

Alternatives to in-person mock trials in forensic science education

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Abstract: While mock trials are widely recognized as an effective teaching tool in preparing forensic students to testify in court, the move to online curriculums, increased enrollment, and alternative delivery methods have limited the practical use of this valuable tool. In response, the Forensic Science Institute (FSI) at the University of Central Oklahoma (UCO), in cooperation with the UCO Center for eLearning and Connected Environments, has developed a Virtual Mock Trial exercise which places students in a virtual courtroom to testify as witnesses. Two simple scenarios have been developed - a lay witness scenario and an expert witness voir dire scenario. In the lay witness scenario, the student assumes the role of a Crime Scene Technician and testifies regarding the processing of a scene and the evidentiary foundation for the admission of a firearm. In the second scenario, the student assumes the role of an expert in firearms and toolmark analysis and responds to questions posed in the voir dire process to qualify as an expert. For each scenario, students are given a set of facts and personal qualifications which form the basis of their testimony. They then enter the virtual courtroom through the UCO learning platform and type their responses to the questions posed by attorneys representing each side. At the conclusion of each exercise, the program produces transcripts of the testimony for the instructor to grade and critique. This article describes creation and implementation of such scenarios as viable alternatives when live mock trials are not an option.

Keywords: mock trial, lay witness testimony, expert witness testimony, direct examination, cross examination.

Introduction

Mock trials are widely recognized as an effective and necessary teaching tool in preparing future law enforcement professionals to testify in court. Forensic science is no exception, and in fact the American Academy of Forensic Science, Forensic Science Education Programs Accreditation Commission (FEPAC), requires under their Accreditation Standards, Section 5.2.1, that:

“The program shall provide students with the basic knowledge necessary for effective testimony as an expert witness, and each student shall participate in practical exercises where they will render expert testimony (e.g., moot court).”

Live, in-person mock trials are unquestionably the best means of preparing forensic students to become effective witnesses in the courtroom. Law schools have long used mock trials to teach trial advocacy, and moot court to teach appellate procedure. While the terms are often used interchangeably, *mock trial* typically refers to simulated trial proceedings while *moot court* refers to simulated appellate arguments before an appeals court.

Mock trials have long been used by law enforcement academies, criminal justice programs, and forensic science programs as a primary means of training and preparing students for their first real courtroom appearance. Teaching and demonstrating the fundamentals of testifying is essential, but the true development of testimonial skills begins when the student takes the stand for the first time in a realistic mock trial scenario. That student’s ability to be an effective and professional witness in the future might very well depend on their prior experiences in mock trial scenarios. Much like a Broadway play, opening night will likely be a disaster if the cast foregoes the dress rehearsal.

While live mock trial experiences are unquestionably the best means of preparing students to testify in court, every educator who has ever developed and implemented a live mock trial exercise knows that the realistic implementation of these exercises can be challenging, labor intensive, and time consuming. There are several major challenges that educators face in staging mock trials, but two of the most critical are time and resources.

For programs with large enrollment, a primary consideration is the amount of time required to give each student a meaningful courtroom experience. For a student to truly experience testifying as a witness, they need to spend an adequate amount of time on the witness stand

responding to direct examination, cross-examination, and arguably even re-direct and re-cross. For a lay witness scenario, this arguably requires a minimum of 15-20 minutes per student. For an expert witness, this could easily require a minimum of 30 minutes or more per student. Assuming an introductory *Criminal Procedure* course has an enrollment of 40 students, a meaningful testimonial experience for each student could consume nearly one-third of the semester to complete. For an expert witness scenario, the amount of time required would be even longer.

In addition, the fact that only one student can testify at a time presents another dilemma. What is the remainder of the class to do? What would be an effective use of their time while classmates are testifying? While it is tempting to put students into the roles of judges, prosecutors, or defense attorneys, their lack of experience in this area will likely result in a line of questioning which is unrealistic and therefore of little benefit to the actual student witness. Furthermore, simply watching the same or similar testimony over and over is of little benefit to the other students and may adversely impact their own experience when it is their turn to testify.

To be done correctly, questioning on direct and cross-examination should be realistic, meaning it should adhere to the applicable *Rules of Criminal Procedure* and *Rules of Evidence*. Ideally, the questioning should be conducted or at least scripted by actual attorneys or experienced faculty with testimonial experience, but this option is not available for every program. It is also important that an individual with some legal experience play the role of judge in order to realistically respond to objections and to direct courtroom procedures. While these may not be issues in law schools where legal resources abound, they can pose significant challenges in forensic programs where additional faculty with the requisite legal background are less plentiful, or simply occupied with their own teaching and administrative obligations.

At the UCO Forensic Science Institute, mock trials are utilized throughout the curriculum to develop testimonial skills. Basic testimonial instruction, demonstrations and mock trial are presented in *Criminal Procedure*, a required course for all students. Additional mock trial testimony and training is also incorporated in a number of specialized advanced courses depending on the student's chosen degree track (Investigations, Biology, Chemistry, or Digital). Finally, an entire course in *Expert Testimony* is offered at the graduate level as a required course. This course is taught in conjunction with the School of Law at Oklahoma City University (OCU) and the class consists of both UCO forensic science students and OCU law students. Instruction is provided by faculty from both schools, allowing for a mock trial scenario which is legally sound and trains both lawyers and expert forensic witnesses.

Due to increasing enrollment and the desire to offer *Criminal Procedure* as an online option, the UCO FSI partnered with the UCO Center for eLearning and Connected Environments and developed a virtual mock trial scenario. This tool proved extremely beneficial later when COVID-19 shut down in-person learning and forced alternative delivery of all courses. Through the use of this tool, the UCO FSI was able to continue to offer an introductory mock trial experience to the students in *Criminal Procedure*.

Methods

The steps used to create a virtual mock trial scenario can be divided into two stages:

The first stage is the actual creation of the mock trial scenarios. These steps are essentially identical to those used to create an in-person mock trial scenario and involve deciding on a fact situation, creating reports, and supporting documents for the student witnesses, and drafting direct examination questions.

The second stage is the transition of the mock trial scenario to a virtual platform. The implementation and complexity of this step will depend greatly on the information technology resources available. The use of trained eLearning personnel is recommended, although when such resources are not available, it may be possible to create a simple workable exercise with basic educational software programs.

As an example of the process, the steps used to create the UCO FSI Mock Trial Scenario will be explained.

Stage One - Creating a Scenario

The UCO FSI offers degree tracks in investigations, chemistry, biology and digital. The distinction is important in the development of mock trial scenarios because not all forensic science graduates will testify as expert witnesses during their careers. An expert witness is "someone who has knowledge, skill, education, experience, or training in a specialized field. (*Fed. R. Evid.*, 702). While students on the chemistry, biology or digital tracks will pursue careers as likely experts in their fields, those in investigations will more likely testify as lay witnesses. For that reason, both a lay witness scenario and an expert witness scenario were created.

The lay witness scenario was designed for a crime scene technician who collects a key item of evidence, in this case a firearm. This witness is called to the stand to describe the processing of the scene and to authenticate introduction of the firearm into evidence. The information provided the student is set forth below in **FIGURE 1**.

The expert witness scenario was designed as the voir dire examination of an expert in firearms and toolmarks. The scenario involves questions posed on direct by the prosecutor to establish the witness' qualifications as an expert. The information provided the student is set forth below in **FIGURE 2**.

Lay Witness Scenario

You are a Crime Scene Technician for the Edmond Police Department and called to the stand to testify about a shooting scene you processed. You have been a CST for 12 years and have processed approximately 400 scenes. You are asked about the Crime Scene Evidence Log you prepared (Government Exhibit 14) and particularly Item 4, a Smith and Wesson Model 13 revolver. You collected that item at the scene, put an evidence tag on it with your initials, date and case number, and later checked it into the Evidence Room at EPD. You are asked to authenticate the firearm so it can be admitted into evidence.

FIGURE 1 Lay witness scenario provided to witness.

Expert Witness Scenario – Voir Dire

You are a Firearms and Toolmarks Examiner with OSBI. You are being called by the prosecution as an expert witness, therefore you must be qualified as such through voir dire, questions designed to establish your qualifications as an expert. You graduated from the Forensic Science Program at UCO with an undergraduate and masters degrees and went right to work for OSBI in 2007. You have been with them 12 years. You received training from OSBI as well and are a Certified Firearms and Toolmarks Examiner with the Association of Firearm and Tool Mark Examiners. You also teach forensic courses for the UCO FSI as an adjunct professor.

FIGURE 2 Lay witness scenario provided to witness.

Next was the creation of the script for direct examination by the prosecutor for each of these scenarios. The UCO FSI is fortunate to have two attorneys as faculty members who oversee legal instruction and who prepared the scripts used in each of these scenarios. In order to make the questioning as realistic as possible, the use of attorneys to create the examination questions is highly recommended. Another excellent legal resource on this matter is *Evidentiary Foundations* by Edward J. Imwinkelreid, which contains numerous examples of the foundation questions to be asked of both lay and expert witnesses in various situations. (Imwinkelreid, 2020) Examples of the lay witness direct examination and the expert witness voir dire examination, as well as instructions, are set forth below in **FIGURES 3 & 4**.

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TESTIFYING AS A LAY WITNESS – LAYING A FOUNDATION FOR EVIDENCE

SCENARIO - Crime Scene Technicians are often called upon to testify in court concerning their role in processing crime scenes. Most technicians perform tasks that do not require that they be qualified as expert witnesses, therefore they testify as lay witnesses. In this scenario, the student takes the stand as a Crime Scene Technician called as a witness in a criminal trial to testify concerning a gun found at a crime scene. The student will enter the courtroom when called, be sworn in by the bailiff, be seated at the witness stand, and then begin answering questions from the prosecutor on direct examination. The prosecutor will ask the questions, and the student-witness will respond by typing their answers. These answers will be reviewed and evaluated by the instructor, and feedback will be provided. The students will be given a short *Crime Scene Report* to review prior to their testimony. This report documents their actions and serves as the basis for their testimony.

Bailiff: Please raise your right hand. Do you solemnly swear that the testimony you are about to give in the cause pending before this court shall be the truth, the whole truth, and nothing but the truth, under penalty of perjury as provided by law?

Witness: [Answer]

Bailiff: Be seated.

Prosecutor: Please state your name, and spell your last name for the record.

Witness: [Answer]

Prosecutor: Are you employed?

Witness: [Answer]

Prosecutor: And who do you work for?

Witness: [Answer]

Prosecutor: What do you do for the Edmond Police Department?

Witness: [Answer]

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Prosecutor: Would you describe for the jury what a Crime Scene Technician does?

Witness: [Answer]

Prosecutor: How long have you worked as a Crime Scene Technician?

Witness: [Answer]

Prosecutor: And in the 10 years that you have worked as a Crime Scene Technician for the Edmond Police Department, about how many crime scenes would you say you have processed?

Witness: [Answer]

Prosecutor: And of those 400 crime scenes you have investigated, about how many of those involved shooting incidents?

Witness: [Answer]

Prosecutor: Would you consider yourself an experienced Crime Scene Technician?

Witness: [Answer]

Prosecutor: Were you on duty the evening of July 10, 2015?

Witness: [Answer]

Prosecutor: And while on duty on July 10, were you instructed to respond to a reported shooting incident in the alley behind the Santa Fe Ice House on North Boulevard Avenue?

Witness: [Answer]

Prosecutor: And what time did you arrive?

Witness: [Answer]

Prosecutor: What did you do when you first got there?

Witness: [Answer]

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FIGURE 3 Lay witness direct examination script (pp. 1-2).

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TESTIFYING AS AN EXPERT WITNESS – VOIR DIRE

SCENARIO – Forensic Lab Technicians are often called upon to testify in court concerning lab examinations and comparisons they have made, and their expert opinions concerning the results. To testify as an expert and render expert opinion testimony, the witness must first be accepted by the court as an expert in the field. The witness's expertise is established through a questioning process known as voir dire. In this scenario, the student takes the stand as a Forensic Lab Technician being offered by the prosecution as an expert in the field of firearms and tool marks. The student will enter the courtroom when called, be sworn in by the bailiff, be seated at the witness stand, and then begin answering questions from the prosecutor to establish his/her expertise as a firearms and toolmarks examiner. The prosecutor will ask the questions, and the student-witness will respond by typing their answers. These answers will be reviewed and evaluated by the instructor, and feedback will be provided. The students will be given a fictitious resume stating their qualifications, and they will use those qualifications to answer the voir dire questions to establish their expertise.

Bailiff: Please raise your right hand. Do you solemnly swear that the testimony you are about to give in the cause pending before this court shall be the truth, the whole truth, and nothing but the truth, so help you God?

Witness: [Answer]

Bailiff: Be seated.

Prosecutor: Please state your name, and spell your last name for the record.

Witness: [Answer]

Prosecutor: Are you employed?

Witness: [Answer]

Prosecutor: And who do you work for?

Witness: [Answer]

Prosecutor: What do you do for the Oklahoma State Bureau of Investigation?

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Witness: [Answer]

Prosecutor: Would you describe for the jury what a Firearm and Tool Marks Examiner does exactly?

Witness: [Answer]

Prosecutor: How long have you worked as a Firearms and Tool Marks Examiner for OSBI?

Witness: [Answer]

Prosecutor: What is your formal education; in other words what degrees do you hold?

Witness: [Answer]

Prosecutor: Which undergraduate school did you attend?

Witness: [Answer]

Prosecutor: What degree or degrees did you obtain there?

Witness: [Answer]

Prosecutor: What was your major field of study?

Witness: [Answer]

Prosecutor: Which graduate school did you attend?

Witness: [Answer]

Prosecutor: What was your particular area of study?

Witness: [Answer]

Prosecutor: During your time at UCO, did you participate in any internships?

Witness: [Answer]

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FIGURE 4 Expert witness voir dire examination script (pp. 1-2).

Stage Two - Creating an Online Testimonial Experience

Once the scenario and supporting documents were created, the UCO Center for eLearning and Connected Environments was tasked with creating a virtual platform to run the mock trial exercise. After several months of design and experimentation, and through close collaboration with the UCO FSI, the Center for eLearning delivered the first version of the UCO FSI Virtual Mock Trial Exercise. It was originally created using a Unity Game Engine but was later converted to a web-based exercise using html, Java Script, and SQL. The game basically triggers events that go down a chain. These events generate answers which the program then pins together to create a web view that can be downloaded as a .pdf. The images used for the scenario and in this article were obtained by the Center for eLearning from Shutterstock under UCO's standard subscription license.

Using the lay witness scenario as an example, the scenario begins with the student entering the courtroom and being sworn-in by a bailiff (see **FIGURES 5a and 5b**).



FIGURE 5a Bailiff swears-in witness to begin the testimony.

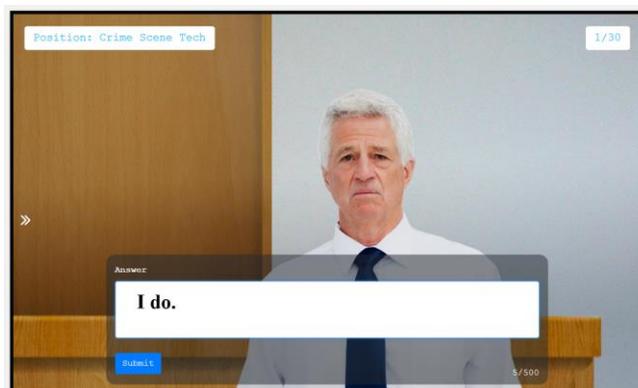


FIGURE 5b Student witnesses respond by typing their answers.

After being seated, the prosecutor then begins his/her direct examination of the witness following the scripted questions. In response to each question, the students answer by simply typing their answer and hitting “Enter” (see **FIGURE 6**).

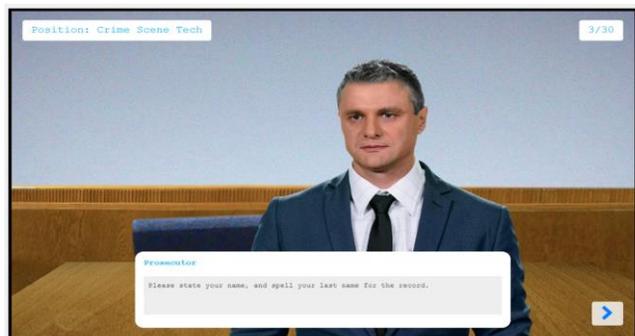


FIGURE 6 Prosecutor asks questions on direct examination.

The testimony continues to the point where the witness responds to the questions necessary to authenticate the firearm being offered in evidence. The firearm is offered as evidence and with no objections, the judge admits it into evidence as a government exhibit. In this scenario, the defense attorney has no questions for the witness on cross-examination and the witness is dismissed, thus ending the lay witness scenario (see **FIGURES 7 & 8**).



FIGURE 7 Judge admits the firearm into evidence.

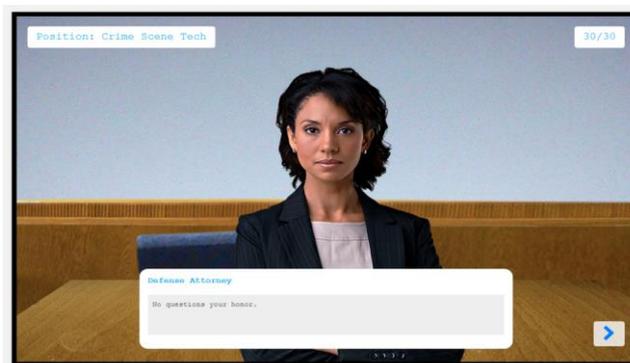


FIGURE 8 Testimony and exercise ends with no questions from the defense attorney.

At the completion of the exercise, the program automatically creates a transcript of the witness’ testimony and places it in a folder for review, grading and critique by the instructor (see **Figures 9 and 10**).



FIGURE 9 Student Transcripts Folder.

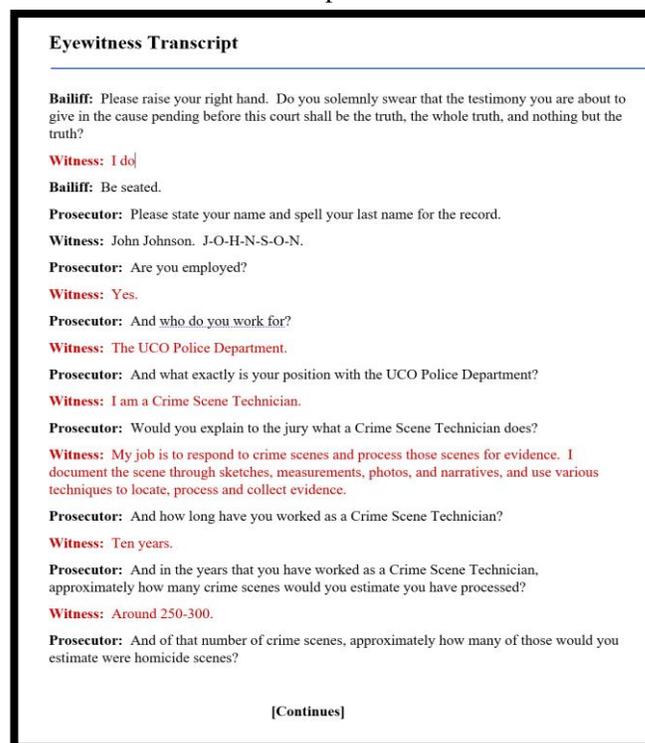


FIGURE 10 Sample student transcript.

Implementing the Virtual Mock Trial Exercise

The Virtual Mock Trial Exercise is explained in class following the standard course of instruction on lay and expert witness testimony. By the time students begin the exercise, they have viewed numerous video examples of both good and bad courtroom testimony and have critiqued the strengths and weaknesses of each.

To begin the exercise, students are provided handouts which describe the exercise and provide the foundation for their testimony. They are then directed to a simple link found in the assignments section of the course online learning platform, which in the case of the UCO FSI is Desire2Learn, more commonly known as D2L. The students then click on the link to again receive instructions and begin the exercise. Both the lay witness exercise and the expert witness exercise are accessed through the same link.

Upon completion of the exercise, the students simply exit the program and the transcript is automatically generated and placed in the instructor transcript folder described earlier.

Results

After the student has completed and submitted both the lay and expert witness exercise, the instructor is able to access the transcript folder using a link provided by the Center for eLearning. Two links are provided each semester for each section of *Criminal Procedure*, one for student access to the assignment and another for instructor access to the completed transcripts. Instructors are then able to review each student's transcript for both exercises and record grades and provide feedback using the D2L grading tool.

Discussion and Limitations

As emphasized earlier, in-person mock trials are unquestionably the best means of preparing forensic students for their first courtroom experience as a lay or expert witness. The authors are by no means suggesting that a virtual exercise be unnecessarily substituted for an in-person mock trial experience. When time and resources permit, a live mock trial is the best way to introduce and develop good testimonial skills. However, for online courses, or when time and resources are short, or when traditional in-person learning is interrupted, a virtual exercise may be the next best option for an alternative means of delivery. Following are situations in which a virtual mock trial exercise may serve as a suitable alternative:

I. When class size makes it impractical due to time requirements to conduct live mock trials.

II. When additional personnel are unavailable to serve as prosecutors, defense attorneys and judges.

III. When criminal procedure courses are online rather than in-person.

IV. When in-person instruction is interrupted due to pandemic or other circumstances beyond the control of the institution.

V. As a makeup for students unable to attend regularly scheduled in-person mock trial exercises due to illness, quarantine, or other circumstances.

VI. As extra credit, a refresher, or part of a comprehensive exam in forensic science.

In addition to academic applications, virtual mock trial scenarios could be used in the forensic science profession for trial preparation and practice, continuing education, or basic education of newly hired employees with limited forensic backgrounds.

There are some obvious disadvantages and limitations of virtual mock trials. The most significant limitations are the absence of live role players and observers; the absence of realistic cross examination; and the inability to create a virtual scenario due to a lack of hardware or software resources. Each of these will be discussed separately below.

First, the underlying purpose of a mock trial is to provide students with a testimonial experience that is as close to reality as possible. Not only must students learn to prepare to testify and present effectively, but they must learn to present themselves professionally, avoid nervous tendencies, and manage the stress and anxiety that inexperienced and even seasoned witnesses often face. Many students will tell you that one of their greatest fears is public speaking. Testifying in court is very much public speaking, except with much higher stakes and the knowledge that the experience will inevitably involve a defense attorney anxious to expose weaknesses, twist words, and make witnesses as ineffective and uncomfortable as possible. This aspect of the testimonial experience is simply impossible to create and is completely absent in a virtual scenario. The reality is that in a virtual mock trial assignment, the student completes the exercise alone, at a time of their own choosing, in the comfort of their own environment, at their own pace, and in the absence of a live audience. This is clearly far from reality and a major weakness of virtual scenarios.

This leads to the next major limitation - the inability to create a realistic cross-examination scenario. It is difficult if not impossible to realistically introduce cross examination into an online exercise. The *Federal Rules*

of Evidence, Rule 611, requires that direct examination of witnesses be conducted by asking direct, non-leading questions - What is your name? What did you find? Where did you find it? Because direct questioning is accomplished with open-ended questions, the questions can easily be scripted and the answers predicted. When it comes to cross-examination however, the opposite is true. Cross examination involves leading questions, or questions which suggest a particular answer - The knife had blood on it, correct? You never gave my client his Miranda rights, did you? You've never used fluorescent powder before, have you? When conducting cross examination, the questions and the manner in which they are asked are very much dependent on the witness' previous response(s). As such, it is difficult to anticipate or even script the next question without knowing how the witness responded to the previous questions. Cross-examination is a very dynamic and responsive process and as such is difficult if not impossible to script. This unfortunately results in a key teaching point of the mock trial experience being absent from virtual scenarios.

Finally, not every department will have the IT resources to create and run a virtual scenario with the complexity of the one described above. At UCO, the FSI was fortunate to have the support of an entire department, the Center for eLearning and Connected Environments, to create the program described in this article. The Center for eLearning fully supported the project by supplying the personnel, expertise, hardware, software, and instruction needed to bring the project to fruition. The Center for eLearning continues to support the project with periodic updates, tweaks, and new links every semester for every section.

For departments or instructors with limited IT resources, there may be options for using more common programs such as Microsoft Powerpoint to create a simpler version of a mock trial exercise. For example, instructors could provide a scenario to students in which each Powerpoint slide represents a question, thereby allowing students to move through the slides/questions at their own pace while typing their own transcript as they go.

Recommendations

To make the virtual mock trial scenario even more realistic, the next logical step would be to explore the possibility of turning the computer screen still version into a 3D virtual reality courtroom in which the student dons a virtual reality headset and hand controllers to virtually enter a courtroom and respond to role players who actually move about the courtroom and speak to the witness. Rather than typing a transcript, the student would actually answer the questions while sitting on the virtual witness stand. Other students and an instructor could watch the exchange on monitors, or the exercise

could be recorded for playback and evaluation later. It may even be possible for voice recognition to create a separate transcript in addition to the recorded testimony. This would add a more realistic feel to the exercise. Instead of typing an answer to a written question, the student would actually be making eye contact with and verbally answering questions posed by a role player who is actually moving about the courtroom, gesturing, and using inflection in their voice. This would allow not only for a recorded verbal exchange, but would also incorporate the practice and critique of basic testimonial skills such as good body language and frequent eye contact with jurors. While this does not resolve the issue of no cross-examination, it certainly makes the scenario more realistic for the student. The ability to take a mock trial scenario to this level no doubt depends on the resources available to the institution. For those institutions developing or experimenting with virtual reality platforms for education, a mock trial scenario in virtual reality would be an excellent consideration.

Summary

Mock trials are a proven tool for developing future professionals in law, criminal justice, and forensic science. Recent developments such as increased enrollments, the move to online courses, and class disruptions due to pandemic or other uncontrollable circumstances have challenged instructors to develop, within their resources, the means to provide mock trial training through alternative delivery. Virtual mock trial exercises such as the one created at the UCO FSI can serve as viable alternatives to live, in-person mock trials. When the need arises, students who would otherwise receive no courtroom experience will at least be able to apply their learned skills in a virtual environment. There are both pros and cons to such an exercise, but an interactive experience in any form is certainly better than no experience at all. As advances in virtual reality platforms continue to make their way into education, it is foreseeable that an interactive virtual reality testimonial experience can be created to greatly improve the experience.

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