DESIGNING AN ADVENTURE

University of Southern California's Experiment in Using Playable Theatre to Educate Students and Inspire Change

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ABSTRACT

There has been a recent rise in 'audience-centric' and immersive storytelling. This indicates audiences are gaining interest in experiencing real adventure and everything it encompasses: the struggle, the new friendships, the skill development, and the growth. This paper examines two playable theatre experiences created by a group of students, including the author, at the University of Southern California as an experiment in how to design an adventure and to evaluate its impact on participants. The experiences combined immersive improvisational theatre and live-action role-playing to create socially aware, one-night experiences, using Harry Potter and mythology as themes. In each experiment, over 500 players simultaneously embarked on quests — a series of challenges including puzzles, scavenger hunts, and character interactions. Participants were asked to choose faction alignments based on the characters they interacted with, as well as their own backgrounds and moral values. During the narrative finale, the impact of individual choices on the larger story and game was revealed. After the conclusion of each experience, participants filled out questionnaires and were interviewed. Through this, it was discovered that participants developed transferable problem-

solving, team-work, and persuasion skills. The realization that their actions had consequences caused participants to reflect on their own moral values and judgement-making abilities, inspiring some to make changes outside of the experience. This reveals that playable theatre experiences can lead to socialization, educational development, and real-world change in a variety of contexts when implemented correctly. This experiment has begun to discover the value of playable theatre experiences in a real-world context and to develop a reproducible format to continue to create such an impact.

INTRODUCTION

In recent times, immersive, 'audience- centric' storytelling, has been on a rise indicating a growing interest in experiencing adventure first-hand through entertainment. This paper aims to evaluate an experiment we conducted at the University of Southern California to design adventures using playable theatre experiences by analysing impact on participants. Adventures appeal to people in different ways: **using personal skills to overcome challenges, the resulting sense of gratification, forging and strengthening relationships, exploring, discovering and growing.** Humans largely experience adventures through the characters in books, television and movies. However, it seems that we now want more.

New immersive companies offering Virtual Reality, Augmented Reality, Alternative Reality, Live Action Role Playing and Immersive Theatre experiences have doubled since 2015 (Brigante & Nelson, 2019). These companies have various focuses including medical, promotional, educational and recreational services. Immersive experiences can serve all of the above purposes by putting the audience in the middle of the action. This paper, however, focuses on their educational value and ability to change participants by creating adventure.

The Theatre of the Oppressed by Augusto Boal, arguably the

forefather of playable theatre, is one of the earliest identifiable forms of "immersive." For him, the "dual meaning of the word 'act', to perform and to take action, is at the heart of the work" (Drennan & Boal, 1994). This shows how the genre was intended to create change. Two sub-genres are amongst the very first forms of 'Immersive Theatre': Invisible Theatre and Forum Theatre. In Invisible theatre, public audiences are "participants in the action without their knowing it. They are the 'spect-actors'" (Drennan & Boal, 1994) who are unaware the performance is theatre rather than 'real life.' For example, two actors will go and publicly start a fight on the ethics of tipping in a restaurant and encourage passersby to participate. Considering the spectators don't know this is staged, Invisible Theatre is further pitched as" 'real-life', because it is "actually happening, the people are real, the incidents are real, the reactions are real." (Drennan & Boal, 1994). On the other hand, Forum Theatre allows audience members of a formal theatre show to interrupt a performance and change it by deciding the actions of the actor in a situation, often performing themselves to illustrate their ideas. Boal said this resulted in "a pooling of knowledge, tactics and experience," in what Boal calls a 'rehearsal for reality." The intention was to enable people "to become the protagonists of their own lives" (Drennan & Boal, 1994).

Even though Forum Theatre participants knew their situation wasn't real, their emotions and reactions still were. This is because "knowing and feeling are separate functions under the control of separate brain systems. Emotions are unconscious and instantaneous, bypassing consciousness" (Paradiso, 1998). Therefore, despite the conscious knowledge of participants that this wasn't real, they felt the actor's experience as if it was. Melanie Green describes this as an evolutionary mechanism that "sweetens death and banishes it's terror so that one can live a life replete with real and imaginary risk-taking in the tranquil certainty that death is neither real nor permanent" (Green,

Strange, & Brock, 2002). Freud understood this writing, "One's own death is beyond imagining, and whenever we try to imagine it, we really survive as spectators …. At bottom, nobody believes in his own death" (Freud, Brill, & Kuttner, 1918). Still, "adventure, whether indoor or outdoor, **requires an element of real or perceived risk to which the participant is exposed through their engagement in an activity. This risk can be physical, emotional, intellectual or material. To be an adventure an experience must have an element of uncertainty about it. Either the outcome should be unknown or the setting unfamiliar**" (Priest & Baillie, 1987).Overall, these statements highlight the importance of creating stakes through uncertainty and risk to get buy-in—but it is also a reminder that, despite the perceived risk, humans are unable to imagine real risk, making simulated risk a credible way of making a point.

The 'venture' part of the word 'adventure' "implies the element of travel, with or without a purpose" (Overland, 2017). Experiential thinkers such as the Norwegian Fridtjof Nansen suggest we should take adventures "to see the **'land beyond', explore what is hidden, and to respond to the call of the unknown including the nature life or the like**" (Overland, 2017). This emphasizes the importance of discovery in adventure, both internal and external. Some adventures also "tend to be completely set in a fantasy world, or they might involve moving from the real world to the fantasy world and back again. This often requires some form of **trigger between the fantasy world and the real world;** for example, in The Lion, the Witch and the Wardrobe, people walk into the wardrobe and into the land of Narnia (Lewis, 1950). A secret code might be hidden in a cave, and there might be a 'quest'. Many of the characters in children's fantasy go through rites of passage, with helpers 'guiding them' into maturity: they learn to believe in themselves, and their lives are enriched from the experience of the quest" (Overland, 2017).

Alternative Reality Games (ARGs), arguably the most compelling genres when viewed as adventure, serve as inspiration for the design. They create extraordinary circumstances for people to discover and participate in—transporting people much like travel does, and hopefully transforming them as a result. Corin Overland defined ARGs as "an immersive mixed reality experience that uses a low-cost mixture of live actors, social media and other forms of communication that allow people to mirror reality more closely than the point and click interface" (Beard, 2013). It also emphasizes that "ARGs establish an extended work of comprehensive narrative fiction in which outcomes and storylines adapt dynamically according to the actions participants take (or do not take)" (Beard, 2013). Participation in an ARG "superimposes a mythos over the everyday reality of the participants" (Beard, 2013). It encourages immersion by "blurring lines between the fictional environments and that of the real world" , allowing people to act in a natural way (Beard, 2013).

Consequently, ARGs are the epitome of experiential learning, which inevitably "involves the 'whole person', through thoughts, feelings and physical activity. The recognition of this 'whole environment', both internally and externally, is important" (Overland, 2017). Since ARG's are so purpose-driven and based off of real-world dynamics, they require engaging the whole person on a visceral level.

It is also suggested that there are many ways of taking a role and ARG's can organically involve them all (Table 1).

ROLES IN AN ALTERNATIVE REALITY GAME	
Role	Description
Theatrical	"[A]n actor plays a role as defined by the playwright and the director. The actor repeats over and over certain words and actions in a predetermined manner"
Sociological	"[T]he usual behaviour of a people in particular societies and how they act under circumstances in a formal way; it had been used in the sense that all social behaviour represents a playing of culturally determined patterns"
Dissimulative	"[P]eople play roles with the intention of deceiving or creating an impression contrary to their real feelings"
Educational	"[T]he subject roleplaying is an action of spontaneity procedure which takes place under contrived circumstances"

Table 1: Adapted from (Corsini, 1961)

Effectively designed, ARG's incorporate all of these elements, as (1) there are real actors, (2) people are put in sociological situations where they end up taking real, functioning roles as they interact with actors and other participants, (3) sometimes players can be asked to be deceptive as a part of the game, and (4) the entire experience can have educational goals and results. Furthermore, they have not just the potential, but the necessity to include all elements of an adventure – a trigger to transition from reality to the adventure, real or perceived risk, uncertainty, using personal skills to overcome challenges, forging and strengthening relationships, traveling, exploring, discovering and consequently, growing.

However, ARGs can be very inaccessible because they are typically accessed through digital means. ARGs also typically run across several platforms and spaces in a single work. To create an adventure, those elements could be useful but are unnecessary. Therefore, we determined that playable theatre, described as "live performance that engages audiences through active, meaningful participation," would be an equally effective medium of encapsulating all necessary ARG elements while decreasing barrier to entry and offering us more control over the experience.

This paper examines our efforts in investigating the possibility of incubating an adventure—with everything that entails. How do such experiences impact a person's sense of power outside the immediate adventure? Do the participants learn something? Do they feel like they grew? To evaluate the value of this kind of experience, we deliberately created an adventure through playable theatre techniques and used participant feedback to analyze its effectiveness.

DESIGN

Experience

We adapted the concept of alternative reality games into an example of playable theatre to create a realistic simulation of reality as an adventure that we could evaluate.We considered each element of an adventure: a trigger to transition from reality to the adventure, real or perceived risk, uncertainty, using personal skills to overcome challenges, the resulting sense of gratification, forging and strengthening relationships, traveling, exploring, discovering and growing.

ARGs are typically long and niche, with a high barrier to entry. To serve the purposes of the study, we effectively converted ARGs into playable theatre by designing for larger audiences in physically contained and timed experiences. They were

publicized as themed parties to increase accessibility. The unfolding of action was meant to be as realistic as possible, in that each narrative development appeared as a consequence of the actions of the participants. As suggested by Beard, we used a portal trigger to transition between the real world and the fantastical. Neither of our experiences was based in reality and each experience took place in a 1000sqft ballroom that had been transformed, giving participants plenty of space to 'venture' and discover their physical surroundings along with the story. Both events were a three-tier experience where on the surface it was a party, then there was a competitive element and, finally, there was a participatory narrative element which people could access through 'quests'. Quests were a series of challenges—including character interactions, games and puzzles—that each player overcame using their own skills and determination, which revealed the narrative background of the event and allowed people to establish a role within the story. These encouraged the participants to both explore and discover the space and story. The narrative outcomes were to be determined by the end of the night through actions of the guest and were consequently unknown to them in advance, adding a level of perceived risk and uncertainty.

The first event, *Alohomora*, was based on the Wizarding World of Harry Potter. On the surface, *Alohomora* was a "Tri-Wizard" tournament and Yule Ball, complete with food, live music, and games, all facilitated by live actors. As they headed towards the food, a participant could embark on one of our 6 quests by solving a puzzle on a napkin. This led them to our character, William the Puckwudgie (a puppet) who would challenge them to prove their strength by winning our duelling game—a reskin of rock, paper scissors. Once they brought proof of victory, he would direct them to our MACUSA (magical police) characters to defend the Wizarding World with their strength. Through such quests, participants would either join the Light Army to

serve the Government or support the immortal Salem Witch Survivor by joining the Dark Army to right the wrongs of the past.

The second event, *Ascend*, used mythology to bring together Greek, Egyptian, Maya and Chinese pantheons. To accommodate other cultures, three trickster figures —Anansi, Loki and Krishna—were included as well. The skeletal structure of *Ascend* was much like that of *Alohomora*. Participants, called demigods, were sorted into pantheons before the event and invited to attend a "family reunion". There were 12 "family games" such as themed versions of Set, Archery, and Werewolf as well as 10 quests for participants to discover and influence the narrative through. If they won Athena's oversized Battleship game, perhaps she would pull them aside to discuss gender discrimination and highlight how, despite her expertise, she is never taken seriously because of her sex. By taking her quest, participants would join 'the Revolution' to overthrow the current administration and save the world from war, poverty, discrimination, and environmental damage,even if it was at the cost of human free will. Or, they could choose to protect free will and trust humans to get themselves out of this mess by supporting Zeus and joining 'the Order' instead. Both sides had strong arguments and participants fought for causes they could not clearly claim were superior. This was designed to prompt the internal exploration and growth adventures cause as a result of seeing the choices one intentionally makes.

To increase agency in the adventure, there were also moments integrated where the participants made choices on which quest path to follow depending on their interests; these choices, then, would lead them to different sides. For example, they could choose to talk to either Hunahpu or Xbalanque from the Maya twins but they were warned that the twins had different political beliefs. Including such branching moments gave participants an increased sense of ownership over their experience which

resulted in investment and, consequently, emotional risk which paid off in the finales. To increase impact in the story-world and the risk of the emotionally invested players, specific quest lines were designed to impact the finale based on the number of people who played them. For example, certain quests involved demigods poisoning and healing gods. The player count affected the number of lives Gods of each side had for the final confrontation.

Feedback

To test the effectiveness of the design in incubating an adventure, data was gathered from the participants of the experience through feedback forms, interviews, and following the event. Questions that are focused on while examining the feedback are as follows:

1. Did people realize they had *agency*? How did that make them feel? (This question was chosen because agency gives participants control and consequently is a prerequisite to exploring and

discovering, and increases perceived risk as the participants' actions have consequences.)

1. Do these experiences build *empathy* and how do they compare to other forms of narrative form that perspective such as books or movies? (This question was chosen to give insight into the forging and strengthening of relationships that often come out of adventures)
2. Do people feel like they themselves had an *adventure*? Is that valuable? (Very direct.)
3. Did this prompt any *action*? (The result of the educational impact.)

DISCUSSION

To examine how successfully the goal was achieved, we examined the criteria of what elements made an adventure using the responses.

Several participants called the ballroom was 'beautifully decorated' and 'very aesthetic' (Marissa DuBois) and even though certain participants in Ascend helped 'open a portal' (projection mapping special effects) nobody specifically commented upon the 'transition from reality.' Despite that, several people admitted to buying into the world. They attributed this investment to several things – the actors, the set, the characters, the quests. Michelle Pax even said "It really felt like I was playing a video game. At times, I would forget that this is real life and not some VR simulation." This shows how the participants experienced a transition from the 'real' world they started in which signifies the experiment accomplished the first step of creating an adventure.

The point of real/ perceived risk, uncertainty and using personal skills to overcome challenges are closely tied together. In the Short Alohomora Feedback Form (Appendix A), 50% of people found the quests challenging but 39.3% found it simple (Fig. 1). Adriana said that the challenge of the quests "made it even more fun." The Ascend Short Feedback Form (Appendix C) revealed an experience that was simplified even further, resulting in a decreased reward: 24.2% thought the quests were averagely difficult and 62.1% thought they were easy (Fig. 2). Viola said, "Overall gameplay mechanism is pretty brilliant! I think if players (us) could be more at risk, it would've been more exciting and engaging." This showcases how risk increases challenge which creates uncertainty – and that uncertainty is actually rewarding in an adventure.We had only accomplished that in a limited capacity. As such, simplifying the event was ineffective, as it's necessary to feel challenged to have an adventure. This goes back to the idea of an adventure, because if the path was too easy

it would not be rewarding to go through it; it would take the thrill of achievement out of it. Participant Garrett explicitly said that it was the thrill of achievement and "levelling up" that caused more immersion for him, which is a narrative mechanism stolen from gaming and recognizes that certain people need to be doing things and be validated to deeply commit. And in an adventure, each protagonist faces small victories that prevent them from giving up.

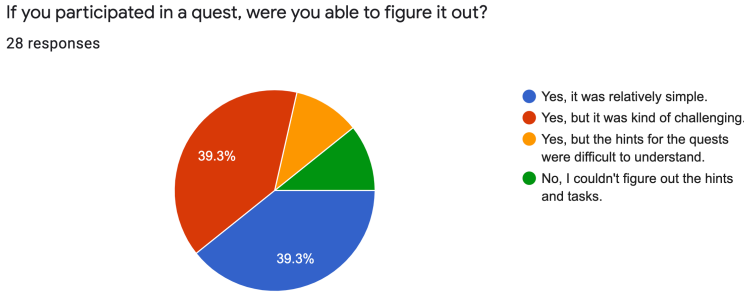

Chart 1: Alohomora Feedback

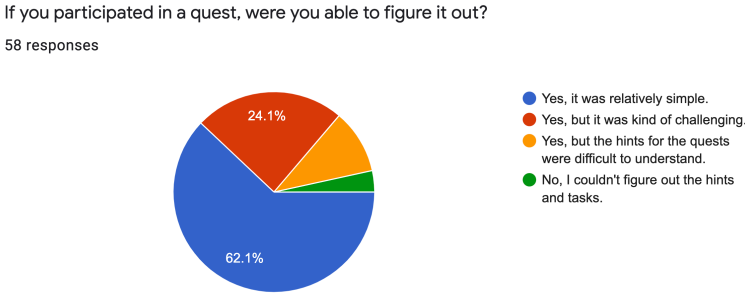

Chart 2: Ascend Feedback

It was also discussed that the immersive, task-oriented approach was effective as it facilitated exploration, discovery and socialization: all essential elements of an adventure. This was

substantiated by Adriana, who said about Alohomora, "I loved how creative it was! From searching for clues, duelling, collecting dragots, meeting new people, etc." In Ascend, instead of trying to infer the degree the event felt like an adventure, the question was directly posed in the feedback forms (Fig. 3). 92.1% participants who responded said that it felt like an adventure (they rated it over 4 on a scale of 7) This distribution is as per design, since not everyone is equally important in a story and not everyone has an equally exciting, adventurous journey. 7 on the scale was labelled "I was a hero." which reveals a lot about how certain people felt: important. The words adventure and hero came up repeatedly in the feedback too. Julia Menchav said, "I had great expectations after joining the similar Harry Potter-themed event last year. I expected an adventure with an overarching quest that featured lots of mini-games," while Mary Jab said, " I felt like I was playing as one of the heroes in my video games." This shows that people felt like they themselves were relevant to the story in a way they found thrilling and described as an adventure.

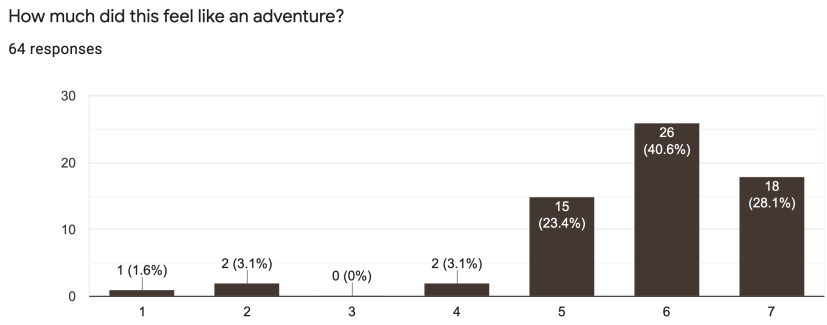

Chart 3: Ascend Feedback

Even though participants were the centre of their own stories, no story and no adventure is complete without other characters. Participants felt connected to and invested in the characters

which led to a very strong emotional impact at the conclusion. In *Alohomora*, Julia, who was on the dark side, said the characters' "motivations and backstories were clear and upon learning more, it really blurred the lines between what was good and what wasn't. It was easy to empathize with the characters we interacted with." This emphasizes the educational point of empathy and ambiguity because she genuinely felt for the characters and was conflicted because of it – there was emotional risk and uncertainty involved. Through the quests, Garrett developed a personal relationship with characters too and this caused him to say "Miao Shen's death or "loss of free will" really wrenched my stomach. I'd never been so impacted by a death scene in my life; though partly due to my emotional investment in this character, my reaction to the death scene was compounded by my physical proximity to the actors (which is usually absent)." By creating physical closeness and repeated interaction with the characters, it seemed to feel more like someone you know was hurt than someone you only know of. As such, playable theatre allowed participants to build a very intimate form of empathy, especially with characters they might have dismissed in more passive forms of story. Here, their interactions establish that connection—as the participants are not exposed to all the characters and they choose the extent that they interact with each one.

It also increases their 'buy-in' to the world, investment in the cause of the story and their personal sense of self-worth which directly relates to exploration and growth. Someone said Kai, a character from *Alohomora*, "did a very good job of instigating the mission of the Dark Army and making me and my friend feel like we were a valuable asset to the team." Furthermore, an actress shared that a participant informed her he wanted to join the Revolution because "he was abused as a child and he wanted to take away free will so nobody else could abuse their children." By asking personal questions, the actors created a connection

between the participants and themselves. Credit to playable theatre, the actors weren't just being heard by the audience member: they were also listening to them. And this made the conflict all the more real for all of our participants, showing how personal resonance causes narrative investment and increases perceived risk. Leveraging that in interactive live experiences increases pay off, which is more likely to result in growth. Because participants connected this experience to their real-life and past, it is more likely that it'll impact their 'out of universe' future.

People also navigated the world they had been presented with in very interesting ways. This was neither a video game where their options could be limited nor a theme park where the large focus is to get through the rides. Instead, the world was somewhere in between— they were allowed to explore a landscape but there was a larger narrative with characters trying to influence their decisions and actions. Some people were aware of the sides and made deliberate decisions to seek a side out. For Alohomora, Jess O'Connor said "As soon as I walked in, I walked up to an actor I knew, and was immediately given the impression that she was playing a bad person, as she was telling me about all the poor wizards who were killed by Muggles," therefore she took control of her story by going around to find characters whose ideas resonated with her more and ended up in the Light Army instead of the Dark Army. That didn't always work out for everyone as Janine Zhu said she, " wanted to get into the Dark army, but couldn't find where to start so (she) just did the Light quest." There were several ways to navigate this situation from a game design standpoint; the easiest would be to ask a character that seemed "dark." This led to an important revelation which was reinforced going through the feedback for both years: the immediacy of the experience disorients people into a false sense of helplessness. Despite understanding their journey was a result of their choices, they felt under-equipped to solve larger

problems due to lack of information. So some participants complacently went along with whichever situation they were thrown into, showcasing a key difference between our use of playable theatre and and passive narrative: in what we were doing there is no guarantee that one will ever learn everything, just like real life, whereas in forms such as books, movies and theatre all will be revealed if the audience waits. Steve Hutchinson says that in his role-playing exercises, there is a facilitator and "The skill of the facilitator here is in extracting real learning from artificial situations." (Hutchinson, 2012). It is worthwhile for the designers to consider such mediation techniques for educational reasons, so that people's ignorance within the game world doesn't prevent them from learning outside of it. But within the game world player limitations seem to aid the goal of creating an adventure as they contribute to perceived risk and uncertainty while enabling exploration and discovery.

As intended, *Ascend* impacted some participant lives outside the fictional world through the process of developing transferable knowledge and skills. People said that they learned more about mythology, and several people said they felt like a part of the show/game. A few people, however, had more life changing breakthroughs. Garrett said that "I didn't become a character through the course of the event. Instead, I became myself—and what happened during Ascend has now become raw material to see what potentialities lie dormant in my own personality when it's allowed to run without (or at least with less of, or a different kind of) a filter." Due to his importance in this experience he felt empowered to be more social. On a less transformative level, several people were inspired to research the lore. Max Lu said he "felt inclined to talk about it and research the world outside the event, I saw many people were so engaged that they still consider themselves as the character in the game after the whole game is finished, and I'm one of them."

Furthermore, for each participant the other participants functionally became a character that they had to interact and journey with. A participant said that they wouldn't be able to succeed alone and "asked around multiple times in order to complete the quests. " This compulsion resulted in meeting new people and making new friends, thus making the story more interesting by causing more interactions, intersections and opportunities. This demonstrates the unique community aspects of this format: unlike many other narrative formats, you *cannot* progress alone. Because now they automatically have an element—a friend who will stay past the magic of the night—this is key to making our experiences the participants' story and adventure rather than the story participants are witnessing. This also encourages collaboration, an important transferable skill that will serve them out of the experience and that sparks discussion. For Julia, her experience spurred "lots of outside conversation." They discussed "the pivotal moment where (their) choice, which seemed natural to all 3 of (them), led (them) to the dark side and how sometimes there is no clear "dark" or "light" side, not only in this story, but in other situations as well." By having other participants who shared the experience with them, it becomes more likely a reflection and learning process will be catalysed. While other narrative mediums encourage similar conversation, they only pose questions that you can only answer in hypotheticals since you are not personally going through the experience detailed in the book or movie. Unlike passive story forms which aim to replicate the best of reality, we designed a fantastic reality. We created a world where we were able to hold up a mirror and tell our participants "this is what you did. These were the consequences. Now you can think about why." This enabled people to consider their own values and potential instead of just considering through other people's perspective of 'what they would have done in a situation.' And this, as previously mentioned, is highly conducive to personal growth – the ultimate ending of an epic adventure.

Overall, it's not only apparent that there's a growing thirst for people to participate and make a difference in the stories they consume and to have an adventure but also that there's undeniable value in this activity. There are a multitude of works that use playable theatre techniques, frequently for social change. One that closely aligns with the experience we designed is Knott's Berry Farm's annual Ghost Town Alive that capitalises on similar techniques to create an adventure at an even larger scale than our experiences. Ken Parks, The VP of Creative, reported that it helped children with social anxiety. However, the accessibility of such events is one of our major concerns. Since they are site specific and inherently draw a more extroverted, artistic crowd, many who may be interested in and benefit from such entertainment never find it. Furthermore, some players—especially newer ones—have trouble taking a story forward and contributing without guidance and encouragement. On that front, playable theatre, despite being labour intensive is a great force of personalisation as actors are able to assess people's knowledge, abilities, perspective, values and biases to propel their engagement.

This experiment will help other creators determine direction to reliably build such value, which the industry is reportedly struggling with. The Immersive Entertainment Industry Report 2020 describes there to be 4 levels of interaction in immersive experiences. Level 0 events are completely passive experiences such as traditional plays, Level 1 having optional but meaningless interactions such as triggered special effects in theme parks, Level 2 having 'participation encouraged' such as what our show was and level 3 requiring interaction to further the experience such as Dungeons and Dragons. The report says "A Level 2 experience is not fully a game nor a show, but a combination of both. It is trying to deliver impactful moments through interactivity. Arguably, this is the most challenging level for creators to achieve because it requires a careful balance of

meaningful interactions and show elements. Currently, the most experimentation in the Immersive Entertainment Industry is happening on this level, finding a way to create an interactive experience that is fulfilling for those who love to feel in control while not leaving behind those who are timid about interacting." (Brigante and Elger) Recognizing this challenge the industry faces in developing level 2 experience, we have offered the beginning of a framework which can be more easily replicated.. While further development, testing and iteration is necessary, this framework can be applied to different themes and spaces when developed further. And in doing so, it starts to address the question of how to build a story where each person can contribute and matter, even if they choose not to. This is a huge step forward in the development of playable theater experiences that are scalable, replicable and consequently (socio-economic factors aside) more accessible. Furthermore, this experiment can give ideas on different ways to academically study the impact of educational playable theatre experiences, so that creators can corroborate the impact of their work in a directed manner and academics can find more reliable methods of reaching their educational goal.

Though it's difficult to assess the tangible impact these experiences have had on players' educational levels, with such a small sample it is possible to record participants for longer periods of time to discern whether this made a difference and to do more such experiments in future. However, it's important to note that internal differences are difficult to measure—and it is even more difficult to attribute credit of a particular shift in perspective, behaviour, or skill to one particular experience. Often, these experiences build on top of one another, like bricks, until there is a sudden, measurable difference and a wall is now a house. These experiences will always have impacts that will never be discovered, just as stories always have a ripple effect. This industry and research are both very nascent and

rudimentary, but hopefully, the preceding experiments will help guide others in making impactful experiences and have provided suggestions on how their impacts can be measured as we enter a new era where entertainment and education converge.

APPENDIX A: SHORT FEEDBACK FORM ALOHOMORA

https://docs.google.com/spreadsheets/d/1h_Z46MTnaxWbr0xFRLbKmApBiipIhNbxbU2gFSaqtjs/edit#gid=219424014

APPENDIX B: LONG FEEDBACK FROM ALOHOMORA

https://docs.google.com/document/d/1Sd2oOrkpeM2qfKkK_w1jsoOfUHfUXEp-kxMDLiUqjNA/edit

APPENDIX C: SHORT FEEDBACK FORM ASCEND

https://docs.google.com/spreadsheets/d/17v3idWe0btc0IajzUyf9owfMYA4xH2JN2DkH5sPxYlg/edit#gid=2104157771

APPENDIX D: LONG FEEDBACK FROM ASCEND

https://docs.google.com/document/d/1j5ETTheUR_9eFAbjFG-eldsxFgreRww9GHYNX56YlB4/edit

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