

# Learning to catch a killer: The advantages and challenges of planning a community-oriented murder mystery event to improve forensic science education outreach

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**Abstract:** In Spring 2022, the University of Texas at Tyler hosted a Murder Mystery event for community members. The event featured a mock crime scene, activity booth area, forensics lab, with criminal justice professionals on site. Participants were able to interview witnesses and potential suspects, collected evidence, and tried to solve the mock homicide crime. Although this event was not financially self-sustaining, outcomes suggest that this event has a substantial positive effect on community education and outreach efforts. This also gave students an opportunity for hands on learning outside the classroom. This article outlines our efforts to plan such an event and provides advice for those interested in organizing similar events for their own campuses and communities.

**Keywords:** forensic science, community engagement, active learning, mock crime scene, murder mystery

## Introduction

For many educators, active learning exercises are an easy incorporation into curriculums but for others it can be difficult to build these activities into everyday activities. For many STEM fields, it is particularly easy to incorporate active learning through traditional laboratory courses (1,2), such “group problem solving, worksheets or tutorials completed during class, use of personal response systems with or without peer instruction, and studio or workshop course designs (2:8410). But what about more lecture-based courses like those found in social sciences and criminal justice? For those educators, innovation is often the key to incorporating active learning into the classroom given constrains in preparation time, space allocation, budget, and more (3). Incorporating mock crime scenes into forensic science courses is one innovative way to give students that laboratory experience by actively applying classroom knowledge to a real-world simulation (4).

Other instructors have incorporated mock crime scenes into their forensic science and anthropology programs with successful outcomes for their students (1, 5, 6, 7). However, for many programs, the educational focus is exclusively on students rather than the broader community. In this paper, we discuss the nuances involved with blurring the lines between student education and community engagement by hosting a murder mystery event on campus. Bringing community members onto campus as part of the event not only

brought recognition to the university and department, it also educated citizens about the realities of the forensic science processes utilized during crime scene investigation. Within this paper, we will discuss the process in which we planned the murder mystery event, advertised and recruited community member participants, and worked with university and law enforcement partners to host the innovative event on our campus. Additionally, we will provide lessons learned from hosting the event, discuss challenges in hosting the event without a dedicated laboratory space and provide recommendations to readers who wish to host their own similar events.

## Purpose/Goals of the Murder Mystery Event

We organized our Murder Mystery at UT Tyler event in March of 2022, celebrating both National Criminal Justice Month and our university’s homecoming weekend. The theme of the event was One Pill Can Kill, the Drug Enforcement Agency’s (DEA) public service campaign focusing on the dangers of counterfeit prescription drugs like fentanyl. The murder mystery event, which consisted of two components, was open to students and community members.

The Murder Mystery at UT Tyler event achieved multiple goals for us as a department, including increasing student engagement, expanding community outreach, and providing educational opportunities outside of the classroom. By utilizing student volunteers for multiple stages of the event, we provided UT Tyler

students with a simulation activity that expanded upon their classroom learning and provided them with real world exposure to forensic science and criminal justice concepts. We also provided a fun and interactive way to educate community members about the realities of forensic science, and by integrating the One Pill Can Kill campaign we provided education about the dangers of counterfeit drugs. We believe that including the activity booth pavilion helped enhance the event by offering students and community members the opportunity to network and build relationships with local criminal justice professionals.

The murder mystery consisted of two components with the first being a mock crime scene that participants “solved” via analysis of crime scene evidence, suspect interviews, and laboratory analysis. The second component was an activity booth pavilion featuring hands-on activities and local criminal justice agencies.

#### *Component One: Mock crime scene*

The mock crime scene took place in a manufactured home donated by a local business and two large pavilion areas. The home featured two bedrooms, two bathrooms, and an open living room/kitchen area. In order to highlight the event theme, the mock crime scene was staged as a gang-related, multiple-homicide occurring in a clandestine drug lab. All areas of the house were utilized for the crime scene, which included five deceased victims, a counterfeit drug production lab, and relevant forensic science evidence. Poseable dummies were used for the victims, each dressed in bloodstained street clothes. A criminal history handout with a photograph of the victim, identifying information, and their previous criminal charges was posted nearby each dummy. Weapons, spent bullet casings, bullet holes, fingerprints, and other pieces of evidence were placed strategically throughout the house in order to help guide participants to identify the correct perpetrator. However, there were also a few red herrings thrown in to make it more challenging.

We created a step-by-step information packet that explained the mock crime scene for participants as well as giving space for note-taking and sketching. Participants were grouped into starting times of 20 people every 20 minutes. Once their time was called, participants were brought into the home and asked to explore the entirety of the crime scene. Participants took notes on a provided evidence log of evidence that they would “collect,” although to avoid having to restage the area no evidence was physically collected. Once they were done examining the crime scene, participants left the crime scene and moved to the first pavilion area, where they would interview the suspects. The information packet provided them with the names and history of four different suspects, each represented by a UT Tyler Criminal Justice and Forensic Science student sitting inside the pavilion.

The week prior to the event, the students were given a detailed character sheet that outlined the suspect’s alibi as well as providing them with example responses, mannerisms, and other behavioral suggestions given their character’s typical interaction with law enforcement. Participants were asked to split up into small groups and given five minutes to interview each suspect.

The last step of the mock crime scene was the crime laboratory pavilion, which was located next to the suspect pavilion. Participants were able to request fingerprint, ballistic, and toxicology analysis for the evidence they “collected.” Prior to the event, we created laboratory reports for items in the house that we anticipated would be popular collection items. We also included a general “nothing found” report for other items that community members requested analysis on that were not relevant to the crime. Before the evidence analysis reports were handed out, participants were given a short presentation about the process of evidence preservation and contamination concerns. We had multiple evidence packaging examples in the pavilion, including a moldy bag of evidence highlighting the danger of wet evidence in airtight containers.

#### *Component Two: Activity Booth Pavilion*

Once participants had received their laboratory reports, they were given time to discuss their findings with their team and then directed towards the activity pavilion. At the front of the pavilion there was a table with arrest warrants and drawing prizes donated from local businesses. Participants were asked to fill out the arrest warrant with the name of the perpetrator and then submit it in the prize boxes. We drew arrest warrants for each prize the following week, after which all participants were emailed the actual solution to the crime with explanation of relevant evidence. Overall, the mock crime scene component took approximately one hour for participants to complete.

In addition to the arrest warrant booth, the pavilion also featured interactive activities staffed by additional student volunteers, including a fingerprint comparison activity and a field sobriety test using intoxication simulation goggles. The pavilion also included booths staffed by a variety of local criminal justice agencies, including our local DEA office, a photobooth with criminal justice related props, and free SafeID kits for all participants. Participation in the activity booth pavilion was not required or monitored, but we expect that most participants spent approximately 30 to 45 minutes in the activity booth area.

#### *Behind the curtain: Making the event a reality*

Similar to the experiences of other forensic science instructors trying to include active learning in their

classroom (1), long term planning was necessary to be able to coordinate the many moving parts required for this event. As a four-year university with over 10,000 students, the University of Texas at Tyler is a well-suited to hosting large community events, but had never hosted a community event focusing on forensic science such as this one. For nearly a year in advance, we coordinated with campus staff, local community members, businesses, our students, and local law enforcement to provide the greater East Texas community with a well-prepared murder mystery event. The biggest hurdle for us was securing and delivering the house in which the murder mystery would take place.

#### *Finding a crime scene house*

In 2021, we hosted a student-only event in which we secured a temporary donation from a manufactured home supplier. The supplier was generous and absorbed the cost of the delivery and the use of the home, but it was too small to host more than a few students at a time. Between 2021 and 2022, we applied for internal and external funding in order to purchase a permanent crime scene house for our campus. However, in 2022 when we hosted the Murder Mystery at UT Tyler, we still did not have a dedicated space so we knew that we would once again be dependent on community outreach to host the event. The solution required us to cold call other local manufactured home distributors who could provide us with larger, but still temporary, home to host the event. While we cannot guarantee that others will have the same success, our very first cold call resulted in a temporary donation of a larger manufactured home. We asked the owners of the business if they donate the residence in exchange for publicity and media exposure. Since we had completed a similar event in 2021, we were able to show the company owners pictures of our prior efforts and convinced them to provide us the home at no cost to the university. The company absorbed the cost of delivery, provided us with some furniture, and even connected us with additional local companies and vendors who might be willing to donate additional items.

The house they provided was a two bedroom/two bathroom manufactured home complete with a full kitchen, living room, and laundry room. This home was big enough to host roughly 20 people at a time provided that they would divide and conquer the interior space. The home needed to be large enough that we would not create a safety or fire hazard on campus, but we also had to ensure that the manufactured home would fit in the allocated space. Thankfully, we were given space on campus where a modular building had recently been demolished, meaning that we were given easy access to electrical and water hook-ups that we could use for the donated home. If you are not able to find a site like this on your campus, we would recommend renting a camper or

trailer temporarily and placing it in your parking lot or any vacant space available. While it is not ideal to be without electricity and running water, it is possible to host the event without these utilities, although likely on a smaller scale. Our manufactured home did not have a working air conditioner or restroom, but as it was March we were able to open the windows and keep our participants cool. The lack of restroom facilities required the additional expense of portable toilets for the month. Ideally in the future, we would like to build or create a permanent crime scene house on campus that would allow us to utilize air conditioning, running water, and all of the regular conveniences that a home would offer during the event simulation.

We relied on the support of several campus departments to help us carry out the Murder Mystery at UT Tyler event. Working with your campus partners early and often is vital to making sure this process runs smoothly - especially when you are asking for a whole house to be moved onto campus. We were very fortunate to have a facilities team who was able to help us with many of the home-delivery related logistics. The facilities team was the one to accept the house, hook up the water and electric lines, and they provided security for the home while it was on campus. Given the ADA requirements for a public event, our facilities team helped us secure an accessibility ramp leading into the manufactured house, since the original door was only accessible through a staircase.

#### *Filling the House*

Once we secured the donation of the house, we needed to fill the empty shell to depict a mock residential scene. The manufactured home distributor recommended a local furniture company that they had worked with in the past for staging events. We cold called the furniture company and explained our purpose of our event and our need for simulation furniture. Similar to our discussions with the manufactured home distributor, we offered to promote the business by using their corporate logos on our website and promotional materials. The company agreed to donate all of the master bedroom furniture, including furniture, bed linens, and room decorations, for the duration of the event. While there can be difficulties in cold calling businesses, we were surprised at how readily most business owners wanted to assist and support the university. We did notice that locally owned businesses were often better able to donate compared to corporate chains, as there were less restrictions for the small business owners. If you solicit donations within your own community, we encourage you to focus on those businesses that are locally owned and operated, as they would likely benefit more from additional marketing and publicity.

At this point, we had enough furniture to successfully depict a living room and bedroom scene, but the house still felt un-lived in. As our department had been offering a Crime Scene Processing course for several years, we had enough supplies already purchased to fill the home with regular household items one would find in a residence, such as kitchen wares, clothing, bathroom items, pictures, and other items. We also borrowed extensively from our own houses, bringing in spare towels, clothes to hang in the closet, folding tables, camping chairs, and event empty beer bottles and other pieces of trash. Bring in whatever items you feel are appropriate for the scene that you have designed. All of our donated items were washed and taken home after the event was finished, so it was a low-cost way to supply the house. This is important when you are on a limited budget. When planning a scene like this, the details matter so don't be afraid to collect pieces or search for free items at marketplaces - whether online or in person.

### *Setting the Scene*

As we had created crime scenes in the past for our students, we began the planning for this event with a certain scene in mind. We knew that we wanted to make the scene drug based and that we would connect it to the One Pill Can Kill campaign. The Crime Scene Processing course supplies already included fake weapons and drug paraphernalia, so we knew we had a majority of the supplies we needed to set the scene for a drug house. The campaign theme was also the reason that we brought in so much trash from our own homes, as these items helped make the house feel both lived in and contributed to the overall feeling of neglect that was appropriate to a clandestine drug lab residence. In order to make the scene as realistic as possible, we enlisted the help of a former crime scene technician to help stage the scene.

Murder mystery participants were encouraged to search all areas of the house, so having a technician on scene was beneficial to make sure that we placed items in realistic places. For example, our murderer used a firearm and killed five victims within the home. Our technician verified the placement of the bullet holes based on the location of the bodies to ensure the trajectory of the bullets was accurate. She also helped set up the small bedroom where the counterfeit pills were being packaged and distributed, creating a powdered mixture of baking soda and placebo pill powder that was meant to represent fentanyl. Her assistance in the creation of the scene was vital to getting the small details correct, and many participants discussed how realistic everything felt when examining the crime scene.

### *Spreading the word*

Our university marketing team was crucial in the promotion of the event. We created fliers and logos for the murder mystery that they helped distribute. Event management staff were also vital in the creation of a registration website which allowed participants to purchase tickets in advance of the event and the staff helped us organize on-site registration as well. By hosting the event during our university's homecoming week, we were able to increase event visibility through the homecoming website, promotional materials, and the increased number of students and families already on campus for other events. This collaboration helped increase our attendance as evidenced by the substantial number of walk-up registrations.

### **Outcomes of the Event**

The primary goals for this event were community outreach, education, and exposure for our department and our academic programs. Our department also wanted to use this event to increase student enrollment and to explore new initiatives that could possibly bring in revenue. The murder mystery did not end up being a self-funding event. The ticket price was \$5 per person, and we sold 190 tickets, bringing in a total revenue of \$950. This revenue was not enough to cover the total event costs that were provided for us by the UT Tyler's College of Arts and Sciences, but this was in part due to the low cost of the tickets and the rental fees involved in bringing in the manufactured home and pavilion spaces. If the event was done in an existing building, these set-up costs would have been substantially lower, and we believe that future renditions of this event in a permanent building would generate profit for the department.

We did achieve our goal of building community recognition of our department, an outcome which we hope will continue to increase our student enrollment in future semesters. We purchased a Facebook ad for one of our event posts, spending \$40 to have the post highlighted across our region for the month prior to the event. During this campaign, our Facebook post reached over 13,000 people and our Instagram post reached almost 350, providing us with numerous new followers for our department page and expanding our community outreach. The murder mystery was also given media coverage from three local newspapers and the UT Tyler radio station, further expanding our department's visibility.

### *Participant and Volunteer Outcomes*

In order to help us better understand the impact of the Murder Mystery at UT Tyler event, we sent follow-up assessment surveys to all participants (N=190) and student volunteers (N=15). Our IRB approved the study

as an exempt research study. The participant survey included questions measuring the participants' satisfaction with the event as well as identifying whether or not they had correctly solved the crime. Twenty-one participants (11%) completed the participant survey. The survey sent to student volunteers included questions measuring the student's experience and their perception of the educational benefit of this event. Seven students (47%) responded.

#### *Community Member Outcomes*

Sixteen participants (80%) reported that they solved the crime and identified the correct suspect. A majority of participants stated they were very satisfied with the ticket price (91%), activity booth area (91%), the crime scene set up inside the house (91%), and the suspect interviews (80%). When asked whether the participant learned more about criminal justice and forensic science from the event, fifteen participants (71%) strongly agreed and the remaining six participants (29%) agreed. Eighteen participants (86%) stated they would like to participate in the murder mystery event again. The qualitative feedback was also positive and supported the educational nature of the event.

*[In response to 'What was your favorite part of the event?'] "Having a fun educational experience for my older children. They are now interested in Criminal Justice."*

*"Thank you for sharing this information with the public - I think we get comfortable with the idea that crimes are solved in tidy little packages like in the movies or tv shows, and it makes people too eager to "armchair quarterback" actual cases they see on the news."*

*"Thank you all SO much for letting our students go through! They all loved it! They learned much! They enjoyed hypothesizing on the crime and all parts."*

*"Once I made the reservation, I had to change the time and it was handled very easily. The entire event was well worth the time and handled very well. It was impressive. Thank you for hosting."*

#### *Student Volunteer Outcomes*

Five students (71%) strongly agreed that the community benefited from the event and that the event provided educational information to the community, while the remaining two participants (29%) agreed to both statements. Four students (57%) strongly agreed and three students agreed (43%) that the event enhanced concepts they learned in their own criminal justice and forensic science courses. All seven students (100%) agreed they

would volunteer for this type of event if held again, with six students (86%) also agreeing that they would attend as a participant if given the opportunity.

One student outcome we did not measure, but is likely to have occurred, is the impact of the murder mystery event on the students' ability to conduct their own mock crime scene investigations. Many of the volunteers from this event were enrolled in our Crime Scene Processing course, which concludes with a mock crime scene final project. The mock crime scene took place in the same manufactured home that was used for the community event, but the scene was altered so that students had a different scenario. By assisting community members in their quest to solve the mock scene, students were engaged in an experiential learning activity that likely helped them succeed in their own learning assessment (1). We encourage readers who plan to host similar events to consider adding this outcome variable to their evaluation instruments.

#### **Future Directions**

The Murder Mystery at UT Tyler was the first opportunity we have received to showcase our Criminal Justice and Forensic Science programs to the general community. Based on the positive feedback received, we hope to host a community-oriented event at least once a year. In the meantime, we continue to seek funding for a permanent crime scene house on campus. Approximately 75% of our event budget was spent on rental items, including the accessibility ramp, tables and chairs, portable bathrooms, and pavilions for the outdoor areas. A permanent building would eliminate a large majority of those rental needs, allowing us not only to provide more simulations for our UT Tyler students but also to host more events for our community members without incurring high rental fees each time.

It is also possible to create a crime scene in more general locations on campus, such as reserving vacant classrooms, hallways, offices, or even large meeting spaces. These locations can serve as an alternative to securing a manufactured home like we did, but they would require more ambition to turn into a mock residential space due to the lack of a traditional home layout. You could also consider doing scenes that were more appropriate to the specific location. For example, when we did our very first mock crime scene for our students, we utilized the building hallway, student lounge center, and a faculty office for our crime scenes because that was all that was available. To better fit the surroundings, we developed a crime scenario involving student study groups and students stealing test questions so as to make the scene appropriate for the setting. If you wanted to set up a clandestine laboratory scene, you could use a laboratory classroom or a dorm room. You could also use a dorm room or computer lab to set up a

cybersecurity threat or other technology-based scenario. If planning a physical crime scene is not conducive to your university, there are multiple ways in which you could plan one through photographic or virtual means (8, 9, 10). In terms of event planning, this would reduce the logistical requirements for a community event. The important thing is to try and remain consistent with your scene and your setting so as to add to the realism.

In addition to serving our students, consistently hosting events on campus would also provide additional revenue generating opportunities. Like we mentioned earlier in the paper, our murder mystery event cost \$5 per ticket which is relatively low. Future events could charge more per ticket as a way to generate additional revenue for the department and as a way to help offset the cost of event planning. Hosting routine murder mystery events could allow for the integration of specific themes throughout the year such as hosting a Halloween themed murder scene or a Christmas themed one. This variability allows for participants to return for additional events while still experiencing new scenes and scenarios.

Because our murder mystery event was limited to one weekend day, we did not do extensive outreach to the K-12 schools beyond advertising the event with high school counselors. However, we had several high school groups come through the event and based on their feedback, we recommend offering additional weekday opportunities specifically for K-12 groups to participate. However, you would need to be cognizant of the participant age group, creating scenarios that are easier and more age-appropriate if you choose to invite elementary and middle school groups to the event.

Finally, at the end of the events we would consider further evaluation of all participants and volunteers about the event itself. Although we did incorporate a short feedback survey, we had a limited number of responses which was likely due to the online nature of the survey and the time in which it was sent out. Future events would benefit from surveying participants on-site and more immediately following the event. This would provide increased feedback from participants as a way to improve understanding of participant experiences.

## Conclusions

The Murder Mystery at UT Tyler event serves as a great example of an event that can educate both your community and your students. With some creativity, departments could host a murder mystery event to coincide with new student orientation, homecoming events, or at other times as a way to recruit new criminal justice/forensic science students. Creating an event like our Murder Mystery at UT Tyler is also an ideal way to create interdisciplinary partnerships with other departments on campus. For example, if your university has the means to do so, the Chemistry department would

be a vital resource for evidence testing such as providing mock toxicology screens or even testing illicit substances found at the scene. If your university has a theater program, consider using those students to play the role of victims, suspects, eyewitnesses and more. Your university's communications or journalism programs could provide mock media coverage at the scene as a way to interview your technicians or to observe the event as it happens.

As is well documented, social science programs are typically less funded than STEM programs (1), so we recognize that there will be financial constraints for these types of events. While we tried to make our event as large as possible, you can design a smaller scene in an empty classroom, hallway, vacant office, or even in a residence hall if your university consents. However, if you have the means to host a community-wide event we strongly encourage you to do so. As evidenced by our participant and student feedback, this was a worthwhile event that provided positive exposure for the department and the discipline as a whole. Overcoming the constraints associated with hosting a murder mystery event can lead to a well-organized event that allows for significant community engagement and provides a way to disseminate the efforts of your program to the greater community as whole. We hope that our paper has provided ideas of spaces and scenarios that you can use that would be appropriate to your college and budget.

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