

RESEARCH ARTICLE

Students' performance and perceptions of mock trials as a teaching and assessment activity over three years at two institutions

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Abstract

Background: This study aimed to evaluate students' performance and perception of a mock-trial teaching, learning, and assessment activity over three years at two institutions. **Methods:** A mock trial (courtroom-style debate) implemented over three years (2017-2019) in a first professional year (P1) course at two institutions offered active learning in literature critique and evaluation, critical thinking, communication, teamwork, professionalism, and self-awareness. Student teams researched, prepared, and debated controversial topics as counsels, witnesses, or jurors for alternate mock trials. Descriptive analyses evaluated judge and juror trial scores and the 2019 Technology Acceptance Model (TAM) survey. **Results:** The mock trials involved 319 student participants (Programme A: 136; Programme B: 183). Faculty-judge scores ranged from 83.3% to 97%, while student-juror scores ranged from 87.5% to 100%. Most student groups in all programmes reported comparable faculty-judge scores and student-juror scores, irrespective of trial positions (pro or con) or topics. The TAM survey assessed 96 student participants' perceptions of Blackboard Collaborate for peer collaboration in 2019. Items assessing students' attitudes toward mock trials reported an average rating above 5 on a 7-point Likert scale. **Conclusion:** A three-year retrospective evaluation of students' performance and perceptions of mock trials at two institutions demonstrated the effectiveness of mock-trial innovation and the feasibility of cross-institutional student engagement and faculty collaboration.

Introduction

The mock-trial project (courtroom-style debate) aimed to develop student's skills in affective domain competencies, including collaboration, communication (written and verbal), professionalism, and advocacy, which skills were identified as essential for health professions graduates by the Interprofessional Education Collaborative (IPEC) expert panel (Interprofessional Education Collaborative, 2016). Those affective domain skills were subsequently embraced by the Centre for the Advancement of Pharmacy Education 2013 Educational Outcomes ("CAPE 2013 Outcomes") (Medina *et al.*, 2013) and soon after adopted by the

Accreditation Council for Pharmacy Education (ACPE) in the Accreditation Standards 2016 (Accreditation Council for Pharmacy Education, 2015). In the backdrop of those pivotal developments, pharmacy educators also recognised the need to address dynamic changes in the profession because the long-sought expansion in the scope of pharmacy practice would place pharmacists in both direct patient contact and care with expanded roles and responsibilities. The skills deriving from the affective domain, historically dismissed by pharmacy educators focusing solely on the cognitive domain, now become vital to the pharmacy profession (Medina *et al.*, 2013; Accreditation Council for Pharmacy Education, 2015; Interprofessional Education Collaborative, 2016).

These overarching developments commanded deliberate and focused efforts across pharmacy education to cultivate, develop, and reinforce affective domain skills in student pharmacists.

These developments in pharmacy education inspired the original adaptation of a mock trial to a self-directed, team-based project within an evidence-based practice course in 2015 (Rosenberg *et al.*, 2018). A literature review at the time documented mock trials as a common active learning strategy in graduate study, particularly in law schools, as well as a broad variety of other educational contexts (economics, education, management, communication, public speaking, critical thinking, and ethical decision-making) (Rosenberg *et al.*, 2018). However, limited use of mock trials was identified in pharmacy education.

Therefore, designing the mock trial activity in pharmacy education was started from scratch in 2015. In addition to the requisite cognitive and knowledge-based skills and activities gained in the course (research, evaluation, and critique of evidence), the mock-trial design deliberately aimed for activities in the affective domains (e.g. professional attitudes, advocacy, communication skills, etc.) that were critical to the practice environment and were highlighted as desired competencies by the IPEC panel (Interprofessional Education Collaborative, 2016), and newly required for the Pharm.D. curriculum by CAPE (Medina *et al.*, 2013) and ACPE (Accreditation Council for Pharmacy Education, 2015). The mock trial activities in the Pharm.D. curriculum served as a mechanism to introduce student pharmacists to working collaboratively in teams toward shared goals such as searching the literature and identifying and advancing their team's best evidence-based arguments at trial. The mock trial project took place in the second term of the first professional year (P1), which enabled students' active learning in the cognitive and affective domains well before their exposure to interprofessional teams in an experiential setting. Since the project was self-directed throughout the term, students were practising skills in communication (written and verbal), collaboration, and advocacy. Requiring research, identification, and ranking of evidence according to the evidence pyramid and its hierarchy engaged students in the application of knowledge and skills necessary to retrieve and critically evaluate the literature; during this process, active participation, effective communication, and teamwork were also necessary.

The inaugural mock trial project in 2015 served as the final exam in a P1 evidence-based practice course. This project evolved over three developmental phases (Phase I, Phase II, and Phase III) from 2015 to 2019. The

authors refer to the initial design and implementation of the mock trial project at a single Pharm.D. programme from 2015 to 2016 as Phase I. The latter was described previously in a published article (Rosenberg *et al.*, 2018) explaining that the rationale for the mock trial project was to focus on the desired and required competencies as stated by the IPEC (2011) expert panel, CAPE outcomes (2013), and ACPE standards (2016). To achieve this goal, the mock trial project aimed to require the active participation of all students on a team in every phase of the project, from research and strategy to development of arguments and roles and, ultimately, participation of all students so that each student has an active role in the mock trial (Rosenberg *et al.*, 2018). In addition, the project was deliberately designed to be student-directed, requiring students to be accountable and work as a team over the course of the term regarding research, planning, meetings, deadlines, and delegation of tasks among team members (Rosenberg *et al.*, 2018).

Further rationale provided that in contrast to a traditional debate, a mock trial presented opportunities to identify sufficient speaking roles for each student in the final assessment (the mock trial) (Rosenberg *et al.*, 2018). The mock trial offered students different roles with varying emphasis on communication and delivery (counsel: opening statement; direct exam; cross-exam; closing argument; witness: lay witness; expert witness; juror) and time limits for each speaking role, ensuring that all students get a chance to develop their individual communication skills (Rosenberg *et al.*, 2018). The cohort was divided into two trials (one topic per trial), and then each trial was divided into trial teams for (pro) or against (con) the controversial issue, which allowed for smaller mock trial teams as compared to membership of the entire cohort. Smaller mock trial teams also encouraged the more reserved or timid students to become more active participants on their respective teams over the term-long project (Rosenberg *et al.*, 2018).

In Phase II (2017-2018), the mock trial project enhancement was an expansion to incorporate faculty collaboration across two Pharm.D. programmes, including West Coast University (WCU) and the University of Maryland Eastern Shore (UMES), with parallel trials but in two different pharmacy courses (i.e. Evidence-Based Practice Public Health for Pharmacists). Collaboration between faculty at each programme (WCU, UMES) consisted of identifying two new trial topics (issues) for the mock trial each year (Rosenberg *et al.*, 2018). The authors considered a current controversy in healthcare, a current controversy concerning pharmacotherapy, or a current controversy impacting pharmacy practice

(Rosenberg et al., 2018). Table I identifies the controversial mock trial topics debated between 2017 and 2019.

Subsequently, in 2019, the Phase III enhancement of the mock trial project integrated technology to enable student collaboration between the two programmes via a learning management system (LMS) (i.e. Blackboard Collaborate) and the continuing cross-institutional faculty collaboration. Specifically, because they shared a common goal and perspective on the assigned trial issue, students from the same trial and position ("for" or "against") at each programme (WCU and UMES) met online via the Blackboard Collaborate platform. In other words, this platform enabled WCU students and UMES students to meet virtually and engage with each other to share their literature-based results, identify the most robust evidence, and collaborate on developing trial strategies and evidence-based arguments for their positions at the trial. The integration of technology, which enabled the collaboration between students of two separate institutions, provided additional opportunities for both sets of students to practice and further develop skills in affective domains such as teamwork, communication, and professionalism.

Methods

A mock trial (courtroom-style debate) was implemented as part of a required course for first professional-year students at two institutions over three years (2017-2019). For each year, two separate mock trials were conducted with different topics (Table I) to accommodate the large cohort and maintain a small, manageable working group size. Students were divided into teams and given controversial topics to research and debate during mock trials. For each debate topic, students were randomly assigned to two teams with either a petitioner role (arguing for) or respondent role (arguing against) for the trial topic. Students enacted the roles of counsels and witnesses for their team position on the trial topic while serving as jurors in an alternate mock trial.

The mock trial project employed a self-directed learning approach along with formative and summative assessments during students' engagement in the project. Faculty first provided an orientation to the mock trial assignment. Students then prepared an outline for debate and gathered evidence to support

their case. The formative assessment took place when the faculty reviewed and provided feedback for the outline and evidence. Students also had opportunities to ask questions, clarify points, and receive faculty input on the depth and breadth of the evidence gathered. Additionally, student teams could meet with faculty as needed for further feedback.

Summative assessments of learning occurred during the actual mock trials. Students collaborated with their team members to perform various roles, including counsels or witnesses for their team and trial. Faculty served as judges (faculty judges), while student teams on the second trial topic served as jurors (student jurors) for the alternate mock trial. Descriptions and details of the mock trial project, such as flow, organisation, roles, logistics, and resources, have been published previously (Rosenberg et al., 2018). Over three years, controversial topics for the mock trials at both institutions were selected with input from participating course faculty, study investigators, and external collaborators. Table I presents the list of controversial topics used between 2017 and 2019.

During Phase III, in 2019, students from both pharmacy programmes collaborated by sharing their findings, reviewing the literature, and engaging in preparation for the mock trial, including, for example, identifying the strongest arguments based on the evidence pyramid hierarchy. In 2019, the mock trial collaboration study sought to assess students' acceptance of the technology used (Blackboard Collaborate learning management platform). To that end, the authors adapted and applied the Technology Acceptance Model (TAM) first described by Davis (Davis, 1989) to identify and then examine students' perceptions of the utility of the LMS to facilitate their collaboration with students from another pharmacy programme. This investigation utilised the TAM tool expressly because the research question sought to examine and understand the relationship between students' perceptions (perceived usefulness and perceived ease of use of technology) and students' usage behaviour (Shroff et al., 2011). The TAM tool developed by Davis aims to explain an individual's intention to adopt information technology (Davis, 1989). Based on the TAM, a person with a more favourable "attitude toward using" a specific technology will have a stronger "behavioural intention" to use the technology in the future. Moreover, the user's "attitude toward using" that technology would be more favourable if the "perceived usefulness" and "perceived ease of use" were associated with the technology.

Table I: Controversial mock-trial topics debated between 2017 and 2019

Mock-trial project: Faculty collaboration across two Pharm.D. programmes		
Year	Trial topic.	Abbreviation
2017	Manufacturer discount coupons for prescription medications	"Manufacturer Discount Coupons"
	Primary care provider shortage	"PCP Shortage"
2018	Medical marijuana	"Medical Marijuana"
	Aid in dying practice with medication	"Aid In Dying" ("AID")
Mock-trial project: Faculty and student collaboration across two Pharm.D. programmes		
2019	Pharmacist prescribing authority for smoking cessation	"Smoking Cessation"
	Mandatory influenza vaccination for school age children	Mandatory Influenza Vaccines"
Virtual mock-trial competition ("fast track") between two programmes		
2019	Medical marijuana (2018 topic repeated)	"Medical Marijuana"

Subsequently, the TAM survey (Table II) included 20 statements on technology use in educational settings adapted from existing instruments (Shroff *et al.*, 2011; Alharbi & Drew, 2014). The first 17 items aligned with the four theoretical constructs (or categories) in the TAM framework, i.e. "perceived usefulness" (statements 1-6), "perceived ease of use" (statements 7-11), "attitude toward using" (statements 12-15), and "behavioural intention to use" (statements 16 and 17) (Davis, 1989). Cronbach's alpha values were > .9 for these four TAM categories, suggesting excellent internal consistency within each scale. The last three items in the survey were related to students' attitudes regarding the collaboration experience and the mock trial project itself. When responding to the survey electronically through Google Forms, students were asked to indicate their level of agreement with each

statement using a 7-point Likert scale (from 1=strongly disagree to 7= strongly agree).

Descriptive analyses were conducted for the scores provided by all judges and jurors. For the TAM survey, the means and standard deviations of the survey responses were calculated. The referenced statistical analyses were performed using SPSS Statistics version 26.

Ethical statement

The evaluation of the implementation and impact of the mock trial received exempt approval from both programmes' Institutional Review Boards. Standards for reporting qualitative research (SRQR) were used (O'Brien *et al.*, 2014).

Table II: Descriptive results of 2019 Technology Acceptance Model (TAM)* survey

Survey question	Programme A	Programme B
	Mean (SD)	Mean (SD)
1. Using the Blackboard Collaborate [†] (technology platform) enabled me to engage in the cross-programme collaboration with my peers at the second programme.	5.42 (1.57)	5.05 (2.10)
2. Collaborating with peers using the Blackboard Collaborate (technology platform) can improve students' overall performance in the mock-trial.	5.42 (1.48)	5.12 (2.01)
3. Using the Blackboard Collaborate platform increased my productivity and preparation for the mock-trial.	5.16 (1.72)	4.75 (2.01)
4. Using the Blackboard Collaborate platform enhanced the effectiveness of my collaboration with peers.	5.35 (1.47)	5.00 (2.00)
5. Using the Blackboard Collaborate platform made it easier to collaborate with peers when preparing for the mock-trial.	5.13 (1.65)	5.05 (1.97)
6. I found the Blackboard Collaborate platform useful for collaborating with my peers toward mock-trial preparation.	5.13 (1.73)	4.91 (2.10)
7. Overall, I found the Blackboard Collaborate platform easy to use for collaboration with my peers on the mock-trial.	5.32 (1.66)	5.69 (1.79)

Survey question	Programme A	Programme B
	Mean (SD)	Mean (SD)
8. My interactions with the Blackboard Collaborate platform were clear and understandable .	5.06 (1.69)	5.58 (1.77)
9. I found the Blackboard Collaborate platform flexible to interact with .	5.26 (1.57)	5.37 (1.89)
10. Learning to operate the Blackboard Collaborate functions was easy for me.	5.26 (1.59)	5.83 (1.72)
11. I believe that it would be easy in general to become skilled at using the Blackboard Collaborate platform to collaborate in debate/mock-trial preparation.	5.19 (1.76)	5.75 (1.74)
12. I have a generally favorable attitude toward using the Blackboard Collaborate platform for debate/mock-trial collaboration.	5.16 (1.68)	5.17 (1.85)
13. I believe it is a good idea to use Blackboard Collaborate platform for debate/ mock-trial collaboration.	5.29 (1.68)	5.11 (1.99)
14. I like the idea of using the Blackboard Collaborate platform for debate/ mock-trial collaboration.	5.13 (1.80)	5.17 (1.92)
15. I believe that using the Blackboard Collaborate platform was generally helpful (beneficial) for me in debate/ mock-trial collaboration.	5.16 (1.79)	4.91 (2.00)
16. I recommend using the Blackboard Collaborate platform for other collaboration with peers.	5.19 (1.76)	5.12 (1.92)
17. I intend (plan) to use the Blackboard Collaborate platform as often as possible for other collaboration with peers.	4.68 (1.92)	4.78 (2.07)
18. I am satisfied with the general process and experience of collaborating with students from another school in debate/mock-trial preparation.	5.13 (1.86)	4.57 (2.22)
19. The mock-trial itself enhanced my critical thinking skills such as those used in evidence-based decision making.	5.26 (1.81)	5.60 (1.80)
20. I would recommend the mock-trial to other students as a valuable learning activity.	5.16 (2.00)	5.49 (1.99)

(1= strongly disagree; 7= strongly agree); Programme A: n=31; Programme B: n= 65; SD: Standard Deviation

*Based on the Technology Acceptance Model, a person with more positive "attitude toward using" a specific technology will have a stronger "behavioural intention" to use the technology in the future. Moreover, a user's "attitude towards using" that technology would be more positive if there are "perceived usefulness" and "perceived ease of use" associated with the technology.

†Blackboard Collaborate is the proprietary name for a learning management platform offering a virtual classroom that "allows learners to engage faculty, classmates, or peers, etc., from their desk, on the go, or wherever their busy lives take them;" adaptable to learners' unique needs and is promoted as the "classroom of the future." (Blackboard Copyright 2021. Blackboard Inc.).

Results

Evaluation of student performance between 2017 and 2019

A total of 319 students participated in mock trials from 2017 to 2019, with 136 being from Programme A and 183 from Programme B. The number of faculty judges and student jurors who served in the panel varied between programmes due to differences in cohort sizes each year: 5-6 faculty judges and 10-12 student jurors rated the student performance for both the Petitioner and Respondent teams (Table III).

Faculty judge evaluation scores during the three years ranged from 83.3% to 97%. Irrespective of the trial topic, position, and programme, faculty judges consistently rated student performance higher than 85% for all but one student group. The exception was the Trial I Petitioners from Programme A in 2018, which had a student performance score of 83.3% (Table III).

The student juror evaluation scores during the 3-year span ranged from 87.5% to 100%. Student jurors rated student performances $\geq 90\%$ for most mock trials, with three exceptions. In 2017, the Trial I Petitioners and Respondents at Programme A received performance scores of 85% and 87.5%, respectively. Also, for Trial II in 2017, the Respondents at Programme A received 87.5% as performance scores (Table III).

Notably, throughout the three years, faculty judge scores and student juror scores were comparable between Programmes A and B for most student groups, irrespective of the trial positions (pro or con) or topics. Nonetheless, a difference of $> 5\%$ was observed between the two programmes in the following four areas: (1) faculty judge scores for Trial I Petitioners in 2018; (2) student juror scores for Trial I Petitioners in 2017; (3) student juror scores for Trial II Petitioners in 2018; and (4) student juror scores for Trial II Respondents in 2019 (Table III).

Table III: Evaluation of students' mock-trial performance by faculty-judges and student-jurors

		Average judge evaluation (%) (Range 5-6 faculty judges/ trial)		Average juror evaluation (%) (Range 9-11 student jurors/ trial)	
		Programme A	Programme B	Programme A	Programme B
2017					
Trial I	Petitioner	88	90	85	100
(Shortage)	Respondent	91	93.3	87.5	91.7
Trial II	Petitioner	95	90	95	100
(Coupons)	Respondent	89	90	87.5	91.7
2018					
Trial I	Petitioner	83.3	92.5	96.8	98.2
(Marijuana)	Respondent	94.3	93.8	96.8	98.8
Trial II	Petitioner	86.0	89.5	91.8	98.7
(Suicide)	Respondent	86.3	89.2	96.8	93.7
2019					
Trial I	Petitioner	95	93.7	95	98.7
(Smoking)	Respondent	94	93.7	97.5	99.3
Trial II	Petitioner	97	92	95	95.7
(Flu vaccine)	Respondent	90	94	92.5	99

Student perceptions of collaboration between programmes in 2019

Ninety-six students from the 2019 mock trial cohort completed the TAM survey (Programme A: 31; Programme B: 65), yielding a response rate of 99%. Most survey items assessing technology acceptance reported a mean >5 on a 7-point Likert scale (Table II). Overall, students from both programmes reported the highest agreement on the questions asking whether the Blackboard Collaborate was easy to use for collaborating with peers (Statement 7; 5.57± 1.75), whether learning to operate the Blackboard Collaborate functions was easy (Statement 10; 5.65±1.69) and whether it would be easy to become skilful at using the Blackboard Collaborate (Statement 11; 5.57±1.76). The survey item with the lowest mean was Statement 17: "I intend (plan) to use the Blackboard Collaboration system as often as possible for other collaborations with peers" (4.75± 2.02).

Table II provides descriptive results of the 2019 TAM Survey for each programme. Differences greater than 0.5 between the two programmes were found in the following statements:

- (1) Statement 8: interactions with the Blackboard Collaborate platform were clear and understandable;
 - (2) Statement 10: Learning to operate the Blackboard Collaborate functions was easy;
 - (3) Statement 11: it would be easy, in general, to become skilled at using the Blackboard Collaborate.
- Two questions assessing students' attitudes toward the mock trial project itself showed an average rating

above 5, irrespective of the school (Table II, Statements 19 and 20). However, students from Programme B reported an average rating of 4.57 for satisfaction with the general process and their experience of inter-institutional collaboration, while students from Programme A recorded 5.13 as their average satisfaction rating (Table II, Statement 18). Overall, the "behavioural intention to use" category recorded a mean of 4.95, while the other three TAM categories each had a mean above 5 (Table IV). The average rating for "perceived usefulness" was higher in Programme A (Programme A: 5.27 vs Programme B: 4.98), while Programme B had a higher rating in "Perceived Ease of Use" (Programme A: 5.22 vs Programme B: 5.65). A Pearson correlation coefficient above 0.8 was obtained between various categories ($p < 0.001$).

Table IV: Descriptive results of the TAM categories

TAM category	Prog. A mean (SD)	Prog. B mean (SD)	Overall mean (SD)
Perceived usefulness	5.27 (1.53)	4.98 (1.87)	5.07 (1.77)
Perceived ease of use	5.22 (1.58)	5.65 (1.63)	5.51 (1.62)
Attitude toward using	5.19 (1.67)	5.09 (1.84)	5.12 (1.78)
Behavioural intention	4.94 (1.77)	4.95 (1.95)	4.95 (1.88)

(1= strongly disagree; 7= strongly agree); Programme A: n=31; Programme B: n= 65; SD: Standard Deviation

Discussion

Results from the series of mock trials over three years (2017-2019) at Programmes A and B demonstrated that students at both institutions performed consistently well over the years. In other words, student pharmacists successfully delved into the literature for evidence, marshalling that evidence in support of their team's position and developing counterarguments against their opponents. The study results also indicated that this outcome held true irrespective of the trial topic. Students also evaluated favourably both the collaboration process and the mock trial experience.

Before this project, historically, mock trials were scarcely employed in pharmacy education, found only in isolated instances, and without repeated and deliberate assessment for competencies and outcomes; only one study previously reported having students as active participants in a mock trial albeit with roles that were scripted for the students by faculty or actual court cases (van Dusen, 1998; Broeseker & Jones, 1999; Spies, 2008; Bess *et al.*, 2016; Rosenberg *et al.*, 2018). Debates, however, have been employed in pharmacy education for active learning and assessment activities in various contexts (e.g. advocacy on ethical and legal issues, controversial policy issues in the US healthcare system, critical thinking and communication skills, evidence-based analysis and evaluation, and pharmacotherapy) (Lin & Crawford, 2007; Charrois & Appleton, 2013; Hanna *et al.*, 2014; Lampkin *et al.*, 2015; Peasah & Marshall, 2017; Toor *et al.*, 2017). Contrary to those previous examples in the literature, the mock trial project in the present study was deliberately designed, developed, and implemented to ensure that all students in the course have roles and to offer opportunities to develop students' skill sets in the "affective domain" (Rosenberg *et al.*, 2018).

Over consecutive iterations and expansion (2017-2019), this mock trial project successfully demonstrated evidence of consistently high student performance across the various iterations (successive years), courses (2), and topics (6) (Tables I & II). Notably, investigators deliberately selected timely, current, and contemporary controversies to attract and motivate students' curiosity and engagement in collaborative research inquiry and inspire a passion for the assigned position and argument. Faculty judges and student jurors evaluated competencies based on a standardised evaluation rubric (Appendix A), which paralleled the competencies described in CAPE 2013 (Medina *et al.*, 2013) and ACPE Standards 2016 (Accreditation Council for Pharmacy Education, 2015), including cognitive and affective domain outcomes

such as critical thinking, teamwork, communication, and professionalism.

Through the evolution of the mock trial project from 2017 to 2019, the investigators also identified potential future applications of the mock trial utilising novel modalities to connect students from different programmes. As described, the 2019 initiative piloted a student collaboration across two Pharm.D. programmes by using the technology of a learning management platform (Blackboard Collaborate). The authors believe that the success of the mock trial enhancement with this technology in 2019 (Phase III) suggested and supported the implementation of a virtual trial format as a potential future direction. Fortuitously, the authors' experience with a learning management system and virtual mock trials the previous year enabled a smooth transition to virtual mock trials when the COVID-19 pandemic forced a sudden transition from in-person to remote learning in March 2020, just weeks before the mock trials scheduled in April, which would otherwise have been held in-person. Following that experience in 2020, implementing a mock trial competition between pharmacy programmes, whether virtually or in-person, could be envisioned as a future and further expansion of the mock trial project, which could be investigated as a scholarship of teaching and learning.

Based on the authors' investigations and experiences, the mock trial project has been and is adaptable to different contexts and modalities, such as integration of a mock trial within a course, as a co-curricular or extracurricular activity, and implementation in a virtual environment (Broeseker & Jones, 1999). Indeed, recent literature investigated mock trial use in various healthcare contexts and practice areas, e.g. simulation learning, to offer experience in evidence-based practice (Song & Jang, 2023). Mock trials have also been used to promote interprofessional education in health sciences (Ghimouz *et al.*, 2021) and teach child abuse (van Wylick & Davidson, 2011) or ethics in medical education (Coelho *et al.*, 2017). They were used as a learning tool in medical residency (Drukteinis *et al.*, 2014; Lennon *et al.*, 2020), nursing education for competency development (Troxel, 2012), continuing education (Centrella-Nigro & Flynn, 2012), professional development (White, 2015), psychiatry law (Glancy, 2016), and even advanced medical studies for fellows (Foley *et al.*, 2017) and surgeons (Juo *et al.*, 2019).

With the emergence of technological advances, mock trial use has even reached the metaverse, which bridges reality and virtual reality (Lee *et al.*, 2023). The use of mock trials in the virtual realm should come as no surprise since several virtual programme offerings in pharmacy education have emerged during the

pandemic and continue to this day. Therefore, as a teaching and learning tool, the mock trial project remains a viable active learning strategy, whether in-person or in a virtual format.

Limitations

In considering study limitations, the authors note that student performance in the mock trials was based on their summative scores. Moreover, while criteria in the affective domain were incorporated within the scoring rubric (Appendix A), student performance scores relating to a specific affective domain were not presented. A future study could further investigate student performance related to a specific affective domain or domains and/or specific criteria within an affective domain. The authors also acknowledge that the Technology Acceptance Model (TAM) is only one option among various theories for studying online learning and collaboration. Another future study direction would be to apply other relevant theories, such as the Community of Inquiry (CoI) framework (Garrison et al., 2001), to examine the adoption of technology by students in the context of a mock trial project. Additionally, the present study was based on investigations at two institutions. Admittedly, the characteristics of the two institutions (Programme A: private, for-profit and Programme B: public, HBCU) and the courses (Evidence-Based Practice and Public Health for Pharmacists) where the mock trials were implemented were quite different. The differences between the two institutions suggest the mock trial project could be adapted to different instructional environments. However, it is also possible that the study results may not be replicated in other schools/programmes, and, therefore, more evidence on the implementation of the mock trial project should be gathered. The authors invite the expansion of the mock trial project to further examine and assess its adaptability and sustainability across various institutions and courses.

Conclusion

Participation in the mock trial project offered students the opportunity to practise and refine foundational competencies deemed vital to the pharmacy profession, including literature evaluation (critical thinking), argument (communication), collaboration (teamwork), professionalism (court decorum), and presentation of evidence. The evaluations of faculty judges and student jurors consistently indicated that students performed well in presenting their trial arguments and positions and that they actively

demonstrated the knowledge and skills needed to evaluate and critique literature.

As assessed by faculty judges and student jurors in the mock trial, student participants demonstrated an ability to “perform” well insofar as developing affective domain competencies. Based on the experience with the three described phases, the authors believe that the mock trial can be replicated or adapted, and implemented in other courses or institutions to support faculty teaching and student learning. Expanded implementation of this project across various courses and institutions can serve to further validate its adaptability and sustainability in diverse institutions and courses.

Conflict of interest

The authors declare no conflicts of interest or financial interest in any product or service mentioned in this article, including grants, employment, gifts, stock holdings or honoraria.

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Appendix A: Faculty judge and student juror evaluation form

2020 Mock Trial JUDGE/JUROR Evaluation Form

___Petitioner: What evidence-based arguments SUPPORT (Insert Trial Topic) ?

___Respondent: What evidence-based arguments caution AGAINST (Insert Trial Topic)?

Evidence	Strong evidence (3.0 points)	Good evidence (2.5 points)	Some evidence (1.5 points)	Little evidence (1 point)	No evidence (0 point)	Pts
KNOWLEDGE/ CONTENT [Domain 1] HOW WELL did students demonstrate foundational knowledge/ content on this topic?						/3.0
LEVEL OF EVIDENCE (literature, references, citations) [Domain 1] HOW WELL (to what degree) did students provide literature citation(s)/ reference(s)?						/3.0
APPLY/ INTERPRET/ COMPARE/ CONTRAST/ ANALYZE [Domain 1] HOW WELL did students APPLY, INTERPRET, COMPARE/ CONTRAST, ANALYZE applicable literature?						/3.0
VISUAL AIDS/ EDUCATE AUDIENCE [Domain 3] HOW WELL did students use VISUAL AIDS to educate audience?						/3.0
COMMUNICATION: DELIVERY & ARTICULATION [Domain 3] HOW WELL did students deliver and articulate their arguments?						/3.0
ACTIVE LISTENING / RESPONSES [Domain 3] HOW WELL did students actively listen and actively respond?						/3.0
PROBLEM SOLVING & CRITICAL THINKING [Domain 3] HOW WELL did students demonstrate problem solving and critical thinking?						/3.0
LEADERSHIP and TEAMWORK [Domain 4] HOW WELL did students demonstrate leadership and teamwork?						/3.0
PROFESSIONALISM [Domain 4] HOW WELL did students demonstrate professionalism?						/3.0
OVERALL PERFORMANCE [Domain 4] HOW WELL did students perform OVERALL?	STRONG and EXCELLENT PERFORMANCE - EXTREMELY WELL PREPARED (3 points)	VERY GOOD PERFORMANCE - WELL PREPARED (2.5 points)	GOOD PERFORMANCE - PREPARED (1.5 points)	LOW LEVEL PERFORMANCE - NOT ADEQUATELY PREPARED (1 point)	INADEQUATE PERFORMANCE - UNPREPARED - NO EVIDENCE (0 points)	/3.0
Total Points						/30