

Supporting Student Wellbeing Through AI-Enabled Authentic Oral Assessment: Evidence from a Pilot Study in Legal Education

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ABSTRACT: Central to alleviating anxiety and stress for oral assessments, Authentic Teaching and Learning Through Adaptive Simulations (ATLAS) provides a simulation environment where students can engage in realistic scenarios to enhance situational experiences, improve learning and understand people-people interactions. It has been primarily used in medicine, pharmacy and mediation contexts. The authors piloted ATLAS in the Juris Doctor Law Program, Monash University for a small cohort of postgraduate Law students enrolled in an Evidence Law unit. Data collection involved recording student interactions with an AI-generated judicial avatar ("Judge Jones") across up to five 10-minute asynchronous practice sessions, followed by a post-assessment user experience survey. While the main limitation of the pilot study was the small sample size the quantitative findings were highly encouraging and indicate a positive impact on student learning and emotional regulation whereby 95% of surveyed students agreed or strongly agreed that they felt better prepared for their final oral assessments and two thirds felt less anxious after using the AI platform.

Keywords: Wellbeing, Anxiety, Metacognition, Critical thinking, Student learning, Professional practice.

1. INTRODUCTION

Interactive oral assessments have increasingly been recognised not only for their pedagogical value but also for their capacity to support student confidence, emotional regulation, and wellbeing when thoughtfully designed. The authors were conscious of the fact that, in professional disciplines like Law, there is an ever-present tension between rigorous competency evaluation and student mental health. One of the aims of this pilot study was to see if an AI simulation platform, situated within a supportive learning framework, based on unscripted, real-time oral assessment can promote deeper learning while reducing commonly observed assessment-related impacts such as uncertainty and anxiety. (Sotiriadou & Logan, 2025; O'Riordan et al., 2025; Sotiriadou et al, 2020; Droulers *et al.* 2026).

The Authentic Teaching and Learning Through Adaptive Simulations (ATLAS) platform represents an innovative

approach to oral assessment by providing an AI-driven simulation environment that promotes psychological safety, reflective practice, and skill rehearsal without the immediate pressures of high-stakes assessment. By enabling students to practise authentic legal interactions within a low-risk, self-paced environment, ATLAS offers a model in which learning, performance, and wellbeing are mutually reinforcing rather than competing priorities. Students can engage in realistic scenarios that enhance situational awareness, refine professional communication, and strengthen legal reasoning skills. Through this multi-disciplinary project, educators are encouraged to reflect on their current teaching methods and explore

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contemporary educational research and evidence-based practices.

By critically evaluating the pedagogical value of legal oral assessments and examinations, this paper proposes a teaching innovation that may help to alleviate stress and anxiety: known enemies of effective cognition. Performance anxiety is a significant source of extraneous cognitive load and compromises learner capacity to identify and execute the key elements of prescribed learning tasks.

The pilot study on which this paper draws responds to an observable research gap at the intersection of Generative AI, legal pedagogies and student wellbeing. Specifically, there is a lack of empirical research demonstrating how AI-driven simulations can simultaneously scaffold the metacognitive development of complex professional skills while enhancing a sense of wellbeing and emotional resilience.

To address this gap, this study pursues the following research objectives:

1. Evaluate the capacity of an AI-enabled simulation platform to reduce performance anxiety and enhance a psychologically safe environment whilst scaffolding the development of key legal skills.
2. Investigate how metacognitive self-management and self-directed learning are enhanced through the cognitive companionship of a responsive avatar.
3. Assess the extent to which simulation-based learning bridges the cognitive skills gap and fosters increased confidence to facilitate successful learning transfer from classroom to courtroom.

Guided by these objectives, this study addresses three central research Questions:

1. How does student interaction with an AI judicial avatar impact subjective experiences of performance anxiety, resilience, and emotional wellbeing prior to a summative oral assessment?
2. In what ways does a simulation environment cultivate learner metacognition and self-directed professional development?
3. To what extent does a low-stakes, simulated courtroom context facilitate the transfer of complex legal reasoning and communication skills from written theory to practice?

To answer these questions the paper reports on a pilot study using ATLAS within a Juris Doctor (JD) law unit,

Principles of Evidence, at Monash University in 2025. Through engagement with an AI-generated judicial avatar, law students were provided opportunities to rehearse oral advocacy skills in a manner designed to reduce anxiety, support self-regulation, and build confidence prior to summative assessment.

Instead of looking at student learning and student wellbeing as separate phenomena, this study presents a Conceptual Framework for AI-Enabled Authentic Assessment that brings them together in a harmonised way. At its centre the ATLAS platform is posited as the catalyst that synthesises the cognitive, social, and emotional aspects of learning. The AI simulation provides a low-pressure environment and experience where students can practise without the anxiety of making mistakes, leading to increased engagement and useful risk taking (Edmondson, 1999). Through a combination of iterative practice and surviving these cognitive leaps of faith, students build confidence and emotional wellbeing. These outcomes free up cognitive bandwidth, shifting the student from a state of survival-driven anxiety to metacognitive self-regulation that allows them to adapt and improve their performance over time (Zimmerman, 2002).

The conceptual framework of this pilot study also acknowledges that globally, there is evidence that Law students experience higher levels of stress compared with relative to peers in some other disciplines. (Skead & Rogers, 2015). Equally, there is a substantial body of Australian research showing that law students experience elevated levels of psychological distress compared with the general population (Holland, 2024). This is hardly surprising given that legal education tends to be highly competitive and aligned with Shulman's (2005) seminal concept of "signature pedagogy" whereby the capacity to function at a high level under debilitating stress is often considered a normal part of professional identity formation. This broad 'think like a lawyer' philosophy is counter to more holistic student wellbeing models such as Self-Determination Theory (SDT), which identifies Autonomy, Competence and Relatedness as the three basic needs of human motivation; the sort of motivation that is critical to learner wellbeing (Ryan & Deci, 2000). Only with these elements do learners develop the capacity to adapt positively in the face of stress or adversity, but this cannot occur in a vacuum; it requires scaffolding of the kind detailed in the ATLAS pilot study.

Introducing simulation-based learning into the curriculum, enables oral advocacy to shift from a sudden, high-stakes performance event into a gradual, developmental

process. This directly promotes emotional wellbeing by transforming the learner from a passive recipient of information into an active agent of their own cognitive and professional growth. Students using ATLAS reported increased confidence, reduced stress associated with oral assessment, and a greater sense of support in their learning process. These outcomes indicate that simulation-based oral assessment, when embedded within a reflective pedagogy, can function as a wellbeing-enhancing educational practice that prepares law students for the complexities of courtroom environments.

ATLAS platform offers a low-risk, self-paced space where mistakes are expected and explicitly treated as pedagogical opportunities for self-reflection and growth. This metacognitive self-management, manifests in two distinct but complementary ways in our framework:

1. Cognitive Self-Awareness: The explicit recognition of one's own cognitive strengths and weaknesses, allowing for strategic approaches to specific learning hurdles.
2. Active Self-Management: The structured processes learners use to actively plan, execute, monitor, and evaluate their own progression on complex tasks.

When psychological safety is enhanced, students can transition into active self-directed learning. ATLAS makes these metacognitive processes visible by forcing students to pause, repeat, and reflect in real-time. Guided by targeted, immediate AI feedback rather than peer or tutor scrutiny, students learn to organize their thoughts, regulate their emotional responses, and independently steer their developmental trajectory

Ultimately the capstone of our conceptual framework is learning transfer - the notoriously difficult process by which a learner successfully applies classroom-acquired knowledge to unpredictable, volatile real-world environments. The cognitive skills gap between academic learning and professional practice is heavily reflected in core unit Learning Outcomes globally, as these often demand that students spontaneously interpret complex frameworks, communicate persuasively to diverse audiences, and exercise immediate judgment in contested situations. Evidentiary oral advocacy heavily exemplifies this challenge, requiring rapid decision-making, responsiveness, and absolute clarity under intense judicial scrutiny.

By aligning the ATLAS simulation environment with these global trends, this study demonstrates how purpose-designed AI tools can bridge the learning-practice gap,

but only if student wellbeing and metacognition play a role in the iterative design.

■ 2. THE LEARNING CONTEXT: LAW, ASSESSMENT, AND STUDENT WELLBEING

■ 2.1. Learning in Law Schools

Anxiety and stress among law students have been linked with individual personality traits, the prevailing culture of the legal profession, heavy workloads, stringent deadline, and the adversarial nature of legal work (Bozin *et al.*, 2020; Bergin & Pakenham, 2015). Research indicates that law students experience higher levels of stress compared with the general community (Bozin *et al.*, 2020) and greater psychological distress relative to peers in other disciplines (Kelk *et al.*, 2010; Leahy *et al.*, 2010). A number of factors may contribute to this, including competitive cultures, high-stakes assessment, ambiguity in expectations, and limited opportunities for formative feedback (O'Brien *et al.*, 2011). Within this context, fostering learner independence must be balanced with the need to provide structured support and psychologically safe learning environments.

Universities across the sector frequently claim to be fostering learner independence, but the fact is that such agency does not come naturally to learners and is rarely taught explicitly. Law faculties are not immune to sector-wide challenges including significantly increasing student cohorts, reduced opportunities for synchronous teacher-learner/learner-learner interactions and a broadly transactional culture through which high fee-paying students see their learning as a range of measurable outcomes, rather than a process of gradual development.

Traditional legal education has relied heavily on written assessment and in-class Socratic dialogue (Sullivan *et al.*, 2007) that can exacerbate performance anxiety for many students. Such teaching approaches often homogenised the student experience and emphasised unidirectional transmission of knowledge, providing little engagement and motivation on the part of the student learner. Shulman's concept of "signature pedagogy" (Shulman, 2005) captures how these dominant approaches shape professional identity formation, while also inadvertently normalising stress as an inherent feature of learning to "think like a lawyer" (Sullivan *et al.*, 2007). Although these approaches effectively cultivate analytical thinking, they provide limited opportunities for students to develop oral communication, interpersonal competence, and emotional regulation.

Law schools also tend to prioritise efficient marking of written work, often at the expense of experiential and

formative learning opportunities. Large cohorts and time constraints limit personalised feedback, intensifying anxiety when students encounter oral advocacy for the first time in high-stakes environments. In particular, students with social anxiety, neurodivergence or lower English proficiency may experience heightened anxiety with oral assessments. This pedagogical pattern raises questions about how law schools can support both competence and wellbeing simultaneously.

Embedding simulation within the curriculum offers a means of addressing these concerns. By allowing students to practise skills repeatedly, receive feedback, and reflect before formal assessment, simulation-based learning shifts oral advocacy from a sudden performance event to a developmental process aligned with wellbeing and learning.

■ 2.2. Metacognition, Confidence, and Psychological Safety

Metacognition plays a critical role in student wellbeing by fostering agency, emotional regulation, and adaptive coping strategies. Students who understand how they learn, recognise their cognitive strengths and limitations, and how to adjust their strategies are better equipped to manage stress and uncertainty (Ambrose et al., 2010; Niedwiecki, 2006). Metacognitive learning activities are especially important for law students, as they mirror professional legal skills including reflective judgment, strategic decision-making, and self-monitoring. Niedwiecki argues that traditional legal education often neglects the teaching of metacognitive skills and needs to invest in far more formative assessment and scaffolding (Niedwiecki, 2006). Simulation environments such as ATLAS make metacognitive processes visible by encouraging students to plan, monitor, and evaluate their performance in real time.

Critically, ATLAS offers a psychologically safe space in which mistakes are expected and treated as learning opportunities. Drawing on experiential learning theory (Kolb, 1984) and social developmental frameworks (Piaget, 1952; Vygotsky, 1978), the platform allows students to engage in role-play that mirrors professional practice without the fear of immediate negative evaluation. This aligns with research indicating that learning is optimised when students feel safe to experiment, reflect, and improve, promoting deeper learning and inspiration. Effective communication is a key skill, particularly in the legal profession. Interactions with clients, judges and other practitioners and institutions inevitably means that it is not enough to simply

communicate but to critically evaluate and apply prior knowledge in dynamic contexts. Simulation environments allow students to practise repeatedly and reflectively.

■ 2.3. Reducing the Gap between Learning, Practice, and Wellbeing

The cognitive skills gap between learning and practice is best demonstrated in the Learning Outcomes of core units, as these tend to be the very competencies that students struggle to reproduce in the real world. The Australian Quality Framework (AQF) Council standards for Postgraduate Coursework, require JD graduates to interpret complex legal frameworks, communicate persuasively with diverse audiences, and exercise judgment in uncertain or contested situations (Australian Qualifications Framework Council, 2013). Furthermore, these tasks require the integration of doctrinal knowledge with professional skills such as oral advocacy, strategic reasoning, and interpersonal communication.

Evidentiary advocacy exemplifies an oral assessment that commonly triggers anxiety involving rapid decision-making, responsiveness, and clarity under scrutiny. For example, law students must make strategic decisions about when and how to object to evidence, articulate legal arguments clearly before a judge, and respond effectively to opposing counsel. These interactions require both technical legal knowledge and the ability to communicate persuasively in high-pressure environments. Simulation offers structured opportunities for students to practise these skills prior to assessment, supporting confidence and emotional regulation. Learning transfer research demonstrates that students often struggle to apply classroom knowledge in real-world settings (Barnett & Ceci, 2002). Purpose-designed simulation environments help mitigate this challenge by familiarising students with the cognitive and emotional demands of professional practice.

■ 2.4. Metacognition and Self-Directed Learning

Metacognition is often narrowly used to refer to awareness and regulation of one's cognitive processes to achieve learning goals (Flavell, 1979). Here, the term addresses two related but independent significant phenomena. Firstly, it refers to the awareness of one's own cognitive strengths and weaknesses and the ways in which this allows for strategic approaches to specific learning challenges (Medina et al., 2017; Stanton et al., 2021). Secondly, it pertains to the sort of structured, active 'self-management' processes learners use to plan, execute and monitor their own progression on complex

tasks, before evaluating the final outcome (Medina et al., 2017; Rivas et al., 2022). In a legal context where there is often much ambiguity, learners who possess both these versions of metacognition are well positioned to apply learning to practice.

In the context of legal education, metacognition is particularly valuable when it comes to reflective practice. Educational theorists have long emphasised the importance of reflective practice in professional development (Schön, 1983). In professional settings, lawyers must evaluate competing arguments, anticipate counterarguments, and adjust strategies in response to changing circumstances. The ability of learners to scaffold their capacity for applied reasoning, but also to reflect critically and recognise viable alternative approaches in evidentiary settings, is therefore crucial to the development of professional competency.

The simulated environment that learners experience in Evidence law units allows them to engage with complex material and apply knowledge in new contexts. Yet, there is no suggestion that this will spontaneously occur, just because learners are placed in that environment. The environment needs to be explicitly purposeful in ways that make learners hyper aware of the skills they need to demonstrate, as well as reflect on those demonstrations, guided by feedback, for further learning transfer (Ambrose et al., 2010). In this sense, 'transfer' of what has been simulated and scaffolded in the classroom to a real-world environment; something at which even high-performing students are generally poor (Barnett & Ceci, 2002). One of the primary reasons for this, is the lack of emphasis that learning institutions place on self-directed learning and the importance of positioning learners to understand the power of their own cognitive agency. This narrow focus on outcomes can be mitigated when learners use a program such as ATLAS. In our pilot study, learners engage in a simulated evidentiary scenario with a judge in an interlocutory proceeding or at trial and are encouraged to see themselves as part of a process, with specific demonstrable skills that require feedback, reflection and refinement - the foundations of learner metacognition.

To help reduce anxiety and stress in law students' performance in oral assessments means strengthening their experiences on how they learn, to become a more active participant as opposed to a mere recipient. Metacognitive practices in law schools are therefore critical tools in transforming student learner agency and metacognitive awareness.

■ 2.5. Simulation, Wellbeing and Experiential Legal Education

Leading educational institutions worldwide have already used a variety of simulated forms, predominantly in the healthcare such as nursing, pharmacy, physiotherapy and clinical psychology. This has also extended to areas in astrobiology and aviation. Some practical simulation formats have included use of digital avatars and virtual platforms such as Mursion (an AI powered immersive virtual reality to train teachers and healthcare professionals), Labster (a 3D virtual science labs), EON Reality, a provider of AR/VR solutions focusing on vocational training) (Han *et al.*, 2025). Despite the fact that legal education would seem to lend itself naturally to simulated and experiential settings that encourage experimentation, feedback, and critical reflection, this is often rejected in preference to summative assessment (Niedwiecki, 2006).

However, more recently legal educators have increasingly recognised the need to complement doctrinal teaching with experiential learning opportunities through clinics, moot courts and simulation (Giddings, 2013; Australian Institute of Teaching and School Leadership, 2023). Law schools, such as Yale Law School, provide simulated exercises in negotiation and drafting (Yale Law School) and Columbia Law School provide a diverse range of simulation courses to practice drafting and litigation skills (Columbia Law School). In the United Kingdom and Europe, where arbitration and mediation competitions create opportunities for students to engage with complex matters (Strevens *et al.*, 2014) and in Latin America, the moot court environment has been a critical tool for engagement (Marchisone, 2024).

Simulation enables students to engage directly with professional reasoning, communication, and ethical judgment (Daly & Higgins, 2011; Stuckey & Others, 2007). It draws on a range of educational theories that emphasise the importance of active engagement and experiential learning. Constructivist perspectives on learning suggest that knowledge is not simply transmitted from teacher to student but actively constructed through interaction with tasks, environments, and social contexts. Presenting learners with an appropriate simulation experience in the classroom appears to be far more effective when it accounts for the developmental potential of social interactivity with one another. It is this feature that can also reduce student isolation, enabling a sense of belonging and enhancing shared student experiences. This factor of sharing common human experiences has

proven to have positive wellbeing benefits (Hum *et al*, 2025).

In keeping with the long-established benefits of the developmental theories (Piaget, 1952; Vygotsky, 1978), the ATLAS simulation functions as a socialized 'guided participation' environment that accelerates cognitive development through exploratory role-play and the zone of proximal development.' The introduction of ATLAS assumes that students are less able to independently perform complex evidentiary tasks without the support of a cognitive companion to accompany the experiential learning cycle (Kolb, 1984). ATLAS helps to move learners through concrete experience, reflective observation, conceptualization, and active experimentation—to ensure that the application of doctrinal knowledge is deeply internalized. Within this structured simulation of mock trials and hearings, students bridge the gap between theory and practice by engaging in authentic professional tasks that demand real-time reasoning and strategic decision-making, ultimately fostering the 'learning transfer' necessary for professional legal competency (Barnett & Ceci, 2002).

■ 2.6. The ATLAS Simulation Environment

ATLAS was used within a postgraduate Evidence law unit to simulate evidentiary proceedings in which students must apply legal principles in real time before a judge. Importantly, the simulation placed students in active professional roles (as Counsel), encouraging them to approach the exercise not simply as an academic task but as a representation of real legal practice. The simulation replicated key elements of courtroom interaction, including evidentiary objections, judicial questioning, and responses to opposing arguments.

One of the central pedagogical aims of the ATLAS simulation is to support learning transfer. By placing students in situations that resemble professional legal environments, the platform encourages them to apply doctrinal knowledge in ways that reflect authentic practice. Students must interpret legal rules, evaluate evidentiary relevance and admissibility, and respond dynamically to judicial intervention. ATLAS provides a realistic platform for students in a postgraduate Evidence law unit to not only demonstrate authentic legal skills, but to do so in ways that increase their capacity for learning transfer. Equally important is the role of feedback and reflection. After participating in the simulation, students received feedback on both the substance and delivery of their arguments. They were encouraged to reflect on their performance, identify areas for improvement, and

consider how their strategies might be refined in future proceedings. This process encourages students to view legal learning as developmental rather than episodic, strengthening both competence and wellbeing.

The ATLAS simulation environment integrates three elements that are often difficult to achieve simultaneously within traditional law curricula: authentic professional tasks, structured feedback, and metacognitive reflection. By providing a safe experimental environment to improve their performance and strengthen social-emotional competence, metacognition was also enhanced.

■ 4. THE PILOT STUDY

■ 4.1. Aims

The aims of this study were to evaluate law students' experiences in using ATLAS, assess its capacity to support development of oral argumentation skills and to reduce student anxiety and stress in performing oral assessments. Enhancing law student wellbeing and improving metacognitive skills are critical goals overall to becoming effective legal practitioners.

■ 4.2. Methodology

In November 2024, the lead author arranged a meeting to discuss the possibility of creating a judge avatar with the Manager of Education, Design and Multimedia and the Learning Systems Co-ordinator (LSC) in the Faculty of Law, Monash University. A computer-generated judge avatar was to be created for a Juris Doctor law unit, LAW5012 Principles of Evidence, Trimester 3, 2025 for students to practice their oral legal argumentation skills. This student cohort was chosen because of the small student numbers as opposed to the much larger numbers in the undergraduate degree. On 29 September 2025, the Human Ethics non-HREC Review Committee approved the project (Project ID: 49335). Following the execution of the trial sessions, data was derived from a user experience evaluation survey completed by $n = 21$ participants, reflecting a 100% completion rate for the evaluation dataset.

Over the 2025 year, several meetings with the ATLAS team and the LSC were organised together with several drafts of the oral submission to be programmed into the avatar. The avatar was given the name "Judge Jones" for the sake of ease, simplicity and reference. The lead author was required to input specific legal knowledge content about the issue the law students were being examined about for their oral submission. This was done several times to ensure the knowledge component was

created and several iterations evolved until it produced the amount of knowledge sufficient for these purposes. This also ensured that questions could be asked appropriately by the avatar to the student. Once legal content was provided to the computer technicians to input for the avatar creation, this was tested over a period of eight to nine months, where adjustments were continually made to correct knowledge output, facial features, tone and voice of the avatar. It then advanced further where a report could be generated and a mark out of ten awarded to the participant for their performance in accordance with specific criteria and a form of rubric entered by the computer technicians. The platform was also able to permit two students to enter the virtual courtroom and oppose each other (as per the actual oral assessment).

In our pilot study, the assessment involved a written submission which composed of two parts using a hypothetical scenario. Students were randomly allocated as Counsel for the prosecution and Counsel for the defendant. The first part required students to research and write a legal submission for a court on a technical evidentiary rule to admit or exclude the evidence. The examiners provided detailed feedback as a feed forward for students to reflect on their errors or omissions. The second component included a small legal issue related to the first written submission issue to be argued in a 10-minute oral submission before a judge (the examiner). Two students on opposing sides would argue their reasoning regarding the evidence in question. The purpose of the oral assessment was to provide scaffolding to what they learned from the written submission.

Two weeks prior to the students' oral assessment, participants were invited to take part in using this online form of software with detailed instructions to help them practice their oral argumentation skills for the oral assessment. Each participant could perform five practice sessions of ten minutes duration with the judge avatar. The stop and start control buttons ensured that students could engage with online questions from the judge. The interaction between the student and avatar judge was recorded only for the purposes of generating a report the student could download. As an asynchronous tool, students were able to reflect upon their own performance and review a feedback report from ATLAS about their performance.

On the day of their oral submission, students could be asked any questions about particular issues arising in the submission. This provided a critical approach to how the

students developed their reasoning, reflection and opportunity to correct or advance further argumentation. By receiving both feedback in their written submission and on the day of their oral submission, aligned with one of the units' learning outcome – *“to communicate effectively and persuasively when undertaking collaborative and individual activities.”*

Students were then asked to complete a short survey. The survey instrument comprised a mixed-methods questionnaire combining fixed Likert-scale items with open-ended text fields for qualitative reflections. The quantitative instrument evaluated five specific areas of user experience on a 5-point Likert scale, measuring perceptions of authenticity, usefulness, relevance and changes in assessment-related anxiety.

■ 4.3. Results

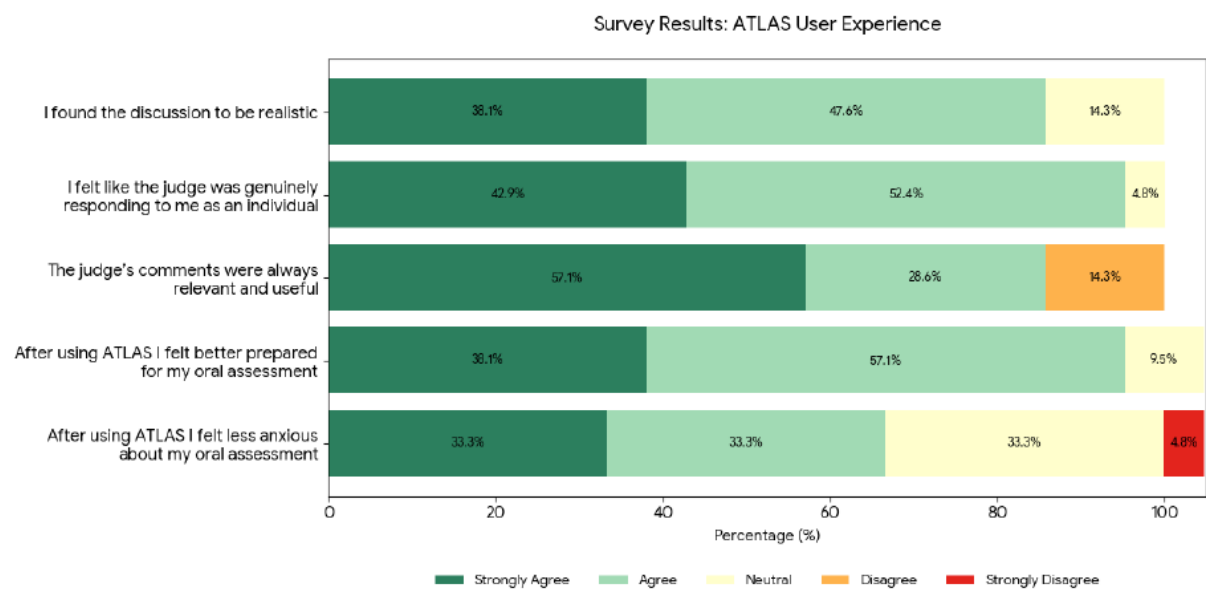
The evaluation utilized a structured post-assessment user experience survey featuring a 5-point Likert scale (comprising *Strongly Agree*, *Agree*, *Neutral*, *Disagree*, and *Strongly Disagree*) alongside an open-ended qualitative feedback component.

The results of the survey are documented below.

The quantitative data captured in this table demonstrates significant efficacy across both psychological and pedagogical dimensions. The platform's greatest success appears to lie in its educational utility and student support. An overwhelming 95.2% of respondents agreed or strongly agreed that they felt better prepared for their final oral assessment after utilizing ATLAS. This sense of readiness is reinforced by the perceived quality of the simulation; 85.7% of participants found the unscripted legal discussion to be realistic, and the same percentage (85.7%) verified that the judge avatar's automated commentary was consistently relevant and useful. Furthermore, 95.3% felt the avatar genuinely responded to them as an individual, illustrating a highly successful deployment of personalized, interactive AI scaffolding. Two-thirds of the cohort (66.6%) reported a measurable reduction in assessment-related performance anxiety. While a small minority (4.8%) strongly disagreed regarding anxiety reduction and 33.3% remained neutral, the overarching data indicates that providing a low-stakes, repeatable, and asynchronous trial courtroom successfully bridges the learning-practice gap.

The qualitative data shows that, overall, students' comments were very positive about their experience as being helpful and insightful:

Table 1: User Survey Results



“It was really good to have an unbiased judge to present my case to and practice, she was also able to guide me to answer questions and help prepare. This is an excellent tool and I'm grateful to have been part of the trial group”.

One student in particular responded:

“What an amazing and useful tool for both teaching and learning, thank you. I noticed that the more I interacted with ATLAS platform, it was able to gain more insight into very nuanced areas of the provision and the common law. The depth and level of feedback was incredibly helpful. Amazing work - thank you, again! The only constructive feedback I offer is that some parts were a little repetitive, but as an AI tool it was intuitively learning with each session.”

Participants reported increased confidence, reduced anxiety, and improved preparedness for oral assessment. Repeated interaction with the avatar judge reduced fear of examiner (judicial) questioning and helped normalise uncertainty as part of advocacy. In this way, the simulation supports both cognitive and affective dimensions of learning, contributing to confidence and emotional wellbeing.

Some students felt that more practice sessions would have been useful, less repetition of the questions and perhaps questions pertaining to the whole of the written submission (rather than only one part) would have been beneficial as well. Fear and mental anxiety about what to expect on the day of their oral assessment was greatly

reduced. Although questions and questioning from the examiner were different and varied between examiners, overall, prior use of an avatar to practice had obvious beneficial implications.

Pleasingly, the survey results indicate that students found genuine metacognitive benefits from the direct feedback provided by the Judge avatar. Even if they did not consciously think of it in those terms, they did seem to view the avatar as a scaffold for self-regulated learning as well as a tool for scaffolding active professional engagement.

Beyond general study habits, the results were very positive in relation to how students perceive professional lawyering skills, such as the ability to synthesize facts and apply law under pressure. Students reported that ATLAS helped them "organize their thoughts," which in a legal context, translates directly to legal problem-solving, analytical reasoning and deep thinking about often ambiguous and highly nuanced issues. As one student observed, ATLAS provided "more insight into very nuanced areas" through repeated interaction. This may in fact counter the "repetitive" nature of the tool mentioned by some students as a negative. In legal training, the sort of cognitive self-management that develops alongside the accumulation of substantive knowledge requires iterative loops. The fact that the AI was "intuitively learning" alongside the student suggests a co-constructive learning environment where the tool helps the student map out the boundaries of their own legal understanding.

■ 5. DISCUSSION

■ 5.1. Pedagogical and Practical Implications

One of the most impactful effects of using ATLAS was an observable reduction in anxiety. When learners are anxious their cognitive resources are diverted from the task at hand and instead exhausted as extraneous load, dedicated to managing the negative emotions. The fact that over 60% of students agreed or strongly agreed that using ATLAS lowered their anxiety was significant here. The student who noted that Atlas was an "unbiased judge" provides a perfect example of Schön's "Reflection-in-Action" (Schön, 1983). By presenting their case to an AI avatar, the student is not just recalling facts but is engaged in a live performance where they must think on their feet. The "unbiased" nature of the AI removes the social anxiety often present in peer-to-peer or student-to-tutor demonstrations, creating a "psychologically safe" environment.

As Wang suggests, AI-mediated simulations provide an authentic experiential learning opportunity in a controlled environment that supports skill development (Wang, 2021). This "low-stakes" environment where the cost of error is minimized encourages exploration and "trial and error," which is essential for the development of metacognitive self-monitoring. When one student mentioned that the tool helped them "prepare" and "guide" their answers, they were indicating a more controlled allocation of cognitive load, allowing for more disciplined, focussed and reflective thought. Instead of struggling with performance anxiety, they were able to focus on their own demonstration of specified learning outcomes. This type of reflective practice is only possible where the learner is encouraged to see themselves as a key agent in their own learning, able to manage their own cognitive load in ways that are never extraneous for too long.

In regard to the immediate feedback ATLAS provides, the survey results were also significant and highly encouraging. As Zimmerman notes in his work on self-regulated learning, feedback that is specific and timely allows the learner to adjust their strategies (Zimmerman, 2002). The students' desire for "more practice sessions" and questions on the "whole of the submission" is a classic sign of a student moving from a fixed mindset to a growth mindset (Dweck, 2006). They are no longer avoiding complexity in the ways commonly observable in novice learners; they are actively seeking it out.

The feedback provided by the Judge avatar was well received not simply because it was personalised, but also

because it was felt to be relevant and realistic by over 85% of respondents. This suggests that ATLAS can aid in learning transfer, as students appreciated a tool that helped them feel part of a realistic environment, seeming to understand that such simulations are essential to their own self-efficacy as they move from 'learner' to 'practitioner'. This synthesis of metacognition and lawyering skills is crucial not only to professional development but also in terms of how students work productively with AI. The interactive judge avatar aligns with the findings of recent research that learner capability is significantly enhanced by tackling 'metacognitive laziness' (Fan *et al.*, 2024) via the sort of prompting students experience with ATLAS; *i.e.* when it forces students to pause, repeat and reflect not just on their performance but on how they are learning to be practitioners (Xu *et al.*, 2025; Singh *et al.*, 2025).

In summary, the survey results should not be read as mere satisfaction scores. For students in Evidence law units, needing to develop and demonstrate understanding of complex application of rules and a prescribed legal process, ATLAS helps to transform principles into a visible, manageable, and repeatable process. By receiving granular, immediate feedback, the "critical analysis of their performance" occurs while the logic is still fresh in their minds, making it far more likely that the student will permanently adopt more rigorous analytical habits in future demonstrations of key lawyering skills.

■ 5.2. Limitations

Being a pilot study, some unavoidable limitations qualify the findings. First, the evaluation relied on a small sample size, drawn from a single postgraduate discipline at a single institution. This limits broader contextualisation of the results across diverse student cohorts and contexts. Second, the data is entirely self-reported through a user experience survey, introducing potential response bias where students might overstate or understate their anxiety levels and preparedness. Additionally, the study lacked a formal control group, making it difficult to definitively isolate the effects of the ATLAS platform from other variables, such as independent study or prior written feedback. Finally, this pilot represents a short-term evaluation restricted to a single trimester cohort; consequently, the long-term retention of metacognitive skills and the sustainability of anxiety reduction, whilst strongly observable remain uncertain.

Overall, the results confirm concrete experiences for the student learner in contrast to theoretical frameworks. Acting and being able to reflect are key components that

drive a successful learning experience towards developing essential skills as a reflective practitioner (Schön, 1983). The feedback offered by the avatar enables the critical analysis of their performance that guides their reflective process to improving their submission again or changing their behaviour.

■ 6. CONCLUSION

There is an urgent need for the evolution of higher education to align more closely with professional practice. In doing this, implementing effective teaching tools to reduce student anxiety and elevated stress levels in performance activities significantly enhances student wellbeing. An increasingly complex and changing society demands that educators question the adequacy of the ongoing, passive paradigms by which students are taught. The benefits of the ATLAS platform advance learning as an active and meaningful experience for the student learner. By ceasing to be a mere recipient of information, the student becomes the centre where professional learning becomes embedded.

Empirically, the pilot study validated the platform's efficacy across both cognitive and affective dimensions. Quantitative survey data revealed that 95.2% of the cohort felt better prepared for their high-stakes oral assessment, while 85.7% verified the situational realism of the unscripted legal dialogue and the relevance of the automated feedback. Furthermore, the intervention successfully established a psychologically safe training space, resulting in a measurable performance anxiety reduction for 66.6% of the participating postgraduate students. As higher education responds to shifting student wellbeing priorities, embedding targeted AI-driven simulations within the curriculum offers a validated pathway for aligning rigorous professional competence with supportive, psychologically safe learning design.

The project is ongoing, with continuous efforts to refine and expand the platform's capabilities. As higher education responds to increasing complexity and student wellbeing priorities, simulation-based assessment offers a promising pathway for aligning professional competence with supportive learning design.

■ CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest regarding the publication of this article.

■ AUTHORS CONTRIBUTION STATEMENT

Author Dr Fiona Hum: Conceptualization, Methodology, Formal analysis, Investigation, Supervision, Writing -

Review, Editing, and Proofread; Writing – original draft.

Author Dr Craig Horton: Data curation, Formal analysis, Investigation, Writing - Review, Editing, and Proofread

■ FUNDING

No external funding was received for this pilot study.

■ CONSENT OF PARTICIPANTS

All participants received an email with a link to the Explanatory statement. Participation was voluntary and participants could withdraw at any time before or during the use of the ATLAS platform without any consequences. Implied consent was obtained where participants chose to respond to an anonymous online survey.

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