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## Virtually Escaping a Challenging Semester

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## Virtually Escaping a Challenging Semester

### Cover Page Footnote

The author would like to acknowledge Dr. Roxie Stewart, Dr. Greg Smith, and Dr. Scott Baggarly for their vast contributions in developing and implementing this lab activity. Thank you to Dr. Jeffery Evans for his mentorship and support of this project. Thank you to Dr. Paul Sylvester and Dr. Glenn Anderson for their acting roles in the escape room video and support of this project. A special thank you to Daryl Wolgemuth and Christy Yates for volunteering their time and talent to film and edit the video. This lab activity was made possible by a faculty research support seed grant from the ULM COP.

### Virtually Escaping a Challenging Semester

In the Spring of 2019, faculty from the University of Louisiana Monroe College of Pharmacy (ULM COP) developed a novel escape room game to be used as part of the Pharmacy Practice Integrated Laboratory Sequence (ILS). Escape room games are “live-action team-based games where players discover clues, solve puzzles, and accomplish tasks in one or more rooms in order to accomplish a specific goal (usually escaping from the room) in a limited amount of time” (Nicholson, 2015). Nicholson (2015) notes that escape rooms have become a popular team building activity. Serious games, including escape rooms, have been utilized in higher education (Monaghan and Nicholson, 2017). According to Cain and Piascik (2015), the most common area for serious game use is in health professions education. An independent company, Breakout EDU™ ([www.breakoutedu.com](http://www.breakoutedu.com)) has popularized the use of escape room concepts in education by developing escape boxes. Escape boxes are self-contained games based upon escape room concepts with the intent to be used in the classroom (Monaghan and Nicholson, 2017). Using the escape box model, an activity was developed that allowed students to review important skills learned throughout their ILS sequence while playing an interactive, fun, and engaging game.

#### **Description of Activity**

The ULM COP provides a six-semester pharmacy practice laboratory sequence for students from the first professional year continuing to the third professional year, ILS I through ILS VI. In the first year of the laboratory sequence, students complete activities and assignments related to community/retail pharmacy in preparation for community/retail introductory pharmacy practice experiences (IPPEs) that are completed the summer between the first and second year of pharmacy school. The second year of the laboratory sequence prepares students for successful completion of hospital IPPEs by focusing on activities and assignments related to hospital pharmacy. The

hospital IPPEs are completed the summer between the second and third academic year. The third and final year of the laboratory sequence prepares students for advanced pharmacy practice experiences (APPEs). The students' final year in the pharmacy program is comprised of APPEs. APPE preparedness was the focus of this escape room game delivered in ILS VI. In our escape room scenario, the dean of the COP was locked in a lab while trying to stop a mad scientist from carrying out an evil plan. The students were tasked with breaking into a locked box that contained the key to release the dean. A video to introduce the scenario was filmed using pharmacy faculty as actors. Students earned game clues by successfully completing APPE readiness skills stations. At each station, students could earn one clue that would help them decipher puzzles to discover the codes needed to unlock the box. The goal was to be the first team to unlock the box and free the dean. The skills stations completed during this activity were as follows; station one: pharmacy calculations, station two: drug information fishbowl, station three: blood glucose assessment, station four: blood pressure and atherosclerotic cardiovascular disease (ASCVD) risk assessment, station five: medication error recognition, station six: prescription dispensing/counseling, station seven: immunization, and station eight: pharmacist patient care process (PPCP) development. Stations were set up in our pharmacy practice lab in counseling rooms, conference tables, the mock pharmacy, and simulation center. The escape room was studied by gaining feedback through student and faculty surveys to determine whether the game had an effect on perceptions of engagement, teamwork, and skills confidence. The "escape lab" was a success in many ways. Student and faculty perceptions of teamwork and engagement increased. Feedback from students on end of the semester evaluations was overwhelmingly positive for the escape room game.

In the Spring of 2020, COP faculty were eagerly looking forward to presenting the “escape lab” activity to a new cohort of students. Unfortunately, due to the Phase 1 lockdown of the State of Louisiana because of COVID-19, students and faculty were unable to be on campus during the time when the escape lab was scheduled. Rather than canceling the lab activity, creativity flourished and the “escape lab” was developed into a virtual experience. Students and faculty logged into Zoom®, a video conferencing software, during the scheduled lab sections. Students were shown the previously produced video as an introduction to the escape room game. Students were then assigned to breakout rooms to work in groups to earn the clues needed for the game. This year, instead of completing physical skills stations, students worked together to complete quizzes through Moodle™ learning management system. The students were assessed on knowledge of APPE skills including prescription error and omissions, blood glucose assessment, pharmacist patient care process, immunizations, and pharmaceutical calculations. Teams were required to pass each quiz with an 80% to open the clue and move forward to the next quiz. After all quizzes were complete, students were given the link to a Google Form™, a survey administration software, that contained the escape room puzzles. A code that was found by deciphering the puzzles and corresponding clues was used in the Google Form™ to unlock each subsequent puzzle. After a series of 5 puzzles the final page of the form revealed they had found the key that would unlock the door to release the dean. Students recorded their time to complete the Google Form™ and the team with the shortest time was declared the winner.

### **Discussion**

Utilizing Zoom®, Moodle™ quizzes, and Google Forms™ allowed this activity to be delivered in an online format. Although the students were not in the same physical location, using these technologies allowed the quarantined students to participate in the escape room activity. We

learned that there were some benefits to offering the “escape lab” virtually rather than in person. By using Moodle™ quizzes to assess the skills, fewer faculty were required for the virtual version. Rather than having a faculty member at each station to assess the students’ skills, the quizzes were graded upon submission. Restrictions were used on the Moodle™ quizzes to ensure that students competently completed each quiz before moving on to the next quiz. Groups were given unlimited tries to reach the 80% grade required for each quiz. All of the documents needed for each skill station were posted in Moodle™. Posting the documents rather than printing the documents saved resources. There were some challenges experienced in delivering the activity virtually. The video that was shown through Zoom© did not come across to the students seamlessly. There was some lag time, but the students were still able to see the video and understand the scenario. Students were not able to visually demonstrate skills such as blood pressure assessment and counseling, but rather demonstrated competency through knowledge of the skills. Lessons learned from the in-person and virtual delivery of this activity will be used for future lab development.

### **Results**

Eighty-three students participated in the virtual escape room activity. Fifty-nine students completed an optional post-lab perception survey. One hundred percent of responding students agreed or strongly agreed that the activity was engaging and fun. One hundred percent of responding students agreed or strongly agreed that the lab activity reinforced skills and knowledge that will be useful in pharmacy practice. Ninety-three percent of responding students agreed or strongly agreed that they would like to do more labs in this format. Below are several anonymous quotes from students provided in the post-lab survey.

“It was great!”

“Loved the idea and the videos. Very fun lab”

“It was a different way of reviewing important information, and it was given in a fun way.”

“It was such a fun and creative way to implement team-based exercises while assessing skills relevant to the practice of pharmacy. 10/10 would do again!”

“This was so cute & so much fun!! I appreciate the effort all of you put in to make the videos & cases. Whoever came up with this idea deserves a raise.”

“This was very fun and interactive. Even though we couldn't have done it live during class time, it was still very fun and engaging. Working through all the activities allowed me to see all the lessons that we have done during our 3 years of Lab into one activity.”

“I believe this was a fun low stakes activity that really engaged the students. I think it could be implemented in all 3 years towards the end to re-enforce what was learned throughout the semester.”

“It was really fun to complete these different reviews. I also realized what material I should go back and give more attention to before going to rotations.”

“I really enjoyed this lab because it helped refresh many skills we don't use that often until we get out into practice. I was able to identify areas where I'm strong in and also areas of improvement. I was fully engaged and I like how the multiple ULM faculty put forth effort in making this lab great. I wish we had more labs like this one. GOOD JOB ALL!”

### **Conclusion**

The work that was put into developing the escape room and subsequently redeveloping it virtually was worth the effort. As evidenced by survey responses, the students appreciated and enjoyed the experience. This lab will be utilized for years to come and can be modified with new and emerging skills required of pharmacists. Delivering the “escape lab” virtually was a learning and growth experience for the faculty, but we are thankful that it was able to be accomplished. As one of the

final labs of the ILS sequence, the author believes it was a great way to “virtually escape” from a stressful and challenging semester.

### References

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