons with the lecturer merely explaining the theories and case laws with the use of chalk or white boards when absolutely necessary. At that time, there was a lack of visual aid and knowledge received was entirely dependent on the students' ability to follow the audio lecture and note down the dictations.

Later, as more studies on the types of learners became available and with technological developments, dissemination of legal knowledge included visual aids such as PowerPoint slides, Prezi Presentations and laser pointers, to gently force students into focusing on a certain word, phrase or diagram. Recently universities have added lecture capture (recording) features to their lecture halls, to ensure students are able to follow the lecture at their own pace and to ensure accessibility to all types of students including the audio or visually impaired. Evidently, these methods focused more on the audio, visual and reader/writer learners with nearly no focus on the kinaesthetic learner. During the pandemic, the lecture hall interactions were replicated using online platforms such as Zoom, Google Meet, Microsoft Teams, etc. These platforms as aforementioned may be deemed as a form of Virtual Reality as it mirrors the interactions in the lecture

hall on an online plane. Unfortunately, in both the real and virtual world, the kinaes-thetic learner is given very little attention. The authors believe with the use of 3D virtual realities, this problem may be overcome.

As aforementioned, virtual realities can either mirror the real world or a whole new reality that is completely dependent on the user and their imagination may be built. These 3D virtual realities will allow students to interact in a more collaborative manner using the VR handheld controllers and headsets. As such interactions that were difficult to carry out in lectures may be done in this virtual reality. For example, with the focus on Outcome-Based Education (OBE) whereby the students are at the centre of the teaching and learning process, virtual realities can allow for more interactions between students rather than a one-way street lecture. Similar to breakout rooms in the current online applications, there can be various multipurpose rooms built in the virtual realities to allow students to receive knowledge and to discuss amongst each other their various understandings.

This ensures that the student is an active participant in the learning process since it is proven that most peers learn better through interactions amongst themselves as they are on a similar wavelength academically and otherwise. The additional movements with the headsets and controllers will also allow the kinaesthetic learner to learn and grasp concepts better unlike the current lecture theatres which follow the traditional design with a tiered seating arrangement that allows for no movement or interaction amongst peers. The traditional setting does, however, offer an excellent view of the lecturer on the elevated platform (stage) and of the whiteboard, further cementing the one-way street lecturing technique. Evidently, the possibilities with lecturing styles are infinite with the use of the Metaverse. Additionally, Metaverse applications will reduce the need for traditional lecture theatres and allow dissemination of legal knowledge to be borderless. Metaverse can create a space for students to attend lectures in other uni-versities across the globe and interact with other students. This sort of diversity can be achieved without the need for travel and monetary expenses. Students can learn and grow in a culturally diverse legal environment. Such platforms provide them with the opportunity to become holistic and 'worldly' lawyers with a fountain of knowledge at their fingertips.

In seminars or tutorials the students are at the forefront of the teaching and learning process. Students are expected to actively carry out discussions and academic argu-ments amongst and against their peers to further sharpen their critical legal analysis skills. Often students are provided with a set of questions and a case study list in ad-vance to allow them enough preparation time. The discussion or seminar rooms are smaller rooms with either a U-Shaped or Parliamentary style seating, depending on the purpose of the assigned room.[51] The lecturer will select the most appropriate venue for that particular set of questions and merely act as a facilitator or referee in these venues. They are mere guiding agents to ensure that students are thinking critically and their answers are in the correct range for assessment purposes. This is similar to the theory of cognitivism which recognises that learning occurs in the mind with environ-mental conditions present to facilitate learning and the value of practice and feedback to this learning process.[11] This theory also stresses that the lecturer as a facilitator

also needs to ensure that they do not overload what the students are required to recall at any one time, referred to as cognitive load or the 'working memory'.[11]

Similar to lectures the use of virtual realities pose many possibilities in terms of facilitation and collaboration of discussions. Here, it is submitted that Augmented Reality may be a viable option as it allows charts and diagrams to be superimposed onto the real world. This will help enhance discussions and allow for better absorption of information. It will also allow students to explore their factual scenarios in detail. For example, walking through a fake crime scene when presented with a criminal law issue or examining contracts in contract law tutorials, and many more. Furthermore, students can develop additional technological skills as they will be able to design their own AR mobile phone applications in order to complete the tutorials. These added skills are also in line with Bloom's higher order thinking skills of analyzation, evaluation and synthesis.[25] Such transferable skills and knowledge will increase the employability and attractiveness of the graduate. Ostensibly, Metaverse applications are able to replicate and even enhance face-to-face teaching pedagogies. With the correct positive attitude from academics and a sustainable Metaverse induced teaching plan, legal education may be the revolutionary pioneers in the Metaverse pedagogy realm.

5   Mooting and Advocacy

Amidst a plethora of co-curricular activities and modules, mooting and advocacy courses remain the quintessential activity at most law schools. From the early 1890s, mooting or 'mock trials' was introduced to aid law students in honing their advocacy skills, which in turn moulds them into practice-ready lawyers.[44] Mooting modules provide an excellent learning platform for law students to test and practise their legal knowledge as well as their written and oral skills in a 'fake court' setting. It prepares the legal graduate for the demanding and competitive world of the legal profession. While, advocacy courses solely focus on testing the student's oral submission abilities, usually within an allocated time. Previously, advocacy and mooting courses were carried out physically in a classroom. A moot problem on a particular point of law will be passed out to the students playing the advocate or legal counsel roles, and some students may be assigned other roles such as witnesses, bailiff, police officers etc.

Mooting attempts to emulate a real courtroom experience in the classroom via simulation. This helps the student reduce or eliminate their fear, anxiety and other negative feelings whilst building their self-confidence when presenting oral admissions in front of an audience.[21] It also develops their analytical ability, develops professional networks and enhances their resume which then improves their employability rate. Additionally, it educates law students about courtroom decorum and dressing etiquettes. The instructional theory underpinning these modules is a mixture of cognitivism and constructivism. Constructivism views learning as something that happens in the mind but advocates that learning is different for different people. It is personal and the learner controls their own learning and experiences. Constructivists believe that a learner's mind creates its own meaning by filtering 'information from the real world to produce

its own unique reality'. Essentially, the theory assumes that knowledge is ever-changing which is true in moot and advocacy courses that create very reality-based factual situations to sharpen the students' legal analytical and evaluation skills.

As the legal environment witnessed the benefits of mooting, 'internal moot' competitions were introduced to allow students the opportunity to learn from constant practice and exposure to varying submission styles by other students. Subsequently, internal mooting progressed to external, and today we have many internationally recognized moot competitions.[27][58] As the competition level in moots intensified, institutions have invested huge amounts of money, effort and time in building moot courts [52], providing extra training from experienced lawyers[56] and developing the technologies used in the moot courts. When the pandemic hit, mooting proceedings had to switch from a physical mode to an online one. Most relied on basic online meeting applications such as Zoom or Google Meet. While some have experimented with the idea of mooting in virtual reality.[9][59] In either case, offline or online, a lot of resources are needed to carry out moots and advocacy modules. This includes ensuring that there are enough student participants to play the additional roles in the 'courtroom drama', legal experts such as lecturers, judges current or non-current, or even lawyers who must be willing to commit their time to listening and evaluating these proceedings, and of course an overall use of resources in terms of venue maintenance, refreshments for the participants etc.

It is proposed that with simulations or VR such as Second Life, online moot proceedings will enable students to interact without the constraint of time or geographical location while simultaneously providing a more immersive mooting experience. Participants can learn and compete in an engaging and entertaining environment. Furthermore, it is only natural to advance the technology we use in mooting modules since most law schools have well-equipped e-moot courts[52], showcasing their readiness to embrace technology in their learning environment. This is in line with the technological advancements in the practising world, as court systems themselves have changed drastically over the last 20 years in their use of communication and document management technologies. For instance, Malaysian courts have now introduced an e-filling system that allows lawyers or advocates to lodge applications and other documents electronically. [34] Additionally, case management has also been facilitated by the use of an online case management system (e-kehakiman).[34] Virtual proceedings have and continue to take place post-pandemic as well and most recently, AI sentencing has been introduced in Malaysia.[41] [32]

These advancements merely solidify the idea that an AI operated Non-Player Character (NPC) in mooting or advocacy simulations should be introduced as the next step in technological advancement of legal education, in order to ensure law students are not technologically challenged. A Non-player character or non-playable character (NPC) is a character that is not under the control of a player within the game environment.[53] The term emerged from traditional tabletop games known as RPG (Role-Playing Games), in which the character's actions are controlled through a narrative created by the player who administers the game. The terminology and role of the NPC remains the same in the realm of digital games, with the NPC possessing a few human and non-human interferences to stimulate the behaviour and rationality of the real players in the

game.[13] The NPCs will be pre-programmed with the appropriate responses and tasks in order to help the real-players progress in the game to the next level and ensure the storyline of the game progresses smoothly as well.[39] In a mooting simulation this would equate to the lecturers or educational technology providers as the simulation or game administrators, and the NPC will be programmed by these individuals to act as a judge, witness or opposing counsel in order to stimulate a specific response in the student's submission.

In advocacy simulations, the NPC can be designed to play the role of a lecturer or lawyer that nudges the law student's submission in a certain direction, tracks their progress, timing and provides valuable feedback. Using technology to create these immersive environments helps reduce resources in terms of manpower (number of participants to play the varying roles) and time. Essentially, lecturers do not have the heavy burden of finding participants. Furthermore, students and lecturers with time constraints do not have to email each other back and forth in order to find a suitable time to practise oral submissions and attain feedback. Using simulations, students can practise their submissions multiple times and obtain constructive feedback after each practice round. The programme can track their progress and grant the students as well as their lecturers' access to their 'progress reports' in order to monitor their progress and better understand their mistakes to avoid repeating them. Above all, simulations do not need the student or the lecturer to be physically present in a certain location, which allows the learning to take place regardless of physical limitations.

The virtual environment also allows students with disabilities to safely practise their submissions from the comfort of their homes. Here a safe space can be created because the disabled student may also choose avatars that do not possess their physical disabilities which allows the student to practise their submissions without fear of being judged or ridiculed. Of course, the virtuality feature also provides safe spaces for students to continuously practise their submission without the added pressure and anxiety of trying to please their lecturers. This way students can focus entirely on their submission dos and don'ts, rather than overthinking about people's perception of them. The downside is that students may never be comfortable with an audience if they become too accustomed to the virtual environment. The 3D representation of avatars and objects in virtual realities, which contribute to the creation of a spatial dimension, creates 'a sense of presence that is lacking in other communication media'. The question then remains as to whether students are able to practise the real-world skills fundamental to mooting and advocacy by using avatars or virtual reality technologies.

However, the primary limitation with NPCs is their lack of believability and this limitation may slow down the incorporation of the mooting and advocacy Metaverse simulation applications in law schools.[26] This is because the believability of the NPC in the simulation is pivotal to the students' immersion and interaction level in the simulation. Since, the AI technology designs to increase the believability of NPCs are still being tested and developed, it is suggested that such technologies should be softly launched in law schools. A soft launch will allow technological developers to examine the application and better it as it is being utilised. They may be able to attain valuable feedback from the users, students and lecturers alike. Legal education institutions can

work together with developers and create believable simulations that may be helpful to law students across the globe.

6   Legal Attachment Avatars

Virtual reality (VR) technology is a type of Metaverse application that is part of the Metaverse pedagogy that allows for replicating lecture hall teaching methods. This can be illustrated via the usage of avatars [16] [17] [18]. Peterson stated that avatars can be described as "online manifestations of self in a virtual world, and are designed to enhance interaction in a virtual space[36] [37]." Avatars can be incorporated into the virtual legal attachment, teaching and learning process to serve as law students and advisers or mentors. It allows law students to   deal with simulated legal transactions in a virtual learning environment similar to the office of a law firm [16]. This could also create a captivating and intriguing experience as it allows students to communicate with their advisers in a more exclusive and lively manner[23][24]. This will facilitate active learning of students through conducting legal transactions and   performing   professional lawyering tasks. Avatars can be used in a virtual courtroom and hearing during the virtual legal attachment period [16]. Avatars could play various roles as seen in a physical courtroom scenario. Avatars could be judges,   lawyers,   paralegals and other legal professionals in virtual courtrooms and hearings [28].

This could expose law students to discover and engage in mock trials and other legal proceedings that would make the virtual legal attachment more fruitful[16][17][18]. Law students will be able to expand their legal knowledge and skills. By the same token, avatars can be used to represent lawyers, paralegals and other legal personnels in a virtual law firm. This could encourage law students to work together with their peers and perform on legal assignments or projects in a virtual environment during their virtual legal attachment. This will indirectly give law students the experience and exposure of teamwork and project management skills which are vital as the legal profession needs lawyers that are ready to face challenges of the day [16][17]. This will lead to transactional learning whereby it is active learning, not passive. In that sense, students can be involved in activities within legal actions, rather than standing back from the actions and merely learning about them [36][37]. The conceptual understanding is carried out via teaching transactional learning that goes beyond learning about legal actions to learning from legal actions.[38] Indeed, there may be some forms of learning that can only take place if students go through the process of carrying out a transaction. The usage of avatars allows the embedding of professional learning within academic learning and this gives effect to replicating lecture halls using metaverse pedagogy [30].

Despite attempts to minimise the possibility of interpersonal virtual harm, programmers cannot remove all possibility of online deviant behaviour. As Hunter and Lastowka put it, ''If avatars find it amusing to make the lives of others miserable, they will find ways to do so [51][55]. Moreover, a high degree of freedom amounts to a high degree of anonymity that reduces a person's sense of guilt. This reduction or elimination of guilt may create more avenues for 'Meta-bullying' to take place, similar to cyber-bullying [50][55]. Bullying incidents can range from minor incidents to grievous

or severe circumstances that may affect the character credibility and ethics of legal graduates. This may pose problems when it is time for the graduate to be admitted to their local Bar Council. There is a high probability that virtual spaces can develop into a lawless zone that may allow for the emergence of unpredictable, vicious and sophisticated crimes [33]. This may pose a significant risk to law students with insufficient social skills and unformed identities. Institutions and academics must vigilantly monitor student behaviour and have strong ethical user guidelines in place to reduce the impact of this challenge. Implementation of avatars for a virtual legal attachment experience using Metaverse is similar to any other educational technology requires copious amounts of money, effort and time in terms of educational costs, purchase and maintenance costs, and overall consumption of time that can lead to fiscal costs [17][18]. Lastly, all the above-mentioned actions will be very time consuming and this may cause additional costs that can delay profits and make investors unhappy. A comprehensive grasp of the possible benefits and challenges of using Metaverse pedagogies in law schools may also provide a useful starting point for legal academics in drafting a practical, sustainable and functional action plan to ensure efficiency in the implementation process. Furthermore, it may also ensure efficacy of the integration in terms of cost-effectiveness from a fiscal and non-fiscal perspective [15].

7   Virtual Libraries

There is a changeover in the manner of which legal graduates are being educated in legal institutions in Malaysia. The usage of the Internet, IT-enabled platforms or mobile phones to make teaching and digital connectivity simpler and effective [35][54]. Many law education institutions around the world continue to function through these digital systems. This can be seen as teaching law around the world has moved from chalk and talk to incorporating technology in the classroom.

The Metaverse produces a brand-new era for legal education in Malaysian law schools [5][6]. Metaverse-based pedagogies uses a combinatorial technological innovation that leverages on its educational potential across disciplines. The integration of metaverse pedagogies in legal education will allow law students not only to be fully immersed in learning, but it can also support deep learning and enhance their metacognitive skills, allowing them to reflect and question possible legal issues that can exist in real-life or virtual environments [30]. The new models of Metaverse-powered legal education can break the limitations of two-dimensional platforms and enrich hybrid, physical or online learning experiences[5][10][14]. The incorporation of Metaverse in Malaysian law schools may also provide useful assistance and guidance to law schools, legal academics and educational technology providers in relation to its continuing application and usage post-pandemic. Teaching methods via Metaverse pedagogies break through the limitations of the physical world in terms of scenarios, and retain the value of real educational activities, enabling participants to meet both real and virtual teaching needs. It has three characteristics: social interaction, diversity and openness, and high immersion. The five existing metaverse types such as Actual Reality and Virtual Reality; avatar-based and Second Life system; learning management systems as well

as social media; simulation and Artificial Intelligence, expedite the usage of the Metaverse to bolster law students' online and blended learning journeys. [5][6][7]

The words of Oliver Wendell Holmes are as true now as they were over a century ago: "The main part of intellectual education is...learning how to make facts live." Virtual reality has been commonly known to be expensive and requires high-tech equipment but it is now beginning to penetrate the mass market. The computer processing power subject to the prevalent use of smartphones as well as economical consumer virtual reality headsets displays that virtual reality has the probability of creating a compelling impact in the legal education in Malaysian law schools. This is what Adams et al. would refer to as "catwalk technology," which has become "ready to wear" meaning that the technology is now scalable and widely available [43][46]. This makes it easier for law schools and students to adapt to the usage of virtual reality. Additionally, the mirror world is an impression of the real world and the virtual reality is the control of Avatar with artificial intelligence characters in a completely virtual space [18][19].

Virtual library is an electronically connected and accessible via Internet based Digital Library or a Library without walls [29][33]. The concept of virtual library works on the basis that any individual that is linked up with the library networks and has a computer will be able to access the resources as well as information using the Internet or Intranet. All of this research activity can be carried out without being physically present in a library. Interactive virtual law libraries can be vital for law students in Malaysian law schools as the platform has user-friendly interface that is straightforward to manoeuvre, with fine search choices as well as filters to assist students to research relevant information instantaneously and effectively[8][9]. An interactive law library is able to provide customized learning pathways that are dedicated to meet different needs of law students [10][23]. This can be seen where the audio and visual features in a virtual 3D environment allows for legal materials and data to be displayed in a reciprocal and captivating manner. Interactive virtual law libraries will aid students to concentrate on their research efforts as well as boost their overall learning experience and outcome[29]. Law students in Malaysian law schools will be able to assimilate and interact with legal resources, participate with other students in real time and engage in legal research activities or projects.

The virtual library allows for broad network access, fast track collection and communication of information and records of proceedings along with other important information. It will be accessible on numerous devices such as desktops, laptops and mobile devices that indirectly allows students to access the virtual library from anywhere at any time[34]. It will be easier for law students to obtain legal data quickly from online legal databases and conduct comparative jurisprudence. Undergraduate law students will be able to study various international law modules by using this platform. Malaysian law students with just a click of a mouse will be able to determine and identify new legislations, cases as well as latest recommendations on the development of laws. For example, students will be able to access various legal resources including primary sources such as statutes and case law, as well as secondary sources such as law review articles and legal treatises.

By incorporating interactive virtual law libraries, it allows for lecture hall teaching and learning to be replicated using Metaverse pedagogy in legal education. It will allow

productive learning to take place when students are able to interact with the task at hand and the environment within which the task is situated. This gives law students the opportunity to be exposed to the latest and up-to-date data. The interactive virtual law libraries are agile and share the resources among users & works swiftly. Students will be able to receive real-time updates[29][34]. For instance, legal developments can happen instantly therefore interactive virtual law libraries will be able to furnish law students with real-time updates on changes to statutes and case law. Students will be able to have access to all the statutes, regulations, commentaries, cases, practice notes along with more online legal sources and databases, which will facilitate quick justice delivery. Moreover, interactive virtual libraries come with collaborative features such as web-based technologies that allow students to work together in groups on their research assignments and share information among themselves [34]. This provides a genuine platform for networking amongst students. This can help students to learn from each other and develop important teamwork skills. Additionally, it promotes open access learning which is the right path in getting rid of unnecessary and expensive intermediaries such as physical libraries, law schools or even law teachers in the acquisition of information and knowledge by learners, which has already happened in other industries including travel, finance, music and book-retailing. Law graduates will be more versatile and no longer restricted by the traditional pathway. By providing law students in Malaysian law schools with access to interactive virtual law libraries, their learning journey will be heightened and prepares them for a prosperous future in law.

8   Conclusion

It is undeniable that face-to-face interactions in physical settings provide higher pedagogical value at times that cannot or is difficult to replicate in online settings, but the integration of mixed-reality metaverse into legal education can offer a rich alternative and an immersive learning experience[14]. Law students appreciate the flexibility as well as the enhanced access to legal education that it brings. The future is very promising and if we do not put in the effort now to overcome the challenge that may come, we may not be able to implement the Metaverse and take its usage beyond the realm of social media and gaming[10]. It all boils down to the risk benefit ratio. Certainly, the benefits of Metaverse in legal education outweigh the risk but only with education, awareness and readiness to accept change will the scales tip in this way[5][8].

Undoubtedly, new programmes like 'Metaverse' curriculum do not come with a 'how-to' manual. However, realisation and knowledge of their pedagogical value may be the nudging mechanism needed to go from abstract papers and discussion to actual implementation. Law schools should be cautious but ready to embrace this new mode of deliverance of using Metaverse pedagogies to avoid being left behind. In the interim, education, caution, patience and regulatory tolerance are the bywords as we navigate the future. In a nutshell, to become current and to stay relevant, law schools will need to embrace the new technology i.e using Metaverse pedagogies[36]. Ultimately, if law schools focus on building a Metaverse that is for everyone, and accessible to anyone,

the teaching and learning environment can be excellent. The new technological innovations are just another tool for a brighter future – it's up to us how we use it.

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