



Potholes and Patches: Lessons Learned From The Transition of Two Professional Programs to Online Learning

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Abstract

This paper reports on students' perceptions of two different modes of delivery: synchronous online learning and face-to-face learning. The study examines the perspectives of both medical and law students and the factors influencing their preferred mode of delivery. Data were obtained from 11 focus group interviews conducted between 2020 and 2021 with 29 students from the Schools of Law and Medicine. Two themes were generated from the analysis and indicate that both groups of students preferred the flexible blended learning mode of delivery, appreciating the advantages of face-to-face and online learning. Although learning experiences between the empirical discipline of medicine and the more rationalist study of law showed contrasts, to some degree, both groups of students endorsed changes to programs that afforded greater flexibility in learning opportunities. Various factors, including the nature of the discipline, required skills sets, and individual preferences, were found to influence the students' preferred mode of delivery. This study contributes to the understanding of students' perceptions and preferences, providing insights for educational institutions in designing effective instructional strategies in a rapidly evolving educational landscape.

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Introduction

Advancements in technology, the impact of the pandemic, and the evolving characteristics of students have disrupted established standards and assumptions regarding the methods and expectations of university education (García-Morales et al., 2021). Modifications in teaching approaches and methods significantly affect students' knowledge acquisition, academic achievement, and future career prospects (Theoret & Ming, 2020). Examining student experiences of changes to modes of delivery helps to ensure effective teaching and learning. Different subjects and student groups require different approaches to learning (Doucet et al., 2020). While several studies have investigated student experiences in specific disciplines, there is a notable gap in the literature regarding cross-disciplinary comparisons.

This study provides a unique opportunity to identify how students responded during a period of forced changes that affected traditional face-to-face teaching activities. Exploring the experience of students in medicine and law, this research aims to provide insight into the different modes of delivery providing a broader understanding into student preferences and perspectives. Through a direct comparison of two cases within these disciplines, we seek to offer a comprehensive understanding of the varying strengths and weaknesses associated with distinct academic delivery modes. This study aims to offer an authentic portrayal of students' experiences, offering insights into the genuine dynamics and challenges encountered by students in their respective disciplines. By exploring the experience of law and medical students, it is possible to highlight the adaptability of different delivery modes across disciplines, helping to identify whether effective strategies in one discipline may not be as effective in another. By examining the perspectives of both medical and law students within their actual learning environments, this research aims to provide a comprehensive understanding of the factors that influence their preferences and perceptions.

The insights gained from this unique approach can provide valuable guidance to decision-makers in Australia and similar contexts, aiding them in making well-informed decisions regarding the future development and implementation of instructional strategy in law and medicine. The study addresses the following research questions:

1. What are the perceptions of law and medical students regarding in-person and synchronous online learning within the context of their respective disciplines?
2. How do these perceptions influence their preferences for and choices of learning modalities?

Literature Review

While educational institutions traditionally operate under the assumption of an "ideal" learner (Kerr et al., 2014), the concept of Universal Design for Learning (UDL) recognises that no such person exists. UDL acknowledges that learners possess diverse backgrounds, abilities, preferences, and needs (Leif et al., 2023). As educators and institutions continue to grapple with the opportunities and challenges posed by integrating new technologies into education and evolving student traits,

it is important to examine and understand students' experiences. These experiences reveal areas for improvement and offer insights into making education more equitable and effective. Our research lens is multifaceted, encompassing UDL and equity, diversity, and inclusion as a comprehensive and inclusive framework for understanding and acknowledging the diverse needs of students in contemporary educational settings to enhance teaching practices and create an inclusive learning environment for all students. Our ultimate goal is to optimise learning experiences and outcomes for every student, recognising and valuing the richness of diversity within our educational communities.

Students' experiences of face-to-face and online learning

Students have reported experiencing both advantages and disadvantages of online learning. Online course delivery provides an opportunity for more flexibility (Aguilera-Hermida, 2020) by allowing students to access materials at their convenience, potentially enabling them to balance their studies with other activities (Martin, 2020) and reduce their travel costs (Basilaia & Kvavadze, 2020; Khalil et al., 2020). With more options for online learning, students rate flexibility as an advantage (Muthuprasad et al., 2021).

From a student perspective, online learning does not always compare favourably with face-to-face learning (Martin, 2020). This is primarily due to the need for a cultural shift and support for teaching staff to implement online learning successfully (Brewer & Movahedazarhouli, 2018; Stone & Springer, 2019). Students often report the lack of social interaction as a disadvantage of online learning, which can reduce motivation, impact well-being, and worsen learning outcomes (Almendingen et al., 2021). In addition, students who prefer face-to-face over virtual training perceive the latter learning method as more difficult, citing a lack of support and resources as issues (Aguilera-Hermida, 2020). Hollister et al. (2022) reported that students face challenges with engagement in online courses, highlighting the difficulty institutions' face in delivering content in this format.

Students' experiences of synchronous online learning

When the COVID-19 pandemic accelerated the implementation of online learning systems, institutions were forced to switch from traditional face-to-face to online learning, changing students' learning experiences (Nguyen et al., 2023). This was a new experience for many learners, and educators had to adapt to changing pedagogy (Kuhfeld et al., 2020). Educators began using e-learning tools centred around their learning management systems, augmented with some form of collaborative meeting tool to enable tutorial-type discussions or demonstrations of practical tasks, depending on the discipline (Martin, 2020; Nguyen et al., 2023). These changes allowed educators to continue delivering courses and thus, students' learning experiences. From an institutional perspective, not all components of teaching are suited to online instruction (e.g., Puksa & Janzen, 2020). For example, practical learning components requiring interactions between students, instructors, and patients, as well as higher level conceptual learning, are problematic to deliver in an online learning environment. There are many challenges to consider when changing curriculum delivery. These challenges include the engagement of students, the

level of accessibility, affordability, flexibility, learning pedagogy, and educational policy (Murgatroyd, 2021; Nguyen et al., 2023).

Student learning suffers when teachers lack professional development in the technological skills necessary to deliver online teaching (Pokhrel & Chhetri, 2021). Differences in access to computers, the Internet and home study spaces have implications for equity of educational opportunity. The high cost of computer equipment and devices, Internet accessibility issues, and inadequate computer skills can disadvantage students' access to online learning (Baczek et al., 2021; Mahajan et al., 2021). Disruptions have been particularly acute in professional programs such as medicine and law, where new or non-traditional teaching solutions in previously rather conservative disciplines have had to be pedagogically sound and fair while upholding the professional standards required by accreditation bodies (Martin, 2020; Nguyen et al., 2023). This study compares the perspectives of students studying in these professional programs.

Understanding the impact of disciplines on the mode of delivery

Disciplines differ widely in content, assessment, and the competencies expected of students. While some programs or subjects are well suited for online learning, others may not be suitable due to their hands-on nature (Smith et al., 2009). For example, law and sociology are theoretical and text-based, whereas science and engineering require physical interaction with artefacts or other people. Law schools commonly use seminars, placements in legal clinics or law firms, and face-to-face exams as delivery modes. A study of law students in the UK by Gladwin-Geoghegan and Thompson (2021) notes that the Socratic Method that is typical of law education requires an “active learning space” in which “interaction is fundamental to ensuring positive learning outcomes and facilitate the development of professional capabilities” (p. 9). Denial of the social aspects of interaction may induce fatigue, apathy, and boredom (Juni et al., 2020). Law education is predominantly theoretical, which is conducive to online learning, but courses also incorporate practical components for the student's skill development.

Disciplines such as medicine, nursing and physiotherapy have been particularly exposed to challenges in adapting their programs to online educational environments. Medical schools rely on partnerships with teaching hospitals to place students in clinical teams for a significant portion of their learning (Soled et al., 2020). Learning from encounters with real patients is difficult to replace with distance learning, leaving the students with a perceived decrease in their clinical skills (Baczek et al., 2021) and a reduction in the quality of their education (Al-Balas et al., 2020; Chakladar et al., 2022; Haskett et al., 2022; Sindiani et al., 2020). Medical students must demonstrate that they have successfully met the standards set by accrediting standards to graduate. Clinical placements in medical education provide the experience for students to develop these competencies and skills. Without this immersive experience, finding alternative ways to assess and demonstrate these competencies effectively is challenging.

Methods

This qualitative research examined student experiences of different modes of delivery. The study was approved by the university Human Research Ethics Committee (approval number: H13866).

Case studies

This research project adopted a case study approach, focusing on two distinct case studies (in the law and medical programs) within the same educational context in an urban Australian university. The case study approach was chosen for its suitability for exploring complex real-world phenomena in depth (Stakes, 2005). This method offers a holistic understanding of the—students' perspectives of different modes of delivery. This allowed for a detailed examination of each case while facilitating comparison and contrast of these two cases within a common context. By exploring both cases within the same context, valuable insights can be drawn, enhancing the richness and depth of findings. This would be challenging to achieve through other research methods (Creswell & Poth, 2016). This comprehensive examination of the multi-faceted aspects of the research questions, offers a robust foundation for drawing conclusions and a more thorough understanding of the overall subject matter (Creswell & Poth, 2016; Stakes, 2005).

This research was conducted at an urban university in Australia. Students from two professional disciplines—law and medicine—were studied because they are professional accredited programs, and their host schools teach only that discipline. These demanding programs attract high-achieving school leavers. The School of Medicine provides a five-year program comprising two years of primary face-to-face pre-clinical learning with some online learning materials for building foundational clinical science knowledge. Years 3–5 include placements in various settings, focusing on practical clinical skills based in-person training and practice. Student learning outcomes are assessed through in-person workplace assessments, invigilated high-stakes exams, clinical simulations, supervised activities, and online assignments. The law program spans three years and comprises of 24 individual subjects. It involves face-to-face problem-solving and case-based learning, supported by online content, and employs authentic assessments to develop knowledge and skills. Core subjects totalling 16, used flipped classroom learning with on-campus tutorials. Several elective subjects have been delivered online in seminar format for some time, predating 2020. There is a similar range of assessments to medicine, with invigilated exams, moot court sessions, presentations, oral interviews (*viva voce*) and numerous online assessments delivered through the university's learning management system. These online assessments typically involve essays, quizzes, case study reports and analyses, take-home exams and various professional tasks that can be completed online. These tasks may include writing advice or critiques. While some practical learning experiences or placements are available, they are generally reserved for high-GPA students.

The participants recruited for this study were students enrolled in a face-to-face program who had experienced both face-to-face and online modes of delivery during the pandemic period (see Appendix). This sampling approach aimed to offer a comprehensive comparison by including participants with firsthand experience of both modes of delivery. Participants were recruited from medical and law programs within the same educational institutions using a purposive sampling to ensure a diverse perspective. Students from distinct stages of study were included to capture a broad range of experiences.

Data collection methods

This comparative qualitative study analysed data from focus groups involving 29 students from law and medical programs. All students in both schools received an email inviting them to participate in the study. A total of 10 focus groups included 13 law and 15 medical students. Separate groups, consisting of two to four participants each, were formed for law and medicine to explore experiences specific to each discipline (see Appendix 1 for Participant characteristics table). Additionally, one interview was held with one medical international student who had returned home and could not attend a scheduled focus group due to the time difference. Participants received a \$25 gift voucher for their involvement. The one-hour focus groups were conducted via the Zoom video-conferencing platform in 2020–2021 using semi-structured questions with prepared prompts. All provided written informed consent prior to participation. All student responses were recorded and transcribed verbatim with the transcription checked and corrected by a research team member for accuracy. For the analysis, participants' identities were kept confidential by allocating gender-appropriate pseudonyms.

The focus group format facilitated open conversations and interactions among students, enabling the expression of their perspectives on shared experiences and often revealing disparities between views. The focus group format allowed these differences to be explored (Seidman, 2006). The interview questions were designed by the research team and piloted with a student research assistant to check for clarity and suitability. Questions covered topics on personal coping throughout the pandemic, positive and negative aspects of online learning, and changes to assessment methods. To ensure clarity, PowerPoint slides were used in the sessions, to accommodate non-native English speakers. All participants were encouraged to share their thoughts, experiences, and opinions and to engage in discussion with their peers.

In addition to the student perspectives, document analysis was also employed as a data collection method. Various institutional documents, such as assessment policies, academic guidelines, and program materials, were examined to provide a comprehensive contextual understanding of the transition of the assessment approach.

Data analysis

The data were analysed using thematic analysis. The analysis was data-driven and inductive, with all themes generated from the dataset (Braun & Clarke, 2006, 2019). This method is appropriate, as it allows for reporting patterns and constructing themes found throughout the analytic process. The authors familiarised themselves with the data by reading and re-reading the transcripts and initially coding them into meaningful “nodes” using QSR *NVivo 12 Plus* qualitative data analysis software. The nodes were then examined for similarities and differences and grouped into categories. These categories were further collated to create initial subthemes, which were then grouped to generate two overarching themes. The research team reviewed and reorganised these themes for commonality and consistency before being named to describe the patterns using exemplar data within each theme and subtheme to illustrate the student experience of moving to online learning.

Results

Two primary themes were discerned in response to the research inquiries, which aimed to investigate the perspectives of law and medical students on both face-to-face and online learning. These themes correspond to the following research questions:

1. What are the perceptions of law and medical students regarding in-person and asynchronous online learning within the context of their respective disciplines?
2. How do these perceptions shape their preferences and decisions when selecting learning modalities?

The first theme, “students’ perceptions of the advantages of different modes of delivery of learning activities,” reflects on students’ preferences for the mode of delivery. This theme has two subthemes: “the convenience of online learning” and “the perceived value of campus-based learning.” The second theme, “contributing factors for the success of learning activities,” also has two subthemes and considers factors that support the successful implementation of new learning activities. The first subtheme, “adapting and developing new skills,” examines the need for both students and instructors to upskill. The second subtheme, “the importance of support when changing mode of delivery,” focuses on the role of support to facilitate change.

Student’s perceptions of the advantages of different modes of delivering learning activities

Based on students’ experiences of participation in a year of online learning activities, the first subtheme reflects the perceived advantages of online delivery. The second subtheme reflects the preferred learning activities in face-to-face learning after students had experienced them as online activities.

The convenience of online learning

Students from both disciplines reported enjoying the flexibility and convenience of online lectures, where they could learn at their own pace. The recordings offered the chance to listen at convenient times.

I'm able to learn at my own pace, [...] without the stress of attending lectures. (Ellie, law student, year 6)

Because they need not commute to campuses, students reported having more time to study and for their families and hobbies.

It made the performance and everything better because I was able to take those hours out of commuting and travelling or ... changing my life around Sydney traffic and instead dedicating more towards study or class or whatever. So, it was very helpful. (Christopher, law student, year 2)

For students who were reticent about speaking in groups, online tutorials via Zoom provided them with an alternative way to communicate through the chat function, which allowed people to type their questions. In the smaller groups, it allowed students to engage in small talk.

I did see that some people who usually don't talk much in real life—in online tutes, they may be less shy to ask questions, or sometimes they just type in the chat, which is easier. (Vernon, medical student, year 4)

The perceived value of campus-based learning

When only online learning was available to law and medical students, they missed the support of their peers and the wider university community, finding this difficult to re-create. Face-to-face learning provides social interaction that both law and pre-clinical medical students felt was lost in online learning. Students reported a sense of disconnection from the university community, which impacted their engagement with their studies. They mentioned missing a sense of a shared experience that helped them make sense of the subject content that face-to-face experiences had previously provided.

The feeling that other students are struggling with the same assignments or struggling with the same readings. That was really hard because I was only at Uni for three weeks. So, I didn't really have time to connect with people and form connections. I didn't feel like a number, but I felt a bit isolated from the university environment in the sense that I didn't feel like I was in the loop or connecting with people. (Lesley, medical student, year 1)

Despite both groups of students missing social interaction, there was a strong divide between law and medicine students about whether to return to campus, with law students more willing to continue learning online. A common reason for returning to face-to-face learning was the social aspect while remaining online offered the perceived advantages of flexible learning and elimination of the time and effort required to commute to campus.

[I] agree with everyone that it was more convenient online, but it was at the sacrifice of so many of the things that are really important to me, such as community. It's just the small things. I never knew that something like small talk could make you feel included in a social setting... (Kevin, law student, year 4)

Overall, medical students reported perceiving more disadvantages with online learning than their law counterparts, perhaps owing to the immersive experience of the medical program. Many learning activities were not conducive to online learning, especially for content usually taught in a clinical setting—this limited students' exposure to patients and their ability to learn. The student experience varied greatly during this time, owing to the various restrictions imposed in wards, hospitals, and clinical schools.

[...] We had to do an extra three weeks, so that was kind of annoying. And there was also another rotation where we had paediatrics, where we didn't have exposure to patients, and I thought that was a bit limiting because you need to see patients to gain an understanding of certain conditions. (Hilda, medical student, year 5)

In online sessions, it was impossible to learn how to take a patient's history or conduct an examination with real patients in a clinical setting, so tutors demonstrated these tasks instead. Students were encouraged to practice these skills with a family member, which some considered unsuitable.

These difficulties extended to practical learning activities, not all of which worked well in an online environment, such as anatomy, pathology, and Introduction to Clinical Medicine. One medical student remarked:

There's basically a lot of content that you need to know. You need to know the placement of certain ... points in the body... I struggled to see the depth and how deep certain structures within the body actually are. Whereas when it's face-to-face, you can actually touch and get a feel for these structures in the body. (James, medical student, year 1)

Clinical assessments such as the Objective Structured Clinical Examination (OSCE), where medical students are required to perform a patient examination or take a history, were modified and moved online. As the extracts below demonstrate, students believed that, unlike a face-to-face assessment, the alternative online assessment did not allow students to demonstrate these skills. Rather than demonstrate, the students would “explain” the skill required, creating a poor and inauthentic assessment experience.

[..] they may say do a respiratory exam or whatever, and then have to explain that it's just not the same as doing it on the patient. (Hilda, medical student, year 5)

[..] it was quite easy and bad because we didn't get assessed properly. (Indra, medical student, year 5)

For medical students, online assessments were more difficult to navigate than taking exams on campus. To maintain academic integrity in online exams, online invigilation by an external company was used, which students reported to be “just horrific” (Ursula, medical student, year 1). Concerns were raised around privacy, as invigilators had access to students' computers, “showing the proctor everywhere” (James, medical student, year 1) around their rooms. For example, as the extracts below highlight, interference by the proctors caused disruptions to the students' assessment experience, possibly disadvantaging them and creating stress.

I had a really terrible experience where my proctor actually deleted my booked exam session and then couldn't figure it out, and I nearly missed being able to do the exam. By the time I got in, they'd been mucking me around for an hour and a half, and I was in tears and could not focus on the exam. So, I had to put in special consideration; it was pretty bad, actually. (Xena, medical student, year 3)

Contributing factors for the success of learning activities

Students needed to adapt to the new format and use different skills not necessarily required for campus-based learning. Students, along with academics were required to upskill to ensure the success of online activities. Providing support and resources were also important contributing factors to successfully delivering learning activities and assessments.

Adapting and developing new skills

Some students who did not have the skills or the right environment found it difficult to adapt. Working from home provided distractions, such as social media, emails, or snacking. Moreover, as the extract below highlights, flexible learning saw some students struggling to manage their time.

Before that [the pandemic], I was doing 60s to 70s [grades]. And after, after the COVID thing came in, my grades dropped to 54–55%. I was barely staying alive. I didn't adjust to the online system too well... My notebook was empty because I couldn't take notes anymore. (Xavier, medical student, year 1)

A key point about Zoom tutorials is that students were not confident in knowing how to interact and needed to adapt. The following extracts describe how students developed new strategies for studying in an online environment.

I was just getting accustomed to a different style of study this year. Also, with our student peer groups studying together, normally, we would stay back at Uni, and that was a big meeting place for us to go through topics together. And we had to change that up, but it was just about growing and adapting, I guess. (Yasmin, medical student, year 3)

We are adaptable creatures, and I've felt that this year. I felt that massive jump off and then like regression to the mean, but it's a new mean. It's been a lesson in adaptability. (Kevin, law student, year 4)

Students discussed developing new strategies to manage online lessons, such as dropping into other tutorials to compare notes or hear key concepts repeated. Others used techniques such as exercise, spending more time with family or moving furniture to refresh the room and manage isolation and boredom. Embracing technology enabled students to improve communications within their cohorts.

[...] Someone set up a group chat of pretty much everyone in the unit, everyone in the class. So that was very motivating for me, especially since I'm in first year and I didn't have much time to make a lot of friends. And it was actually surprising that we ended up developing quite a strong bond by the end of the year. (Beryl, law student, year 1)

When the mode of delivery changed, some students reported being able to adapt, but they required different skills and access to relevant resources to engage with their learning successfully.

For new modes of delivery to succeed, instructors and students needed upskilling to enable them to engage effectively in learning and online assessments. Online learning requires different skills from campus-based learning. Some law and medical students found learning in the unfamiliar online environment challenging owing to the awkwardness of interactions with their peers. It was considered difficult for tutors to facilitate group discussions in the Zoom environment. As the extracts demonstrate, students found it difficult to read social cues regarding when to speak and when to listen. Students could not request help from the person next to them and instead had to ask the whole class questions, which could be intimidating.

[...] the online classes were really difficult ... we'd just be staring at the screen in silence for a lot of the time. It's harder to throw ideas back and forth between people because we always accidentally talk over each other. (Sue, medical student, year 1)

I think what I really found difficult about online classes was that we weren't able to get the interaction that you would normally with your peers. (Rachel, law student, year 6)

Breakout rooms were not always conducive to small group discussions as people did not always engage with other participants or the content, which would be easier for a tutor to manage in a face-to-face setting.

Sometimes, other people wouldn't actually be doing the work. And it would always be just one person doing the work or discussing what the teacher had told us. So, I found that difficult because if we were in a face-to-face environment, that would not have happened.
(Beryl, law student, year 1)

Students discussed the need for different strategies to complete online assessments. There was a marked difference between the experiences of law and medical students, which may reflect the different assessment formats used.

Online assessments for law students saw invigilation removed from open-book exams. Instead, students had longer to complete and submit their essays. In timed assessments, the expectation was to “jot it down and not worry about grammar” (Ellie, law student, year 2). Instead, with the extra time, students spent more time “triple checking” (Ellie, law student, year 2) answers before submitting the assessment via the online portal and typing rather than hand-writing exams allowed students to revise their work, reducing “thoughts flowing freely” (Daphne, law student, year 2). Typing an exam was “good and bad” (Rachel, law student, year 6), as a student could write more but also “delete a lot [more] than you would in a written exam” (Rachel, law student, year 6).

The ability to copy and paste from notes into the exam provided “less incentive” (Kevin, law student, year 4) to summarise and learn content than in an open-book in-person exam, as the use of the Control + F keys to find text and have “access to larger notes” (Kevin, law student, year 4). Therefore, some law students felt the online exams were more “lenient” and left them feeling “unprepared” (Nebo, law student, year 1) for their next year of study.

I was able to write out the law, and then copy and paste [it] into a document... So, it made my exams much faster [sic] and everything. And I could prepare essays and copy and paste them and stick them in as well. So that was much better; it made me feel like I had a lot more time, gave me a lot more confidence in the exam, so I didn't need to rush.
(Christopher, law student, year 2)

Law students felt that open-book exams were more “realistic to the real work because we have access to technology when we are practising” (Mara, law student, year 4). Law students found they were given “more direction” (Rachel, law student, year 6) for their online assessments, which most students believed made them “a bit less stressful” (Christopher, law student, year 2).

In medicine, the written assessments were either multiple-choice or short-answer questions. These papers remained invigilated and timed, albeit with an extra 15 minutes for technology allowance. As law students also noted, different skills are required to complete online exams. The multiple-question format of the exam meant students had to answer each question in order rather than leave a difficult question until last, and short answers needed to be typed rather than written.

So, having a click-by-click multiple-choice exam is excruciating. Having our short-answer exam all typed up was also very hard when they expect us to use images and arrows for mechanisms and explain things that way. (Ursula, medical student, year 1)

For medical students, the online exam experience was “disappointing” (Wilma, medical student, year 3). Students reported losing time in exams because questions were not loading or typed answers were lost. Students commented that the online exam experience was “stressful” (Raj, medical student, year 1) and believed it had an “impact on academic performance” (Ursula, year 1 and Wilma, year 3; both medical students).

The importance of support when changing mode of delivery

Students from both disciplines valued extra support in assisting with the transition to online learning. Extra initiatives were provided not just at the program or subject level but wider university initiatives, including well-being, IT, financial assistance, and changes to university policies. Law and medical students appreciated the greater flexibility and extra learning support provided by academics through extra resources, tutorials, and feedback sessions.

I think a lot of people, including myself, were grateful that the tutors and staff were much more flexible and understanding this year. (Alfred, Law student, year 2)

Some lecturers would open up extra classes ... extra seminars for students, and then they would go out of their way to make sure you knew what the assessment was talking about because a lot of people had questions, so the lecturer is not going to answer everyone individually, so they made like a whole additional tutorial just for the assessments themselves. So that really helped... (Christopher, law student, year 2)

A barrier to successful online learning and assessment was students’ and teachers’ access to a reliable Internet connection. During online lectures and tutorials, poor Internet connections were inconvenient, but poor IT or Internet issues could create a great deal of stress in online assessments. The exemplar quotes below demonstrate barriers to assessment when Internet connections fail.

[...] just a lot of technical issues that I had during my first exam and did reflect on my academic performance as well, even though I passed, but I could have scored much better on that exam if I didn't have those technical issues. (Indra, medical student, year 5)

I had tech problems in one of my last [exams], and it was just an absolute nightmare. But I didn't have it until after I opened the paper, so it wasn't like, “Oh, you can see that I didn't open the paper because I've had tech problems.” So, I'll do the deferred one. (Daphne, law student, year 1)

Discussion

The findings of this research project provide valuable insights that directly address our research questions, which explore law and medical students’ perceptions of two different modes of delivery: face-to-face learning prior to the pandemic and synchronous online learning during the pandemic.

Our results indicate that medical students perceived more challenges with online learning and assessments than law students. These perceived challenges contributed to medical students favouring returning to campus-based learning more than their law counterparts. In some cases, the online mode of exam delivery left medical students feeling unfairly disadvantaged. Medical and law students all prefer flexible blended learning modes of delivery, appreciating the

advantages of both online and face-to-face learning. Students embraced the flexibility afforded by online learning: the ability to set one's own schedule for most learning activities was appreciated. Moreover, students reported having more time to study and pursue other activities.

On the question of returning to campus, we saw a strong divide between students from these two professional programs. Law students were more willing to continue learning online, while medical students wished to return to face-to-face learning. Dissatisfaction with online medical education has been reported in other studies (Al-Balas et al., 2020; Sindiani et al., 2020), as medical students perceived the quality of their education to have declined with online learning, especially group discussions (Chakladar et al., 2022). The usefulness of clinical learning relies on interactions with patients and clinical team members. Chakladar et al. (2022) reported clinical experience to be lacking owing to COVID restrictions.

With the return to campus learning in the School of Medicine, attendance at face-to-face lectures was initially good but declined over time. Consequently, a decision was made to move the majority of lectures online adopting a flipped classroom approach. It is important to note attendance for small group learning activities, such as tutorials and practical classes, is compulsory, unlike lectures. Students are again demonstrating a preference for the flexibility offered by online learning. As the findings from this study illustrate, students perceive watching lectures online to be a more efficient way to learn. In contrast, the small group sessions utilize collaborative and active learning strategies, leading to improved learning outcomes compared to traditional lectures (Freeman et al., 2014). In a post-pandemic landscape, students express a preference for campus-based teaching, citing increased engagement and enhanced learning during classroom sessions (Photopoulos et al., 2023). It is plausible that the small group learning activities address the social interaction students found lacking during the COVID period. This highlights the need for ongoing evaluation of teaching practices in the post-COVID era.

Online delivery was not difficult for law students to adapt to; many law subjects already utilised flipped classroom learning materials (with online components and face-to-face tutorials), and the majority of other law subjects could readily implement this model. In contrast, prior to the pandemic, online learning materials were not used extensively in medicine, and many staff were ill-prepared for online teaching owing to the dominance of the traditional approach in medical programs (Pei & Wu, 2019). While there was an attempt to provide alternatives to clinical placement learning activities and assessment, key features involving patient interactions could not be implemented well. This explains students' negative experiences of online learning of clinical skills. Nevertheless, there are clear avenues for delivering learning materials where the old pedagogy needs to make way for contemporary teaching practices.

These findings suggest that the nature of the discipline plays a crucial role in determining students' perceptions of different delivery modes. It is clear that a "one-size-fits-all" model is not appropriate. Some aspects of curriculums are suited to online delivery, while some learning outcomes cannot be fully achieved. This should come as little surprise when one considers the complexities involved in preparing students for clinical interactions. Clinical years of medicine rely on an immersive clinical experience, and some learning activities cannot be replicated in an online learning environment. These results align with previous research, which suggests that some aspects of clinically oriented disciplines are less suited to online delivery (Ferrel & Ryan,

2020).

Our results also suggest that other factors influence students' preferred mode of delivery, including the skill sets and support mechanisms required for each mode. Students and staff have been forced to adapt and develop new skills associated with delivering and receiving learning material, respectively. Not all changes have succeeded, but some have yielded benefits for students and educators with more flexible learning options (Aguilera-Hermida, 2020). Challenges for students and staff have involved developing a skill set for online learning. For instance, online learning may demand greater self-discipline, time management, and technical proficiency from students. Face-to-face learning may necessitate a supportive physical learning environment, such as well-equipped laboratories or moot courtrooms, which can enhance the learning experience. Students from both programs experienced difficulty participating in online Zoom tutorials, feelings of awkwardness in breakout rooms, or discomfort when other students did not turn on their cameras. Although staff and students were provided with training on installing and ongoing support for the online platform, training was not provided on using these platforms to learn effectively. Face-to-face learning pedagogy is not always feasible for online learning.

In addressing the preferred mode of delivery for learning it is crucial to prioritise the needs of students. Various pedagogical approaches have been devised for online and distance learning, it is essential to recognise not all educators have the necessary technological skills (Pokhrel & Chhetri, 2021). This should be extended to students who are unfamiliar with online learning. Particularly in medicine, where not all instructors are academics; due to the reliance on conjoint clinicians, who during the health emergency would have had limited time to focus on developing new teaching skills. Therefore, scheduling staff development to meet curriculum changes becomes challenging. To ensure successful online learning training of both students and teachers is essential. Providing guidelines/advice could help students and tutors foster an environment more conducive to online learning and adapting to changes.

Furthermore, students' preferred mode of delivery can also be influenced by personal factors, such as individual learning styles and preferences. Some students may thrive in the independent and flexible nature of learning, while others may prefer the structure and social interactions provided. These factors highlight the importance of recognising the diverse needs of students and providing a range of options to accommodate their preferences. Challenges at the personal level for students are related to the isolation and loss of social contact following the switch to online learning. Students reacted to social isolation differently according to their personalities or social dispositions. This has implications for student mental health and the development of social and professional networks. Some students reported personal growth, whereas others struggled as a result of not attending campus. The campus provides a physical space for students to meet in person to develop and strengthen their relationships with other students and academic staff (Chen et al., 2017; Samura, 2018). The online environment altered both student–student and student–teacher relationships. Both medical and law students experienced a loss of connection and belonging.

Satisfaction with assessments was a notable divide between the two disciplines. Non-invigilated open-book exams, prevalent in law, were well received by students. In contrast, online invigilated assessments were poor experiences for medical students because of the

intrusiveness of invigilation and platform issues. Yet institutions persist with this form of assessment. This is an area that should be addressed and can be informed by a study by Bladt et al. (2022), which found that open-book assessments were most favourably received by students because they perceived them as fairer and a more authentic representation of the situation in their future practice.

Limitations

This study focused on students' perceptions and preferences and did not measure actual learning outcomes or academic performance. While students' preferences are valuable in shaping educational strategies, it is essential to consider the impact of different delivery modes on learning outcomes and performance. Due to group dynamics within the focus groups, it's possible that some participants may have dominated the conversation, thereby constraining the diversity of perspectives shared. However, given the number of sessions -10 focus groups and one interview, this mitigated the potential for participants to feel social pressure in their responses, thus reducing the likelihood of bias. One notable strength of using focus groups lies in the encouragement for individuals to share and comment on each other's experiences (Kitzinger, 1995). Across the 10 focus groups and one interview conducted, similar themes consistently emerged.

Further research could incorporate objective measures of academic achievement to provide a more comprehensive evaluation of the effectiveness of different delivery modes. Additionally, this study primarily focused on the perspectives of medical and law students, neglecting other disciplines that may exhibit different patterns of preferences and experiences. Including a broader range of academic disciplines would provide a more comprehensive understanding of the factors influencing students' preferences for different delivery modes.

Conclusion

Overall, students expressed appreciation for the flexibility and increased autonomy in their learning, allowing them to choose when and where they study. Both law and medical students recognised the benefits of both face-to-face and online learning. However, law students seemed to report more positive experiences towards online learning. Students were quite forgiving of changes to the curriculum when a similar alternative was offered. Dissatisfaction arose when practical experiences could not be replicated, and students felt disadvantaged by their unfamiliarity with online learning and the loss of face-to-face instruction. Medical students reported feeling more disadvantaged by online learning activities that did not align with the more personalised and hands-on learning of medicine in the wards. There was also dissatisfaction with assessments: online invigilation and authenticity were key concerns.

The nature of the discipline needs to be considered when redesigning effective instructional strategies. Any change should be clearly articulated to students and should not just focus on academic outcomes but consider the resources available and how students may need to develop different strategies to adapt. Institutional resources need to be directed to support students in acquiring the appropriate skills for the new mode of delivery. Furthermore, the findings of this study indicate how students value the sense of belonging to a learning community. Any change to curriculum design should be guided by their needs and preferences

to create a community of online or face-to-face learners.

Conflict of Interest

The authors declare that they have no actual or perceived conflicts of interest. The authors have not received any funding for this manuscript beyond resourcing for academic time at their respective universities. The authors have produced this manuscript without the support of artificial intelligence.

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Appendix 1

Table 1

Participant Characteristic table

Focus Group	Pseudonym	School	Year	Domestic/International
1	Alfred	Law - Bachelor of Business/Bachelor of law	4	Domestic
	Beryl	Law - Law and Arts	1	Domestic
	Christopher	Law - Law and Arts	2	Domestic
2	Indra	Medicine	5	International
	James	Medicine	1	Domestic
	Daphne	Law - Bachelor of Law	3	Domestic
	Ellie	Law	6	Domestic
	Feng	Law - Bachelor of law	1	Domestic
3	Giselle	Medicine	4	Domestic
	Hilda	Medicine	5	Domestic
Interview				
4	Mustafa	Medicine	1	International
5	Kevin	Law - Bachelor of Communication and Bachelor of Law	4	Domestic
	Lesley	Law - Bachelor of Law and Bachelor of Business	1	Domestic
	Mara	Law - Bachelor of law and Bachelor of Arts	4	Domestic
	Nebo	Law - Bachelor of Law and Bachelor of Business	1	Domestic
7	Raj	Medicine	2	International
	Orlando	Medicine	2	International
	Pris	Medicine	1	International
8	Sue	Medicine	1	Domestic
	Quentin	Law	4	Domestic
	Rachel	Law - Bachelor of ICT and Bachelor of Laws	6	Domestic
	Telula	Law - Bachelor of Business/Bachelor of Law	6	Domestic
9	Ursula	Medicine	1	Domestic
	Vernon	Medicine	4	Domestic
	Wilma	Medicine	3	Domestic
10	Zelda	Medicine	3	Domestic
	Xavier	Medicine	1	International
11	Xena	Medicine	1	Domestic
	Yasmin	Medicine	3	Domestic