Creating an Academic Library Escape Room: An Outreach and Assessment Experience

ARTICLE

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ABSTRACT

An escape room encourages participation within the library while offering a fun and cost-effective experience. Academic librarians initially apprehensive about creating and advertising an escape room will find, as evidenced in this paper, that the benefits far outweigh the challenges. This article describes the efforts of a small, four-year, public university library and the lessons learned for improving the outreach experience and altering content to fulfill more diverse needs found pre- and post-pandemic.

KEYWORDS

Problem Statement

Our library desires students and the larger university community to utilize the library and participate in outreach activities; however, we have struggled to attract this participation. We would like to know whether our promotional efforts are reaching our target audience and what outreach activities are appealing to our university community.

Introduction

Academic libraries, often referred to as the heart of the university, are places of refuge for students. Walking through a campus library, one will find students working alone or with classmates on projects, papers, and research. These patrons of the library may even find avenues for relaxation and entertainment in the collections of books, movies, and games, or other resources the library offers. It is a place where a student can thrive as they chart their course in academia.

However, not all students recognize the benefit of the library or the librarians who are ready to help. Some students seem to fear of the complexity of a library and approaching a librarian to ask for help. Others might believe the library is a boring place with nothing to offer; they may feel they can complete their studies without the assistance of the librarian. Still, many are simply unaware of what the library has to offer. Understanding these barriers have prompted many libraries—including ours—to create outreach programs that will engage students as well as the larger university community. Our library strives to create outreach programs to connect; however, it is difficult to determine which outreach programs will be appealing, especially with budgetary constraints. It

is also challenging to ensure the advertisements for the program reach the target communities.

This document will share our process for examining whether an escape room might be a viable option for our outreach. We will examine the promotional strategies we employed, and which were or were not useful in reaching our target audience. The original idea for an escape room was successfully implemented prior to the pandemic. This paper will provide suggestions for adjusting the program to better accommodate proper safety precautions during and after the pandemic, and to give improvements learned through feedback and observation. This detailed account of lessons learned provides a template that can be modified to fit a library's needs should other institutions choose to create an escape room.

Literature review

There has been a growing interest in leveraging escape room popularity in libraries spreading to all types of institutions across the United States. In 2016, Katie O'Reilly published an interview with Karissa Alcox, a youth librarian at Fort Erie Public Library. Alcox provided a compelling reason to consider escape rooms by stating simply, "It takes place indoors, and you don't need much aside from some locks and props—a library can afford to do it" (O'Reilly 2016, 14). Ouariachi and Wim (2020) point out how an escape room is the type of activity that provides opportunity for group collaboration, critical thinking, and motivation for teamwork while solving problems to escape the room. Kroski published the book *Escape Rooms and Other Immersive Experiences in the Library* in 2019 after we had already researched and created our Escape Room. We have found that several of the points made in this book directly support our design. These points, along with identified elements for improvement, will be mentioned throughout the paper.

Several university libraries have turned to escape rooms for freshmen orientation activities. The University of Surrey library (Wise et al. 2018) and the Kreitzberg Library at Norwich University (Veach 2019) have successfully adapted the escape room concept to reach incoming freshmen during their first-year orientation. By gathering qualitative feedback from new and returning students who participated in their escape room event, Wise et al. (2018) reported that their escape room achieved its three intended goals: raising awareness of the library and what it offers, teaching basic information skills, and encouraging student engagement with the library. Veach (2019) conducted their assessment through observational forms filled out by facilitators and through post-orientation surveys filled out by freshman students. The library at the University of North Texas chose to create an escape room that was geared towards "helping students learn basic library literacy skills and encourage engagement with libraries and librarians" (Kincaid, DeWitt-Miller, and Robson 2016, Slide 4). Of 250 participants, 170 completed surveys showed the room was a success in teaching students basic library literacy skills and encouraging engagement with librarians.

In 2018, *The Southeastern Librarian* reported on D.H. Hill Library's escape room and 3D scanning studio (SELA 2018). The escape room was designed by library staff as an alternative to scavenger hunts. The experience was fun and challenging for participants while showing off key library resources and technologies and promoting library literacy. Groups of up to five individuals could register to solve puzzles with cameras, tablets, and other gadgets. Mirasol and Walker (2020) of Wichita State University Library, chose to create two escape rooms that would "give patrons hands-on experience with unique collections that they may not be aware are housed in the academic library"

(323). While the two rooms were created at different times with different themes, they were both beneficial in showcasing the special collections of the library and in encouraging future engagement and research (Mirasol and Walker 2020).

Virtual escape rooms are trending in libraries as they have a greater ability to reach patrons and are available at any time. The terms "virtual" and "online" are used interchangeably within our research paper to describe rooms/activities made available entirely online. This is not to be confused with "virtual reality" games which require special equipment for the experience and potential software development.

Virtual escape rooms became very popular during the COVID-19 pandemic due to the inability of students to attend normal library outreach events and instruction sessions. An example of creating a virtual escape room out of necessity is found at the Stony Brook University Library. Kretz, Payne, and Reijerkerk (2021) detail the experience of using a multitude of interconnecting Google online tools to create a virtual escape room to supplement library orientation for new students who could no longer visit the physical building. While the creation of the virtual escape room was challenging "from a curation and a planning standpoint," the authors were still satisfied with the overall outcome and found that students were largely positive in their feedback obtained through a feedback form (Kretz, Payne, and Reijerkerk 2021, 285). This prompted the authors to relay the value of designing these and other types of interactive gaming experiences.

Research questions

RQ1. How can we design an outreach activity to engage with our university community?

RQ2. Which avenues of promotion reached the target audience?

RQ3. Was the outreach activity successful and can it be repeated?

Preparations

Background

Escape rooms are an excellent avenue for entertainment. By design, they are mysteries needing to be solved. Often, they require participants to physically search a designated area for items and clues and to solve riddles, puzzles, and other conundrums to "escape" the room. Lama and Martín (2021) provided the following definition: "An escape experience is an immersive team-based game, the objective of which is to escape from a room within a given time" (2). Escape rooms can be physical or virtual and can be modified to fit almost any theme with the goal of teaching, encouraging community or teamwork, fostering connections, or for the pure purpose of entertainment. Our library recognized the great potential for outreach that escape rooms offer as seen in the literature review, and we chose to create an escape room for National Library Week (NLW) in 2019.

Creating an escape room has many moving parts and requires learning through trial and error. This paper will identify and expound upon the importance of teamwork, organization, research, and authorization in creating any outreach program, including an escape room, and the significant amount of interaction and engagement with the target population that is achieved through this type of activity. Understanding the finer points of an escape room includes providing adequate time for promotion, creation, execution, and evaluation, which are all vital to the success of the room.

Authorization and Research

NLW was first sponsored by the American Library Association (ALA) in 1958 to celebrate and promote libraries; it is a tradition that has continued within our library and in libraries across the nation (2023). NLW was the perfect opportunity for our library to create a fresh and exciting outreach program. A committee was formed of five volunteer staff members and the outreach librarian. Reading about the escape rooms of other libraries helped the committee understand the scope the room could offer and the need to keep the room running smoothly; however, experiencing a professional escape room provided the emotional context experienced by participants and a greater understanding of the placement and flow of clues within the room. It also helped to encourage team building for our committee.

It would be inadvisable to take on a large project like an escape room without the support of one's supervisors. Helping administration understand the idea and vision for the escape room will go a long way in securing support. The committee approached the dean and assistant director of the library with the necessary research. We pointed out that attending a professional escape room would create an opportunity to interview professional escape room employees about the logistics of running a room. With the support of our dean and assistant dean, the NLW committee was able to secure the funding needed to attend and experience a professionally designed escape room during work hours. This was an invaluable step in our process towards understanding how an escape room functions and how to create a room with a few of our own surprises.

Funding and Marketing

Building an escape room for our patrons required creativity, collaboration, and funding. We were able to engage with and get financial support from our campus community by presenting the idea to several campus entities and supporters of previous library initiatives. Funding provided the money for marketing, clues, and other items that helped us build the room. It was also a great way to market the library as a place for creative ideas, collaboration, and team building. We received funding and support from the Office of Student Affairs, the Diversity Committee, the Career Services Department, the Alumni House, and the University Archives. Our final budget including donations was $500.

Potential donors understood this event to be an opportunity for effective student engagement in learning. By participating in a playful and fun activity, students can start to overcome possible library anxiety and change the perception that the library is a place for books, study, and technology only.

Funding is important because it determines the extent of development for the escape room, props, and promotion. The financial support we received from our funders was used to purchase props that included locks and keys of differing varieties, a magnifying glass, a magnetic extender wand, a toy construction crane, an ultraviolet flashlight and pen, and a lockbox with a keypad for entering a code. An escape room board game was purchased as a grand prize item awarded through a drawing at the end of National Library Week.

Funding is also useful in marketing. The first major promotional item created was a flyer detailing the escape room event. Creating a flyer (figure 1) had its challenges but was essential, since it was going to serve as the template for all physical and electronic marketing outside of social media. Canva was our most-used tool for creating the promotional materials. To create an influential flyer, use images in your flyer that clearly represent the theme of your escape room. Our escape room was fashioned to look like a cozy office or library. A

magnifying glass, lightbulb, keys, lock, and book were all images used in the flyer. The colors (muted with dark browns, creams, and black) helped to give a feel of continuity and mystery, with shadows and darker tones adding to the effect and lighter tones keeping it from looking too dark or difficult to read. Many of these same elements were used in the bookmarks, the website banner detailing sign-up information for the escape room, and the TV digital displays in the library and student union. There were enough colors and images to be eye-catching, but not overwhelming.

With multiple people on a committee, there will be those with different styles and color preferences. It is essential to be open and understanding when working on a design as a group. Often the most uncomplicated and straightforward message comes across best. When creating a flyer, we have found that no more than three colors and two different fonts are good guidelines to consider. Kasperek (2014) notes that a choice in font "has a voice" which "creates a tone" for the reader (50). For the content of the flyer, we included the name of the event, a daring question to "hook" the reader, the dates and times the event would be offered, how to reserve a spot, a special thank-you to a major sponsor of the event, and the logo required by our institution. Keep the flyer simple but informative to get the message across quickly and effectively. An essential lesson learned for marketing is time management. In our case, our printing service provider was accommodating several large orders, which caused significant delays in printing for some of our promotional materials.

Figure 1. Promotional flyer created for first escape room event.

Creating the Escape Room

The Story: Theme and Storyline

To decide on a theme and storyline, choose a setting for which you already have many of the props, and consider a storyline that will draw in a wide audience. After you have completed your first escape room and have cemented the experience with your audience, then you might consider a more diverse array of themes. For our first escape room, we chose a library setting with elements that would easily be found in an office or library. This was to ensure that the escape room was suitable for our target audience who may be unfamiliar with escape rooms. Another factor we had to consider was that the thriller movie *Escape Room* (Robitel 2019) had recently been released and had some of our target population on edge. Several students and staff had to be reassured that they would not actually be locked in the room. Once we reassured them that it was not allowed since it would be a safety hazard and that they could get out at any time, they became visibly calmer about the idea of participating.

A library or office setting was practical because we had many props available from our work surroundings and from our personal collections that could be used at no cost. This gave us the ability to make the room feel furnished with a natural and inviting atmosphere while staying within a limited budget.

Our professional escape room experience included an introductory video, which provided a story for why the room would be entered, searched, and eventually escaped. The context and excitement felt while watching this video inspired us to create a story for our own room that would build anticipation and give purpose and direction towards escape. In developing the storyline, we kept in mind the location, limitations, and related history, and we researched our story to ensure authenticity. The narrative evolved as a result of our discussions until we felt the story was believable and well-rounded for the participants (see figure 2). We held meetings in which we discussed the story and whether it was too long or short, whether the ideas were something that made sense, and whether the content was believable. We didn't want the story to be too long such that participants would become confused or bored by the details; nor did we want it to be so short that it failed to establish the purpose for being in the room. We also wanted to keep an element of mystery that would help to hook the participants and be exciting. This is why we chose a storyline that includes a donor since the university has a donation process we could follow, and it helps to make the scenario believable. In the storyline, the donated amount was for the library, which helped tie in the location and theme of the escape room. A large sum of money was referenced in the hopes that it would provide intrigue for participants to search for this hidden "treasure." We developed the story first, and then created puzzles and props afterward. The introductory video mentions the phrase "chart your course," which was intended to tie in with one of the room's props, a globe, though participants did not need to make this connection in order to find the associated clue. Finally, the video was created and recorded using PowerPoint slides with the voice recorder, slide transition timer, and slide animation feature.

> Before his death, Dr. Odo Sun was a benefactor and admirer of both Delta State University and its library. He was a man of means who loved puzzles and codes and enjoyed time spent with friends solving mysteries. Dr. Sun decided to invite university members to join him in a night of sleuthing by solving puzzles to lead them to the hidden treasure; a ten million dollar check for the library.
>
> Sadly, Dr. Sun perished before the festivities could commence and the bank will not cash a check after 10 days of the issuers passing. This deadline is quickly approaching. Your team has been tasked with solving the room with clues Dr. Sun left behind to help "Show the Path". You will "Chart Your Direction" using the "Clues" to find the missing donation before time runs out!

Figure 2. Escape room storyline and introductory video link: https://youtu.be/MV47WG3UZi0

The Setting: Location, Location, Location

The room chosen stood out because of its availability and location, with multiple exits and an open work area. The room was in a secluded spot so that the noise level was better contained and other library patrons would not be disturbed. With the location in a corner of the library building, traffic could be controlled to help verify who was coming in and leaving the escape room. The room had two doors—one for entering and one for exiting—which made it easier to have participants enter through one door and exit out a different door, where they would find a photo and prize station. The room was naturally divided by a large set of lockers. These lockers became a natural wall for our

room and divided the large room into two sections, providing a smaller, more manageable area for the escape room activities and another area for the group to watch the video before entering the room.

The room area influences the size of the groups. The larger the room, the larger a group can be. However, there must be enough clues that allow each person to participate in the room. Otherwise, some members may stand around watching while others attempt to complete every clue. Smaller group sizes in a more contained room encourage all members to participate without feeling overwhelmed by the room or group size. This is another reason we focused the escape room in one of the sections divided by the lockers and did not place clues on both sides of the lockers. This kept the room small and manageable.

The size of our chosen room and the door and hallway placement were excellent for our needs and worked well with our groups. As participants progressed through the room, there was interaction by all the members at different stages. A few of the groups were more subdued in their expression while others were extremely active and vocal. Through our observations, we found that six-member groups are manageable, but five- or four-person teams may be beneficial to further encourage participation by all members, especially for individuals that may be overwhelmed by a larger group size.

The Scene: Room Dynamics and Props

Creating an atmosphere is necessary to contribute to the excitement for a new experience while still being in a familiar building. Since the entrance and exit were on the same wall, we set up a dark curtain to block participants' view as they first entered the room (figure 3). This would add to the suspense as the participants walked to the chairs where they would watch the video detailing the storyline. We were inspired to use a curtain, as well as many of our props and clues, by O'Reilly (2016), who described the use of tablecloths, curtain rods, and other items to divide the room into smaller spaces. To enter the escape room, the students walked through a makeshift doorway blocked by another curtain. Once they walked through, their time would begin. They had forty-five

Figure 3. Pictures of the escape room with clues and props scattered throughout the room.

minutes to find the clues and escape the room. One of the members of the NLW committee would sit in the room near the entrance to provide clues, keep an eye on props and the handling of props, and to be ready to receive the final clues/items that would allow the participants to "escape" (figure 3). One lesson learned occurred with the very first group. The room was silent, and the participants appeared hesitant to talk or make noise. Turning on soft music helped to alleviate the tension and encourage participant interaction.

Props are extremely useful in creating a desired atmosphere and contributing to a storyline or experience. Our props were specifically chosen to do three things: add theme or atmosphere to the room, help hide clues, and direct and assist participants. Enhancing the theme of the room included adding a rug, two bookshelves with books and figurines, and a globe. We outfitted the room with a podium and dictionary, a table and chairs, and two lamps. The lamps, tissue-box holder, and vase were book-themed to enhance the library atmosphere. A jacket on a coat rack added to the feel of a well-used room. We also placed a corkboard with pencil and paper in case participants wanted to take notes. The magnifying glass, magnetic wand extender, and mirror wand extender were each made available in the room to help with participant accessibility.

We included a box for participants to place locks, keys, and other clues they found and no longer needed. This was to encourage the safekeeping of these items throughout the sometimes-frenzied experience. Finally, we printed older images of the university library, past librarians, and students gathered from yearbooks and other publicly available data to decorate the walls in the space. A large space was left in the center of the main wall to allow for a screen with a timer to be projected onto the wall. This required a projector, hooked up to a laptop, with a timer video already prepped and ready to display.

The Suspicions: Clue Design

Once a story is settled on, the next step is to begin working on the clues. First, determine your paths and where you want the patrons to go. By starting with that, you can be imaginative when creating clues to fit your path needs. The NLW committee found that flowcharts really helped them visualize, understand, and remember the details discussed (figure 4). Kroski (2019) states, "The best way to begin the design stage is to make a flowchart of your game and its puzzles" (75). The Fairfield (Connecticut) Public Library and the University of North Texas Libraries both provided PowerPoints filled with steps, suggestions, and flowchart options for putting together their respective escape rooms; these were very informative as we planned our room (Scherer and Bucci 2016; Kincaid, Dewitt-Miller, and Robson 2016).

When developing your routes, begin your design by working backward. Start with your final prize or treasure and make sure that there are three or four paths and independent emergency routes. Independent emergency routes are an essential precaution in case a clue malfunctions or disappears. If you have the funds, buy a copy of each key or lock. Include some redundancies for a few paths, as well, in case something does not work out for the patrons or they miss a step. When imagining the paths, remember that simple is best. When in doubt, go with the easier route so that players do not lose confidence. Red herrings can be fun to include, but too many will frustrate your patrons. Most of your decorations need to have a purpose. If a room is overdone in meaningless decoration, expect the patrons to take longer in figuring out the clues and to grow frustrated as they look for clues in everything.
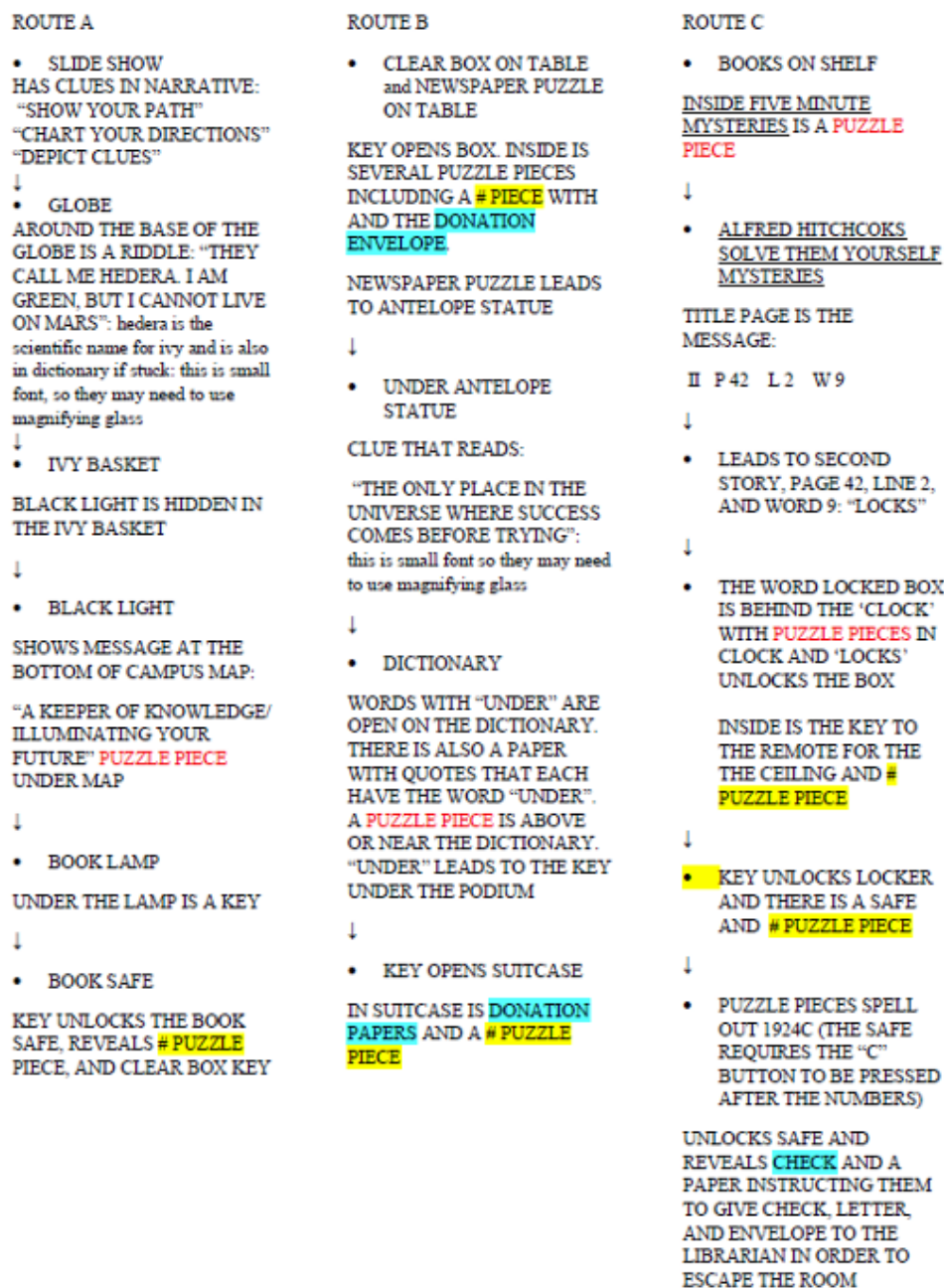
ROUTE A

- SLIDE SHOW

HAS CLUES IN NARRATIVE:
"SHOW YOUR PATH"
"CHART YOUR DIRECTIONS"
"DEPICT CLUES"

↓

- GLOBE

AROUND THE BASE OF THE
GLOBE IS A RIDDLE: "THEY
CALL ME HEDERA. I AM
GREEN, BUT I CANNOT LIVE
ON MARS": hedera is the
scientific name for ivy and is also
in dictionary if stuck: this is small
font, so they may need to use
magnifying glass

↓

- IVY BASKET

BLACK LIGHT IS HIDDEN IN
THE IVY BASKET

↓

- BLACK LIGHT

SHOWS MESSAGE AT THE
BOTTOM OF CAMPUS MAP:

"A KEEPER OF KNOWLEDGE/
ILLUMINATING YOUR
FUTURE" PUZZLE PIECE
UNDER MAP

↓

- BOOK LAMP

UNDER THE LAMP IS A KEY

↓

- BOOK SAFE

KEY UNLOCKS THE BOOK
SAFE, REVEALS # PUZZLE
PIECE, AND CLEAR BOX KEY

ROUTE B

- CLEAR BOX ON TABLE
  and NEWSPAPER PUZZLE
  ON TABLE

KEY OPENS BOX. INSIDE IS
SEVERAL PUZZLE PIECES
INCLUDING A # PIECE WITH
AND THE DONATION
ENVELOPE.

NEWSPAPER PUZZLE LEADS
TO ANTELOPE STATUE

↓

- UNDER ANTELOPE
  STATUE

CLUE THAT READS:

"THE ONLY PLACE IN THE
UNIVERSE WHERE SUCCESS
COMES BEFORE TRYING":
this is small font so they may need
to use magnifying glass

↓

- DICTIONARY

WORDS WITH "UNDER" ARE
OPEN ON THE DICTIONARY.
THERE IS ALSO A PAPER
WITH QUOTES THAT EACH
HAVE THE WORD "UNDER".
A PUZZLE PIECE IS ABOVE
OR NEAR THE DICTIONARY.
"UNDER" LEADS TO THE KEY
UNDER THE PODIUM

↓

- KEY OPENS SUITCASE

IN SUITCASE IS DONATION
PAPERS AND A # PUZZLE
PIECE

ROUTE C

- BOOKS ON SHELF

INSIDE FIVE MINUTE
MYSTERIES IS A PUZZLE
PIECE

↓

- ALFRED HITCHCOKS
  SOLVE THEM YOURSELF
  MYSTERIES

TITLE PAGE IS THE
MESSAGE:

II P 42 L 2 W 9

↓

- LEADS TO SECOND
  STORY, PAGE 42, LINE 2,
  AND WORD 9: "LOCKS"

↓

- THE WORD LOCKED BOX
  IS BEHIND THE 'CLOCK'
  WITH PUZZLE PIECES IN
  CLOCK AND 'LOCKS'
  UNLOCKS THE BOX

  INSIDE IS THE KEY TO
  THE REMOTE FOR THE
  THE CEILING AND #
  PUZZLE PIECE

↓

- KEY UNLOCKS LOCKER
  AND THERE IS A SAFE
  AND # PUZZLE PIECE

↓

- PUZZLE PIECES SPELL
  OUT 1924C (THE SAFE
  REQUIRES THE "C"
  BUTTON TO BE PRESSED
  AFTER THE NUMBERS)

UNLOCKS SAFE AND
REVEALS CHECK AND A
PAPER INSTRUCTING THEM
TO GIVE CHECK, LETTER,
AND ENVELOPE TO THE
LIBRARIAN IN ORDER TO
ESCAPE THE ROOM

Figure 4. Escape room flowchart

The Suspicions: Physical Clues and Puzzles

Our PowerPoint video was our "instructional item," which detailed the final
object that the patrons needed to find and gave them the first clue to start on
their journey. That first clue starts one path. Diversifying clues is vital because
patrons will have different detecting skills and learning preferences. Codes are
a type of challenge that can add an element of intrigue, and books are great for
code games with pages, sentences, letters, and words. We used a dictionary
opened to an underlined word to give a clue where to look next. We also hid
a letter in a book on a shelf that listed a code to decipher the passcode for the
combination lock. We created a jigsaw puzzle by laminating and cutting up a
newspaper article, which was a visual clue. We also included a map on the wall

with a hint written in invisible ink. Remember, spread out the key puzzle pieces around the room and include audio cues, visual pairings, ciphers, maps, and/or math. Be prepared to edit. While ideas for placement and format may work on a flowchart, they may not work in practice. Finally, Kroski (2019) advises clues to be supportive of the storyline. This is an area we can improve upon in the future. Some of our clues correlated with the theme, while others were chosen for their convenience. For example, while we might have found a puzzle with a library theme, the cost and time needed to find and purchase the puzzle would not have been conducive or even necessary when a child's puzzle is cheaper and easier to manipulate.

Practice Makes Perfect

When preparing an escape room, it is wise to conduct several practice sessions with different groups that represent your target audience. This will give you the opportunity to identify areas that are too difficult or easy for the participants and to adjust or add clues for areas where extra support is needed or has been missed entirely. Participants can also provide feedback for what they did and did not enjoy about the room, and it can be adjusted accordingly. This also gives the creators a chance to see the room play out in real life—from the effectiveness of the clues to feeling the energy of the participants as the timer runs out.

Six practice groups of between four and six library staff, faculty, student workers, and volunteer community members were willing to test and give feedback on the escape room. The committee were hoping to identify the areas that were particularly difficult for each group, as well as learn what was confusing, what was fun, and what was memorable. This was determined through observation during the practice sessions and through a debriefing after each session wherein participants could share their enjoyment and frustration. For example, several groups struggled to recognize the dictionary was open to the page starting with the word "Underneath," which meant they should look under the podium the dictionary was sitting on to get another clue. We chose to fix this problem by adding a note in the dictionary that had several quotes listed, each quote using the word "Under" in some way. The tests went well overall, and the changes made were useful. It was also helpful to see that each group was able to complete the room within the allotted time with some finishing faster than others.

The Escape Room

We created the room to be available for three nights during National Library Week. Each group would have forty-five minutes to participate. Fifteen minutes was devoted to resetting the room after each session. Each group was instructed to arrive ten minutes early so they could sign the consent forms and learn about the rules for the room; this also helped to ensure all members arrived in time to participate without causing unnecessary delays.

We chose dates and times for the escape room that benefited our patrons best. Each library is different. Look towards busiest periods and the reasons why those periods are more popular. Are classes usually out at a particular time? Is there a time that would work best for faculty and staff? Which days might elicit the most interaction? Would the weather encourage indoor activity? Reviewing use statistics, class schedules, and campus activities can help to decide on the schedule. The University of Wisconsin-Parkside Library chose to have an escape room in the spring to help provide an indoor activity as a fun alternative during the cold winter weather and to promote their new study room (Edson 2019).

Rules and Survey

The first step to our escape room was to enter the "Welcome Room," which was an open study room to the right of the official escape room. Participants checked in, left their belongings to be watched by the attending librarian, went over the rules, and signed a consent form authorizing picture- and video-taking and posting on the library's Facebook page and other social media sites or reporting avenues. See figure 5 for a list of the rules given to participants.

Escape Room Rules

1. Do not tear down pictures.
2. Do not topple furniture.
3. Do not break or tear anything in the room.
4. Do not break into a box that has a lock; solve the lock.
   If you force a clue out of a locked box, you will forfeit your time and you and your group will be asked to leave.
5. Professional rooms often allow up to three clues when the group needs help. This room will allow as many clues as needed; however, everyone must agree to ask for a clue.
6. The librarian will be sitting in the room with you in order to give a clue when it is asked for.
7. You will have 45 minutes to complete the room.
8. Do not use phones or other smart devices while in the room. Please turn phones off. All needed tools are provided for you. Please do not take pictures or video of the room.
9. Please do not share any clues or experiences you had in the room with others outside of your group and the library aides. We want everyone to experience the room with a clean slate.
10. Please let the librarian know if you need to exit the room for the restroom or any other reason. You will be allowed to reenter the room; however, the timer will not stop while you are absent.

Figure 5. List of rules given to each escape room participant

Upon leaving the "Welcome Room," participants were led into the large escape room, which was divided into two sections. In the first section, participants watched a video of the scenario, and the librarian gave additional guidance about completing the game. Professional rooms often allow up to three clues when the group needs help. In our room, participants could ask for as many clues as needed; however, everyone had to agree to ask for the clue before librarian would provide it. The second section was the main escape room.

After escaping the room, the group was led into a hallway where they were given goody bags and had their photo taken with a whiteboard that displayed their completion time for escaping the room. The participants were asked to fill out an optional post-game survey. Those who completed the survey were entered into a drawing to win an escape room board game. Once the group exited the escape room, two volunteer librarians or student workers reset the room. One lesson we learned about the survey is that it was helpful to encourage participants to fill it out before leaving. Having a computer and QR codes ready for easy access to the survey encouraged feedback, something participants are not as likely to provide later.

Challenges/Problems and Solutions

Scheduling, using, and resetting the room posed several unanticipated challenges. These included technical and software problems, user error, and lost or broken items. One of the first problems was with our chosen sign-up software system. Once a student signed up for a particular time, we would email students to confirm the time or to inform them if there was a problem. The system did not prevent students from signing up for slots that were already taken, even though the calendar would show it as full. The students simply did not pay attention to the calendar. Therefore, we were emailing students to let them know they signed up for an unavailable slot, and we tried to give alternatives. However, students failed to check their emails for confirmation (as instructed) and showed up for the event. We had to tell students the slot was not available.

If this happens, be direct with the patrons. Explain how the mix-up happened and provide them with options such as attending an open slot at a different time. Remain calm, be firm in explaining and enforcing the rules, and provide other flexible options if available. We were able to accommodate many students, but there were still a few we had to turn away. A sign-up system that lessens confusion may be worth the expense, though having students call or physically come in to verify their respective slots is another option.

Clue development in creating the room should provide flexibility so that clue paths can be tweaked independently of each other. A clue may get lost in the shuffle, or a key may get stuck. When this happens, simply remove the path(s) that is now unavailable or replace the clue with an alternative option. For example, during a room reset, we had a key get stuck in a ceiling panel and NLW committee members did not have enough time to retrieve it and reset that portion of the room. The decision was made to leave the key in the ceiling, remove one clue that led to the key, and overlook that specific path of clues. Be prepared for such scenarios and meet each one with patience and confidence.

A list will ensure that you put clues back in an order that will allow you to lock items before hiding the necessary key. For example, we had a locker that required a key to lock and unlock it. This locker key was hidden above the ceiling and would come down through a small hole when the students used a remote control. During practice we reset the room, put the locker key above the ceiling, locked the remote, and hid the remote's key. We did all of this before we realized we hadn't locked the locker with the locker key. We had to reverse several steps so that we could lock the locker. Our list helped to keep us from continuing to make this mistake and others like it.

Evaluation Data

Assessing your escape room allows you to analyze the overall success of the game and determine whether the intended objectives were met. The analysis of your escape room will provide useful assessments of the groups and give insight into the characteristics of players, teams, and tasks. Observations and surveys are often used for assessment of these types of activities. Observational methods may involve recording the participants as they go through the room, which would require their prior consent to be recorded. Surveys, on the other hand, involve asking participants questions before and/or after the event and would elicit everyone's perspective. We chose to use surveys after the event to gather assessment data due to familiarity with using basic surveys and the convenience of creating a survey without additional cost that may come with other forms of evaluation.

Players were given a link to complete the survey immediately after the event or at a later time. We designed the questions to provide feedback on how

they heard about the event, how they felt while going through the room, and whether they would participate in future library events. We wanted to know which marketing strategies were successful (RQ2), what they enjoyed about the game and what could be improved upon (RQ1), and whether they were interested in participating in more library events (RQ3).

Sample of Survey Questions
What classification are you (RQ1 & RQ2)? The classification question was important because it revealed the number of players by class level. From the survey results, 26 percent of the participants were seniors, followed by juniors and sophomores at 23 percent each (figure 6).

Participants' classifications
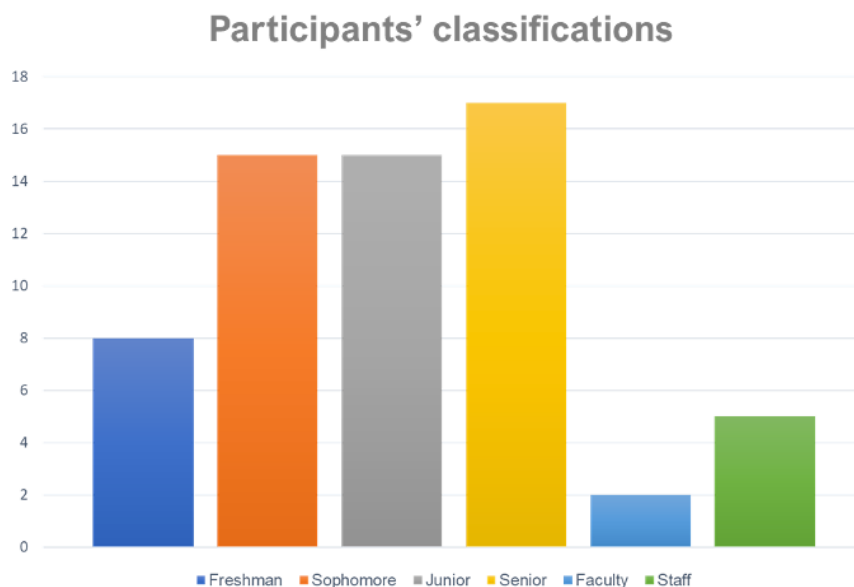
Figure 6. Participants' classifications.

How did you hear about this escape room (RQ2)? The survey showed that out of sixty-two respondents, 30 percent heard about it through faculty or staff members; 29 percent through an advertisement (Facebook, digital display, flyers, etc.); and 24 percent through a friend (figure 7).
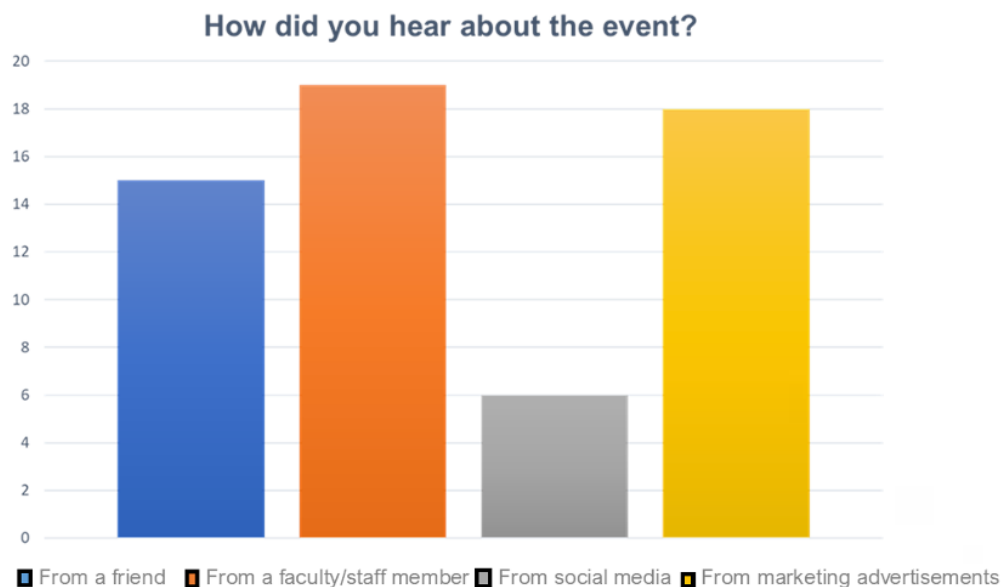
How did you hear about the event?

Figure 7. How participants learned about the escape room event as collected in a post-event survey.

What was the hardest part (RQ3)? Responses included the following:

"Finding the first clue and not knowing where to start"
"Find the clues that matched the quotes"
"Finding the keys"
"Finding the last lock"
"The numbers and acronyms"
"Figuring out the order of the combination of the safe"
"Finding the clues with the flashlight"

What did you enjoy the most (RQ1 & RQ3)? Responses included the following:

"My friend escaping and having fun"

"Having fun use teamwork to figure out the hardest clues and locating hidden objects. And mostly trying to beat the best team's time"

"The overall challenge and that hints were available"

"Honestly, enjoyed ALL"

"Working together with my group"

"Having to work with people I did not know before"

"Working with friends to find everything that needed to find"

"Dropping the key from the ceiling"

"All experience of trying to solve a puzzle with a group of people"

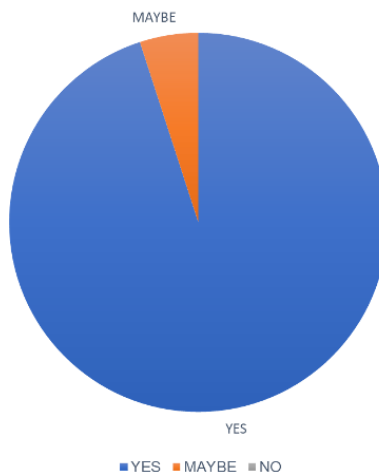**Would you attend future events at the library?**

Figure 8. Participants' interest in attending future library events as collected in a post-event survey.

Would you attend future events at the library (RQ3)? Ninety-five percent of participants who took the survey indicated they would attend future events at the library (figure 8). The overall rating of the game was 4.75 out of 5.

Discussion

When we first created the survey, the purpose was to get some basic feedback to help us know demographics of participants (RQ1 & RQ2), how the participants knew about the event (RQ2), and whether the event was successful (RQ1 & RQ3). Our committee was not as familiar with best practices for evaluation and our questions were not as informative as we now know they could be. However, we did elicit valuable responses and we made several observations that helped us to answer our research questions.

Learning the classification of the participants helped us to learn whether all classification levels had been reached or if there was a group that was missing, per RQ1 and RQ2. The survey showed that all four classification levels for students were represented, with seniors as the largest population. Faculty were the lowest population with only two participants who were from the library and helped with testing the room and the survey. We were thrilled to have two staff groups take part in the event as a team-building exercise, which they seemed to enjoy based on observations and positive comments made when they escaped the room. These results show that the event was appealing for most

of the university community, but we will have to implement changes with the event or marketing to boost faculty involvement.

Survey feedback helps us to answer RQ2. We know that over half of the respondents heard about the event through word of mouth via a friend or professor. We further learned that several of the students were offered extra credit from their professors for participating in the event. This is an option that we did not strongly consider when promoting this program. However, it may be a very useful tool for engaging students in future library activities, especially those new to the experience who may need more encouragement to take part.

A third of the remaining respondents seemed to hear about our event through promotional materials via Facebook, flyers, digital displays, etc. While they were informed of the event through promotional materials, we needed to be more specific with our question to identify which promotional material type was the most effective in reaching the population. This could also help us determine which format to allocate the most funding. For example, flyers and bookmarks were some of the biggest line items on the budget. The bookmarks were delayed in printing and were not available to use until the week before the event, which lessened their effectiveness. The flyers were available at an earlier date and were disseminated throughout campus about a month before the event. Wise et al. (2018) shared that a week or two of promotion does reach the target audience, but it is not a sufficient amount of time to fully promote the event. To determine which promotional strategy was most effective, a future survey would benefit from a question asking which promotional strategy influenced participation the most. This would allow for a much more efficient allocation of time and resources.

RQ3 and to a lesser extent RQ1 is answered in the affirmative by the 95 percent positive response for participating in future events. Also, the statements concerning difficult and positive aspects of the room helped us determine what improvements might be made and what aspects were successful. We were surprised by the number of participants who commented on how they enjoyed working with others to solve the room, even when the team was composed of strangers working together. We were also able to answer this question based on our observations of participants throughout the entire event. Many participants often expressed directly to us their excitement, satisfaction, and eagerness for this event to be offered again. This helps to affirm the value of continuing this type of outreach event in the future. While we learned that participants would attend future events, we realized that we should have asked whether they would attend specifically future escape room activities, and whether they would attend other library events and/or library outreach programs of interest. We also needed to ask about escape room improvements. Did they like the amount of time given? Would they want the room to have a set number of clues? Was the room large enough for the group size? What kinds of themes would they like to see in an escape room? What other outreach activities would they like the library to provide? These are several questions that could help to draw out more useful data for future outreach planning.

Plans For Future Outreach

We planned and conducted this escape room before the COVID-19 pandemic. The pandemic had a global impact and libraries were not an exception. The need to social distance and to work online spurred many librarians to embrace the online world and explore multiple platforms for creating virtual escape rooms, which might be an avenue for us in the future. While virtual escape rooms are not new, the scope and diversity that they offer has exploded due to necessity. The online world is a great venue to reach patrons during a pandemic.

It is a creative outlet for librarians to engage students who are unable to come to a physical location or are not comfortable having face-to-face activities. The online escape room can also be useful when weather conditions prohibit participation. Finally, a virtual room can be extremely cost-efficient since there is no need for physical equipment and can be created with free resources such as Google documents, YouTube clips, or Springshare's LibGuide platform.

If we were to continue to offer a physical escape room, we would consider redesigning it to be more academic in nature by incorporating clues that require students to utilize library services found online or throughout the library. One possibility would be to teach a bibliographic instruction session through a physical or virtual escape room. Kroski (2019) describes the use of a research-based puzzle that "requires players to conduct some sort of research to discern the answer to a problem" (83). These would be an excellent resource to include in an instructional escape room. First-year students are often enrolled in classes that require attending at least one bibliographic instruction session; these may benefit from a more hands-on, interactive approach provided through an escape room. Since these students are often freshmen, this may also be a way to reach more freshmen beyond the current marketing strategies and to engage them early in their college experience.

The librarians at the John Jay College of Criminal Justice used an "Escape the Library" (ETL) activity to welcome first-year and transfer commuter students between 2013 and 2017 (Davis 2019). The primary objectives of the activity were to reduce anxiety among the incoming students; introduce the library building's location and contents; foster a welcoming, fun, and learning atmosphere; create a space to meet new students; and acquaint the students with basic research skills. A post-activity survey indicated that 88 percent of the participating students had fun, and 92 percent gained research skills or learned about library skills (Davis 2019).

There is an argument for creating protocols for both physical and virtual escape rooms that can accommodate pandemics and other environmental and physical factors. Physical escape rooms need space for social distancing and clues and items that can be easily cleaned. Virtual escape rooms could be used during flu season, unpredictable weather, and for online students or patrons with disabilities that preclude them from participating in a physical room.

Conclusion

There is a thrill and a sense of accomplishment when solving puzzles and figuring out clues to escape a room. Our first research question was about creating an event that would be appealing to the university community. Our escape room met this goal for our students and staff. They found the room to be even better when they solved it with friends or when a new friendship was formed while working in a group. While we reached a wide spectrum of participants, we would need to do further study to determine the best promotion strategies for our university community including the possible use of extra credit with faculty to better answer our second research question. Word spread about the enjoyable library adventure and the campus community continued to request that future escape rooms be made available. This ties in with our third research question about making an event that was successful and could be repeated from year to year. Ninety-five percent of respondents shared they are willing to participate in future events, and the continued requests we received for this activity after the outreach event further supports the escape room as a viable library outreach program. This detailed account of the process used to create our escape room provides a template that can be modified to fit

a library's needs should other libraries choose to create their own escape room experience.

There is a wide variety of escape room avenues that can be explored along with a diverse number of themes. Having learned the process for funding, marketing, creating, running, and assessing an escape room, there is an opportunity to create a new escape room experience with improvements from lessons learned and with different goals for engaging the campus community. Escape rooms continue to be a beneficial tool for librarians to reach patrons, teach skills, and encourage interaction; the steps, strategies, and lessons learned shared in this paper are meant to help other libraries pursue this avenue for outreach with a strong foundation.

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