ESCAPE THE SHOW AND TELL:
Engaging Primary Source Literacy through Immersive Game-based Instruction

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INTRODUCTION

Instruction using Special Collections and archival resources tends to play a minor role in library instruction programs. Special Collections is more often employed in exhibitions or public forums for lectures, presentations, and academic discussions. Hands-on opportunities to teach with Special Collections, if available, are typically limited to one-shot lecture sessions with a handful of resources specific to a singular course subject or assignment topic. While these "Show and Tell" sessions can be a great way to expose undergraduate students to archival primary sources, they often are used exclusively in history or humanities courses. A more engaging, tactile approach is certainly needed if Special Collections instruction is to engage students and faculty beyond these core areas. This article will share the experience of a Special Collections Librarian and Research Services Librarian designing, executing, and assessing a game-based instructional program designed to promote Special Collections and successfully engage the campus community in hands-on primary source literacy learning.

BACKGROUND

Georgia Southern University is a public R2 institution stretched over three campuses — the Statesboro Campus, the Armstrong Campus in Savannah and the Liberty Campus in Hinesville with almost 27,000 students in 140 different degree programs. The University is served by the Georgia Southern University Libraries composed of the Henderson Library on the Statesboro campus and the Lane Library and Learning Commons on the Armstrong campus. The Henderson Library serves more than 4,000 people daily with resources that support a comprehensive array of degrees, disciplines, research activity and learning objectives.

Henderson Library's Special Collections unit has been through multiple changes in the past three years. The most challenging occurred with the relocation of the unit from a technical-oriented unit to a public one. In 2018, Special Collections, staffed by a tenure-track faculty librarian, a library assistant, and a team of student workers was moved from

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the Collection Services Department to the Research Services Department. The impetus for this move was the desire of administration to increase teaching and outreach output of the unit. While the departmental shift included a physical relocation of Special Collections spaces, it was also accompanied by an increase in the instructional and research workload of the faculty librarian. The Special Collections librarian's liaison responsibilities greatly expanded and included several departments in the University's College of Arts and Humanities. These areas were assigned based on their use of Special Collections and Special Collections instruction.

Prior to the relocation, library instruction using Henderson Library's Special Collections was minimal. Only a few courses each year were incorporating the resources into their curriculum and they were overwhelmingly requested by faculty in the history department. The one-shot sessions followed a traditional "show and tell" format whereby the Special Collections librarian displayed a sample of the library's materials to a large class group. Hands-on exploration with the rare materials by students was limited. Instead, the Special Collections Librarian lectured on the nature of archival institutions and how to go about finding and accessing resources relevant to the course subject.

Concurrently, teaching efforts within the Research Services Department of Henderson Library were steering away from one-shot traditional lectures with the addition of several hands-on gaming activities. These included a Library Clue Game for orientations, active displays that incorporated student participation, and several escape activity games. The escape activities had been well received by the campus community. The first game was designed specifically for First Year Experience (FYE) courses and centered around locally known blues musician, Blind Willie McTell. This game was designed to introduce students to the basics of research and included a variety of different resources as clues. Over five different sections of FYE courses participated making it clear that this game format worked in teaching information literacy skills.

The second escape activity was designed for a general audience as a general library program centered around Mary Shelley's, *Frankenstein* novel. As this game was not targeted towards a specific group or course, the materials utilized as clues were more general. Through interaction and opportunities for hints, students still learned about library liaisons and that librarians are available to help. An opportunity to teach an ethics in scientific research session to summer research students resulted in the development of our third escape activity. This game had to be modified to accommodate a large number of students at one time, but its successful inception and delivery proved that escape activities were also great to introduce students to some of the more abstract areas of information literacy; particularly as pertaining to ACRL frames Scholarship as Conversation and Authority is Constructed and Contextual.

Increasingly, the success of game-based instruction in other areas of the library, could not be ignored. In the summer of 2019, the concept of a fully immersive game-based instructional program using archival primary sources began to take root. Building on the momentum of the early library escape games that targeted the ACRL framework, a small team of librarians, composed of a Special Collections Librarian and Research Services Librarian, began to conceptualize an instructional game that emphasized Special Collections while having broad appeal. A target date for the launch of the program was set for mid-October, coinciding with the Georgia Archives Month observance- a statewide initiative to celebrate the value of Georgia's historical records.

While navigating the vulnerability of unique and rare collections, the two librarians strived to consider students' increasing preference for materiality, simulation, and the social learning environment. A game-based instructional program could provide a hands-on learning opportunity for primary source integration, critical thinking, and multidisciplinary engagement but it had to be formatted in a way that would safeguard one-of-a-kind materials.

LITERATURE REVIEW

"Game-based instruction," "game-based learning," and "game-based teaching" are all similar terms that describe the use of structured play (a game) as a pedagogical tool to achieve a desired learning outcome. Formal definitions vary only slightly across practitioners and disciplines. The history of game-based instruction spans centuries of pedagogical inquiry and it is not the intent of this article to be exhaustive. Thorough reviews of the professional literature are more aptly covered in allied disciplines.[1] The benefits of game-based methods of instruction,

likewise, have also been extensively documented. The use of gamification and game-based learning has continued to grow throughout higher education globally. Overall the practice has become more established and most educators regard it as a beneficial practice for improving student motivation, engagement, perceived learning, and performance.[2] In the past decade, research on its application in the classroom and other learning environments has exploded, particularly among the natural and health sciences.[3] A key characteristic of these studies, regardless of disciplinary field, is a distinction between research that examines computer or digital gaming with other forms of games including role playing games, strategy games, puzzles, and live-action games.[4] However, regardless of game type, most researchers recognize student motivation and engagement to be a desired outcome of using game-based instruction across disciplines.[5]

The use of instructional gaming in libraries has also grown as teaching librarians and information professionals recognize the effectiveness of game-based instruction in achieving desired student outcomes. Early case studies observed the use of games to have a positive impact on student learning and motivation as well as an ability to accommodate a variety of learning preferences.[6] A significant portion of these studies focus on the execution of instructional games as part of library orientations or freshman introductory sessions, most often replacing the one-shot instructional format. These applications of game-based instruction have repeatedly shown to facilitate positive student outcomes, increase knowledge of library resources and services, and induce favorable views of the library.[7] However, the use of games in conveying more complex information literacy skills has only been documented in the past decade. Librarians have more recently observed that information literacy competencies and library research behavior is an intrinsic element in many traditional games.[8] Case studies continue to appear in the professional literature highlighting the potential of specific game types, game platforms, game software, or specific information literacy competencies.

The use of the live action "escape" game format has recently been employed in library instructional settings, mirroring the growing popularity of commercially available games. The earliest commercial escape game was made available by Japanese company SCRAP in 2007, although digital variations certainly precede it.[9] The traditional format involves game participants being "locked" in a physical room. Game participants discover clues and solve puzzles to complete predetermined tasks and game goals. The game is won when participants have successfully unlocked the room. Librarians from a variety of backgrounds have adopted this format, in both physical and digital forms, as a pedagogical tool in recent years. Early iterations were developed with the intent of being an alternative to library orientations or an introduction to library services for first-year students.[10] Only a handful of case studies available in the professional literature describe the use of escape games beyond orientations to teach more complex information literacy skills.[11] As with other game-based instruction formats, the escape game is regarded as an effective tool for increasing stimulation and engagement.

The application of game-based instruction in special collections or archival settings, however, is lacking. While a handful of libraries have utilized archival resources as part of overall game design, the library's special collections or archive is not considered the central focus of the game storyline or learning objectives.[12] Rather, it is usually used as a point of orientation in order to acclimate students to the library as a place. Emphasis of specific archival or primary sources is largely absent. Published concurrently with the launch of the instructional game described therein is the only example of an library instructional game designed entirely around Special Collections materials, however its primary function remains an orientation to the library for first and second years students.[13] Absent from the professional literature is a thorough discussion of the use of escape games or other game-based instruction to teach more complex primary source literacy skills.

METHODOLOGY

Game Design

The first critical step in building an immersive gaming experience around Henderson Library's Special Collections was identifying a central storyline or theme like commercial gameplay experiences in popular commercial games. It was determined that this depended greatly on the ability to base the game around a single archival collection. This collection needed to have broad appeal to participants from a variety of disciplinary backgrounds

and it also needed to include numerous material types to convey the breadth and depth of the overall collection. The Francis Harper papers were selected as an appropriate collection to design the game around. Harper was a Cornell-trained naturalist who studied plant life and culture of the Okefenokee Swamp from 1912-1951. The collection boasted a wide number of materials including handwritten correspondence, government documents, field notebooks, photographs, audio, and video recordings. These materials had also been used extensively by researchers including historians, folklorists, biologists, archeologists, and geologists. By using a collection utilized by such diverse researchers, librarians hoped to garner the interest of a wider group of participants not typically exposed to archival materials in their research or coursework, such as those in the science, technology, engineering or mathematics (STEM) disciplines.

In the early design process, librarians decided that the game would incorporate a non-linear game design rather than the more traditional linear approach of other library escape game activities. Designing the structure around a non-linear game designed reinforced the iterative nature of archival research and the idea that as clues, or sources, were found and analyzed, the desired task at hand may change in turn. It also served a practical purpose, which allowed for the game to facilitate play with a larger audience of people. Like commercial escape games, a variety of tasks and clues could be worked on by participants simultaneously. Only the final clue required others to be completed ahead of time. This simultaneously encouraged collaboration and group-thinking while limiting disengagement from the game experience. A game planning map was used to organize these various elements into a visual format and to help librarians keep track of gameplay.
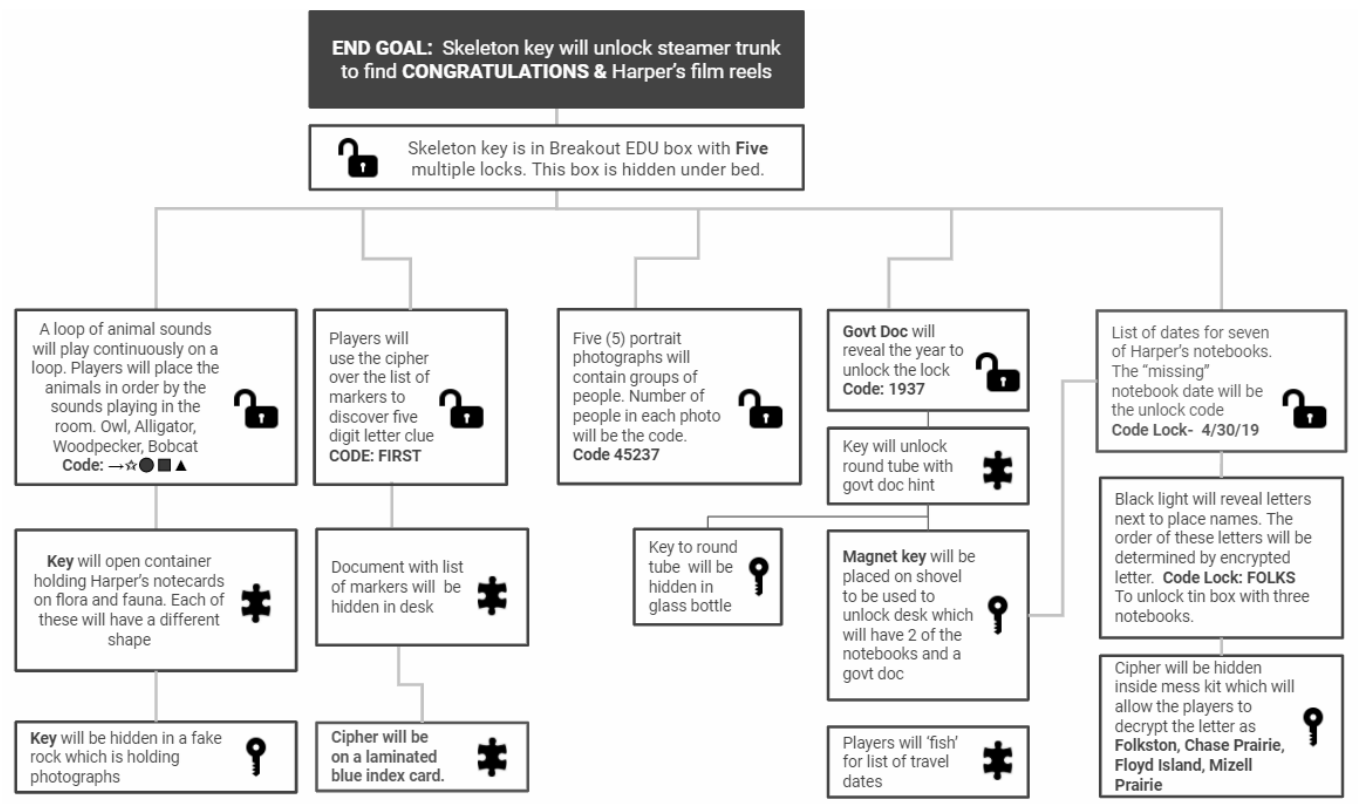

Figure 1. Escape Game Planning Map

Specific puzzles were determined by the unique characteristics discovered while examining the contents of the archival collection and using real-world research scenarios as inspiration. Unique materials, including Harper's observations of Okefenokee colloquialisms, were incorporated into five interconnected puzzles. Puzzle tasks were created using backwards-design and the Guidelines for Primary Source literacy developed by the

SAA-ACRL/RBMS Joint Task Force.[14] These student learning outcomes provided the critical framework with which librarians developed tasks designed to engage learning objectives that explored archival conceptualization, discovery, and interpretation. One such puzzle included providing participants with a list of documents that were needed for their research. Throughout the course of the game players would discover all but one of the documents as clues. This remaining document came to represent the key to solve the puzzle. This particular task reinforced the idea that "historical records may never have existed, may not have survived, or may not be collected and/or publicly accessible."[15] This concept was reinforced during the post-game activities facilitated by the librarian.

Once confident the game design gauged the target level of learning hoping to be achieved, librarians worked on building an immersive experience for game participants. Gameplay would be conducted through two adjoining rooms. The first, replicated a contemporary research space where participants would be allowed to examine research materials common to their own experiences including research notes, peer-reviewed journal articles, books, and other materials. The second room of play reflected the time period of the archival materials and replicated the swamp atmosphere and workspace of Francis Harper circa 1930s. This was accomplished through the creation of high-quality archival surrogates that reflected the feel and look of the original items as well as meticulous set decoration, coordinated lighting, sound, and scent effects. Overall, sensory immersion was critical to game engagement and for authentic engagement with the materiality of collections and their critical historical context.

Simultaneous to designing the game, the Special Collections Librarian created a coordinating physical exhibition using the Frances Harper papers as well as a corresponding program website using the LibGuides platform. The physical exhibition allowed participants to view original materials, promoted the escape game to non-participants, and educated visitors on the availability of Special Collections resources. The physical exhibition space also included a computer access point where participants could reserve their game time.

Figure 2. Program LibGuide

"Secret, Sources, and Swamp: An Escape Game for Georgia Archives Month" launched in a three-phase approach, opening to the public in the last weeks of October 2019. The game was promoted through the Library's liaison program and the Library's social media channels.

Game Play

Working in groups of 4-8, participants were welcomed to the game and safety rules by a "Game Master" similarly to commercial, live-action escape games. The role of Game Master was performed by a scripted faculty librarian. This was the first opportunity participants could ask the librarian questions about the overall game and purpose. The Game Master then played a 5-minute introductory video that acclimated participants to the game and central task.

Figure 3. Screen Capture of Introductory Video

Participants were allowed forty-five (45) minutes to explore the game room(s) and interact with its contents. Participants discovered clues hidden around the room that allowed for puzzles to be solved and locks to be open. During gameplay, participants were allowed an opportunity to ask the Game Master for three (3) clues without penalty through a two-way communication device. The Game Master provided a clue to solve a puzzle or a specific task if asked by participants. Game Master observed game play through an observational window and security cameras. A countdown clock provided participants with a real-time indicator of playtime. The game was won when participants resolved the final task within the designated time.

Regardless of success, the Game Master offered participants an opportunity for participants to ask questions about the experience and the game contents after gameplay ended. The Game Master also used the opportunity to discuss the archival materials that inspired the game and to elaborate on intended learning outcomes. Participants were then led through an assessment reflection exercise based on their classification or status.

RESULTS

The results of this program indicated strong levels of engagement as well as a beginning understanding of set student learning objectives. Approximately 140 students completed the "Secrets, Sources, and Swamp" escape game in a period of two weeks. Of these students, approximately 50% self-identified as humanities majors, 11%

self-identified as stem majors, and 39% self-identified as a variety of other majors including education, engineering, and nursing.

Success in solving all puzzle clues and actually "escaping" the event varied, with a small number of groups not being fully successful. However, all groups were able to solve most of the puzzles and groups that were not successful were usually down to the wire with a final puzzle. Also, once the timer indicated completion of the game, librarians breached the game area to walk participants through the entire game and clear any misconceptions concerning puzzles. This process ensured students made the connection between the game and the actual skills and concepts designed into each puzzle. Pointing this out immediately after the time when students are still in the zone and mindset of the activity solidified the concept more concretely than simply stating this fact in a lecture style delivery. Also, as the game was created using the foundations of backwards design, the process of students working through these multi-step puzzles provided strong formative assessment to show students were developing clearer ideas of primary sources, and the role they play in research.

Once this review of the game was finished, each team was led through a reflection exercise with the librarians. This reflection exercise served as a summative assessment measure and was customized to students based on their self-identified area of study. STEM students, for instance, were provided a current field notebook filled with data and asked to compare this current resource with the data collected in Harper's field notes from the 1940s. During this
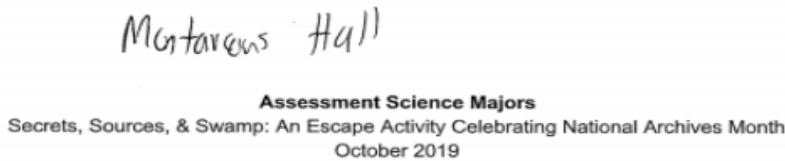
Figure 4. Example of Post-Game Assessment
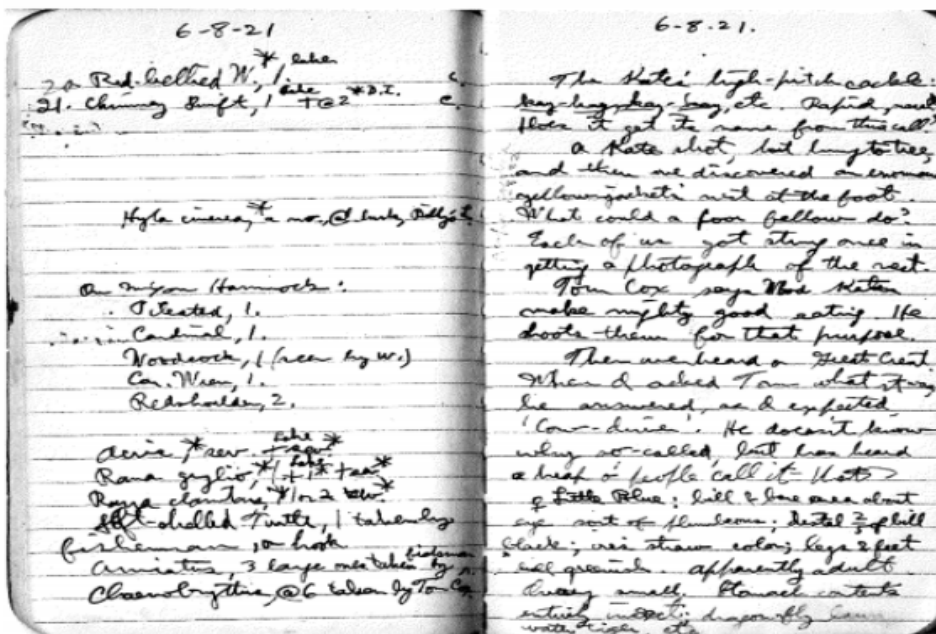
comparison, the STEM librarian facilitated conversation leading students to consider how valuable Harper's original data might be to a current scientist. Students were asked to discuss how they thought this data could be useful today, and what information it still conveys. Students also were provided access to one of Harper's published articles, and this reflection period facilitated conversations around comparisons of this article to scientific articles they've recently seen and read in their stem courses. The goal of this reflection time was to allow exploration that typically is difficult to address within a regular class session, and to simply stimulate thought involving the changes in scientific research and what type of scientific information is deemed valuable and who makes this decision.

Students self-identifying as history majors received a reflective assessment specifically designed to their area and the ways these primary sources benefit their field of study. Again, led by a subject librarian, this reflective session facilitated conversation that can be difficult to generate in an assignment driven instructional session. Even students attending the program just for fun, and not as part of a class, participated in this reflection period after the game. Their assessment was geared more towards understanding generalities of primary sources and the types of materials available through special collections.

All answers provided through the formative reflective assessments showed students were engaged with the event and made solid connections between the archival materials in the game and research possibilities in the real-world. Their enthusiasm and willingness to share were much higher than a typical lecture style instructions session, in part, because the adrenaline rush from the game carried over into the assessment portion. The full immersion into an environment that felt, looked, smelled, and sounded far different than a normal classroom atmosphere heightened their senses and helped make the activities feel important and urgent. However, this urgency did not feel threatening in the same way the importance of graded assignments can feel, and helped eliminate any intimidation students may have felt when initially entering the room. This activity also proved an effective bonding moment for groups that did not know each other well, as well as removing the typical nervousness barrier students often feel towards librarians.

Overall, assessment results revealed the program to be a huge success, but perhaps it is the words of participants that bring this home best. Students in several courses were asked to write about their experience with this escape activity. Here are a couple samples of what students had to say after working through this game.

> "The actual film reels can be found in the archives of the library along with other items. I genuinely enjoyed this escape room because I actually learned a lot from it. I never knew that film was a popular way to show research back in the 1900's. I was also surprised at how many interesting artifacts are held in our library."

> "….that everyone was willing to get "hands-on" with something and invest their time into other people and think from a perspective that does not only center around benefitting their own lives or situation… helped to unify a small group of strangers, educate them in a creative and involved way, which kept the group "on-track"; providing a new and innovative teaching strategy to education that may be a better way to learn (more expensive maybe, but better all the same) for visual learners like myself, that find it hard to learn information via lectures, readings etc.."

This final statement solidly sums up the results. This event provided "hands-on" instruction that "unified" was "innovative," "creative," and a "better way to learn" about abstract concepts than traditional readings and lectures.

DISCUSSION

The number of game participants revealed that game-based instruction appealed to participants from a wide variety of backgrounds and classifications. Participants included library faculty and staff, teaching faculty at all professional levels, administrators, and undergraduate and graduate students. They also represented a wide range of disciplinary background. While the largest group continued to be those enrolled in humanities courses or those who self-identified themselves as humanities majors, a large portion were from outside traditional user groups including widespread participation from students in the University's College of Science and Technology.

Still even, a great percentage of students who enrolled in the game "for fun" represented additional academic areas such as Nursing, Education, Engineering, and others.

In addition, the varied assessments employed during and after the game revealed that beyond the desired student learning identified in the early game-design, serendipitous learning had occurred. This was captured using the post-game assessments and by one-on-one discussions with student participants. Many students who went through the game were also required by instructors to complete free-writing exercises which were later shared with librarians. From these we were able to get a glimpse into their perceptions of the game experience. Overwhelming, student participants remarked on the immersive environment and the action-oriented experience of the game.

While assessments revealed participants grappling with the learning objectives, the engaging nature of the activity provided benefits beyond academics. Team members bonded with one another through a shared experience. While some teams had friend groups, most teams also included members not familiar with one another. By the end of the game, these groups emerged as a solid unit. The game caters to individual strengths ensuring that no student was left on the periphery of the activity. A natural leader usually became apparent as well as organizers, creative problem solvers, logical problem solvers, observant connection makers, and persistent morale builders all melded together with a common goal.

The game also facilitated interaction with librarians, thus removing the reluctant barrier that often exists in seeking assistance. No team went through this event without receiving hints and help from the librarians. These hints often led to finding and/or solving clues that aided in success. This helped the librarians reinforce the concept of asking a librarian for guidance. Finally, Special Collections became a known entity and resource to every student participant. The hands on immersion with specific artifacts from the collections, as well as the opening video and reflection exercises tying these materials to real world research enabled a broader understanding of the role special collections hold for a variety of disciplines. All participants indicated a willingness to participate in a similar program if offered in the future.

CONCLUSION

The success of "Secrets, Sources, and Swamp: An Escape Game for Georgia Archives Month" revealed that game-based instruction, specifically through escape game experiences, are effective tools in teaching primary source literacy to participants. The experience further suggests that when escape rooms are designed with primary source literacy outcomes carefully defined, that they can be effective tools in teaching with archival sources beyond the traditional "show-and-tell" format. The success of this activity also showcased the unique ability for game-based instruction to introduce special collections to disciplines often considered outside the normal scope. The scenario and game event created a solid opportunity to introduce STEM students to the unique resources available through special collections, and it facilitated interaction with these resources in ways the traditional assignments do not encourage.

FUTURE DIRECTIONS

Building on the unprecedented success of the "Secrets, Sources, and Swamp" escape game, librarians hoped to launch a similar game-based instructional program the following year. The continued attention from both the University and professional communities elevated excitement and collaborative partners were identified in early 2020. This early progress, however, was derailed by the upheaval of the COVID-19 pandemic. Efforts were made to transition library programming to a virtual environment, but the unexpected challenges of providing the same level of collaboration, active learning, and campus engagement were not feasible. Looking to celebrate Georgia Archives Month in 2021, librarians are working to build a semi-virtual game experience. These plans involve replicating the game experience similar to other subscription-based commercial games like Escape the Crate, Hunt-A-Killer, The Conundrum Box, and others.[16] Librarians will employ the successful techniques of the "Secrets, Sources, and Swamp" game-based instructional program by providing participants with high-quality, archival surrogates such as letters, photographs, and more. Participants will be required to examine sources, find clues, and solve puzzles hosted, not in

a fully immersive room, but through a virtual game component. The creation of a semi-virtual game experience will allow librarians to replicate the success of the 2019 escape game while adhering to University and CDC guidelines. Librarians look forward to future iterations where face-to-face programming might be offered safely.

NOTES

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