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Designing an Arts-Based, Collaborative Mystery Game to Improve Players' Motivation and Confidence as Storytellers

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Abstract. Literacy is a complex term that involves an array of intertwined processes, including motivation. Students who lack this internal willingness often fail to engage with books and other literacy-related content, which in turn negatively effects their learning outcomes. *Murder on Mansion Hill* is a digital tabletop game that weaves together arts-based strategies shown to improve students' involvement in reading - including storytelling, collage, and co-design - in a cohesive manner. By blending these strategies with the motivational benefits of gameplay, *Mansion Hill* encourages players to take a highly active role in developing and sharing imaginative narratives, helping them to view stories as an enjoyable and rewarding outlet they can share with friends. In playtests, players overcame fear of judgment, enjoyed engaging with narrative in multimodal ways, and bonded with peers.

Keywords: Educational games · Storytelling · Literacy · Collage · Co-design

1 Introduction

While there are well-documented benefits to students spending time with book-related content, there is also a notable lack in some of their desire to do so. This phenomenon, known as aliteracy, is unfortunately on the rise as students spend less and less time reading for pleasure [1]. This reluctance can be caused by a variety of factors, from students fearing they will be considered “dumb” for making a mistake [2], to viewing reading as a submissive, boring act that fails to consider their creativity and desires [3], to feeling constrained by traditional text and tools that don't support ways students make meaning and express themselves to peers [4].

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Murder on Mansion Hill was developed to help combat these aliteracy-related factors by encouraging players to view stories as interactive social acts, and themselves as capable storytellers. To achieve this, the game leverages the motivational benefits of gameplay [5], storytelling [6], collage [7], and co-design to support players as they craft imaginative stories in a group-based setting. It gives participants greater control over game construction and story through the use of arts-based collaborative tools, with the goal to motivate players to approach narrative in new visual ways and recognize that stories can be rewarding and fun. By engaging with stories crafted within the game, players gain hands-on experience using multimodal techniques that can help them form a positive relationship to literacy-related content.

2 Technology

Murder on Mansion Hill is setup and delivered digitally on a web-based whiteboarding platform called Miro (alongside a video-chat application such as Zoom or Discord). Because Miro is intended for team-based collaboration and visualization, it lacks many automation and coding features found in game development software. However, its lack of technical complexity also makes it a promising platform for tabletop games as it enables quick iteration, is accessible and free to any internet-connected device, and is easy to use. These features support the creation of a remote game that connects family and friend who may not live in the same location or are socially distanced.

Because Miro lacks automation, some set up is required by the lead Game Master (GM). The game materials can be made from scratch or the GM can use pre-packaged templates that include: one design Miro board; one gameplay Miro board; 150 story cards pre-populated with places, items, characters, and actions; 52 poltergeist cards; collage building assets; avatar tokens; and pre-determined links between collage items and story cards (described in Fig. 3). The remaining story cards are left blank to be filled in later by players. Links to the Google Drive documents that populate these blank cards are provided in each player's workspace within the design template. The GM may modify the story cards, the collage assets, and the cards to which the collage items are assigned.

3 Aesthetics

Despite the inclusion of the word murder in the title, the tone of the game is light-hearted and appropriate for nearly all ages, focusing more on mystic fantasy than gore. To support this tone, visuals are simplistic, with brightly colored cards with icon-based designs and illustrated avatars of fantasy races. Most of setting is conveyed visually by the board that holds the interior rooms of the Mansion, which is crafted by players using collage. Though players are in some ways limited by the collage images included in the game template, which reflect an opulent yet neglected estate, it is still entirely up to players whether they want to create rooms that are more fanciful, serious, or even comedic. The GM may also introduce pictures of her own to influence the potential tone of the rooms.

4 Narrative

Players take on the role of psychic medium students who are given their final assignment to uncover what happened to the Master of the Mansion at the top of the hill, who recently disappeared in a mysterious fashion. The first group to successfully get in touch with their spooky side and correctly solve the murder gets infinite bragging rights and an automatic A. What exactly happens during the game is entirely up to the players as they use their imagination to describe their journey through the mansion, the interesting characters they interact with, and any other observations or actions of note. Players should think of the game as a story, and themselves and their fellow teammates as the storytellers, building on-the-fly narratives to search around and decipher clues.

5 Mechanics

Pre-Game Design Session. A major goal of the game is to give players heightened creative control, including over physical game components. In a pre-game design session, which takes 30–45 min, players use collage to construct the board and determine contents of the story card deck. Figure 1 provides a view into the collage workspace, Fig. 2 highlights collages made by playtesters, and Fig. 3 diagrams the process of how these visuals influence game structure. This phase most closely resembles a co-design session with the GM guiding others through the activity, ensuring the group is moving at the same pace and staggering tasks to reduce complexity and answer questions. Tackling tasks together encourages casual conversation, helping build social bonds.

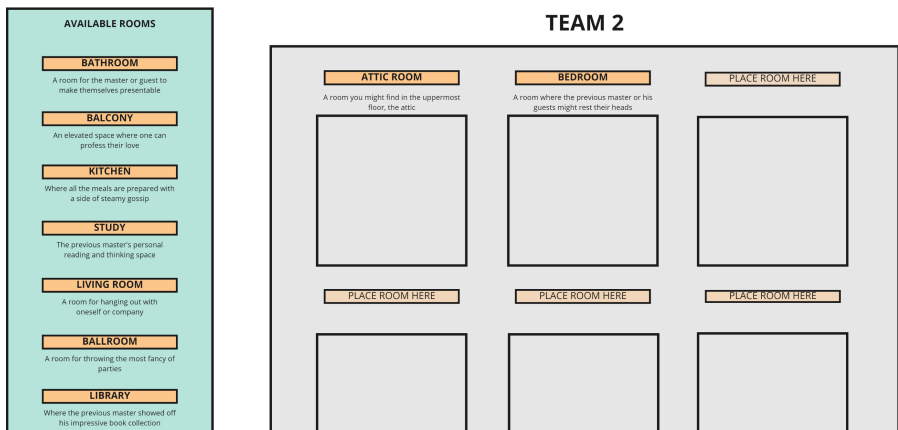


Fig. 1. Closeup view of collage workspace. Collages are built within each square using a provided collection of visual assets

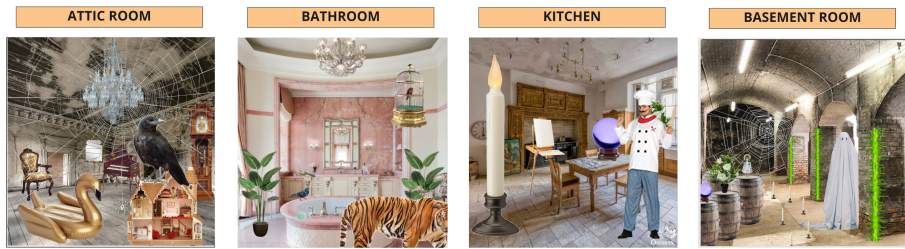


Fig. 2. Examples of rooms created by players using collage techniques.

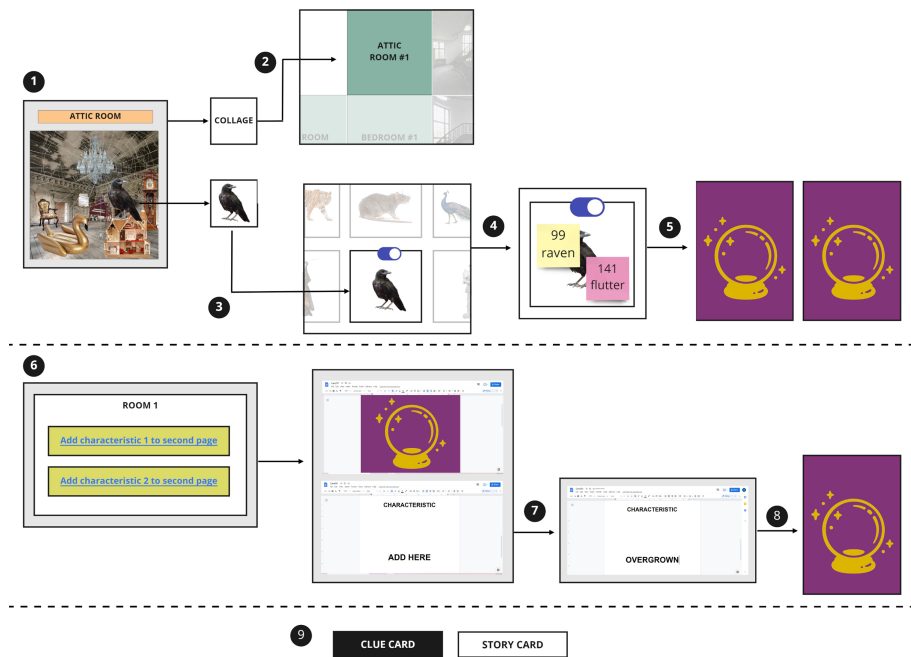


Fig. 3. Player collages influence game content as follows. 1: Player 1 collages the attic room. 2: The GM places the collage on the game board beneath its tile. 3: The GM assesses which elements are 'in use' (marked by a toggle the player set to active). 4: The GM looks at the notes hidden beneath the active element. These notes list the story cards assigned to that element (as determined by the template or the GM) 5. The GM copies these cards into the gameplay Miro board. 6: Player 1 follows the first link included in her collage workspace to open a Google Drive document. 7: Player 1 replaces the ADD HERE text with a word that describes the room. 8: Player 1 repeats this two times per room. Each Google Drive document is linked to a characteristic story card; when changes are made to the document, they also appear on the card. The GM refreshes the characteristic cards and deletes any not in play. 9. The GM chooses two place, action, and item cards at random and deals them to a member of each team to become their clue card. The rest are shuffled into the deck to become story cards.

Playing the Game. Once the design stage is finished, it's time to play (Fig. 4). Players act as psychics working in two competing teams to determine how the eccentric owner of the mansion was killed, in what room, and with what item. To accomplish this, players navigate their avatars around the mansion while using the story cards in their hand and the visual contents of the board to tell a story. For example, if you have the story cards witch, cauldron, and basement, and a room with green smoke, you may describe a scene in which you move to the basement and uncover an old witch stirring a smoking cauldron full of suspiciously green liquid.

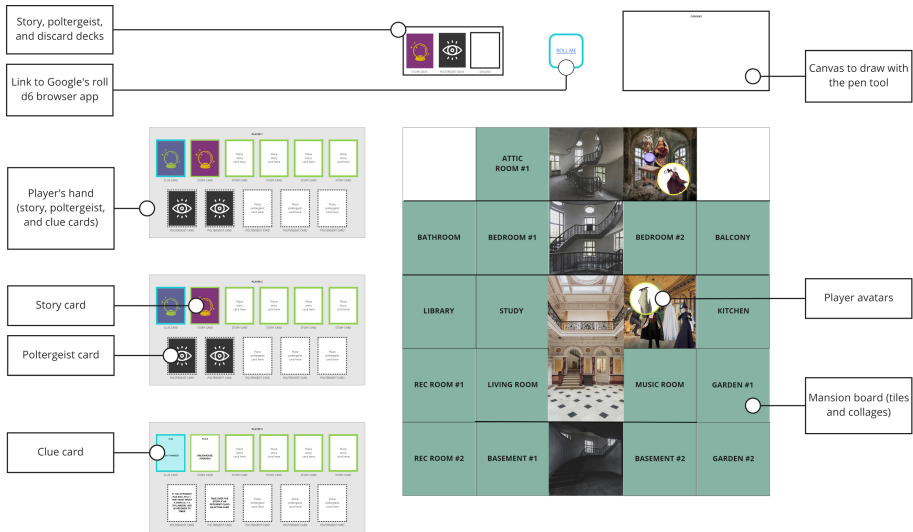


Fig. 4. Diagram of murder on mansion hill board.

Each player also has a secret clue card that contains the answer to one piece of the mystery. When the current narrator says a word related to a story card in a teammate's hand, that teammate is overtaken by his psychic powers; he rolls a die to determine in what creative way he must hint at the contents of his clue card, such as by writing a riddle or drawing a picture. But look out, other players may use their poltergeist cards to make the clue-giving process just a bit trickier. Once a team correctly guesses all three clues, they win by crafting one final sentence describing what caused the Master's ultimate end.

6 Player Insights

According to feedback and survey results, players across three playtest groups greatly enjoyed the collage making process and felt the collages positively

impacted their experience, with several players especially liking the social conversation that blossomed as the group moved through the design activity. The visual board provided a way to keep track of the game's narrative, while the character avatars added to a sense of immersion. On several occasions, and unprompted, players introduced their characters and provided a backstory and personality, and then used those personas throughout the game. Players also felt more invested in the game due to their creative contribution and found that playing with their own assets was rewarding and exciting. Nearly all players also found that they became more comfortable with their role as a storyteller, in large part due to growing more comfortable with the group and recognizing that no one was there to judge, as well as having the cards and board to provide creative guidance. However, players were hesitant to say whether the game helped them feel more comfortable sharing stories outside of the game context. Players suggested that more engagement with the game could have this benefit. If not, future improvements should focus on making this learning transfer more explicit to build a positive bridge between the game and an outside context.

7 Conclusion

Murder on Mansion Hill blends together elements of co-design, collage, and group storytelling to create a game-based experience in which players feel motivated to explore their narrative creativity together with peers. It gives players control and agency to create and play a game based on their imagination, balancing player-made assets with pre-made designs in a way that allows for player input while providing a guiding foundation of rules and goals. The whimsical setting, visual collages, and story cards work together to help players view themselves as capable storytellers and the process of weaving unique stories as an enjoyable, lighthearted social experience. Future improvements can help bridge the gap between positive experiences within the game environment and outside literacy-related contexts.

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