


The Oracles Final Report:  
Mapping the Affect and Effects  
of Immersive Play in Key Stage 2





Punchdrunk's **The Oracles** is a multi-sited immersive gaming experience developed for local primary school children in Harringey, London. Inspired by the myth of The Twelve Labours of Hercules, the project is designed to engage Key Stage 2 pupils with Greek mythology and mathematics and to improve digital literacies.

**Punchdrunk**

Since 2000, Punchdrunk has pioneered a game changing form of theatre in which roaming audiences experience epic storytelling inside sensory theatrical worlds. Blending classic texts, physical performance, award-winning design installation and unexpected sites, the company's infectious format rejects the passive obedience usually expected of audiences.

**Punchdrunk Enrichment**

Punchdrunk Enrichment takes the company's innovative practice into communities and schools, creating performances with and for children, young people and participants. Integral to the creation of this work is the same commitment to exemplary design and performance that defines Punchdrunk's large-scale productions for adult audiences.

Key projects to date include installation-based schools project *The Lost Lending Library*, which has been delivered to 52 schools, and *Against Captain's Orders*, an epic family adventure created in partnership with the National Maritime Museum that was seen by family and school audiences of over 33,000. They also created *Small Wonders*, a family show which premiered at LIFT 2018.

[enrichment@punchdrunk.org.uk](mailto:enrichment@punchdrunk.org.uk)  
[punchdrunk.org.uk/enrichment](http://punchdrunk.org.uk/enrichment)  
[punchdrunk.org.uk](http://punchdrunk.org.uk)

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All photography in this publication is by Paul Cochrane except those images which are taken from Angela Colvert's data collection<sup>1</sup>. The images from the digital game are taken from the designers' website with permission.

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In this first section, I present an overview of the project. The rationale (1.1) and description (1.2) provide a brief summary of the *The Oracles*. The pages relating to Punchdrunk Enrichment's new practices (1.3) offer insights into the development process, drawn from interviews with lead members of the Punchdrunk Enrichment team, and reveal the ways that *The Oracles* broke new ground in relation to the company's former work (particularly in relation to their use of space, technologies and the curriculum focus). A step-by-step breakdown of the framework of the challenges and episodes can be found in the project structure section (1.4).

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The primary contribution of this research is a new conceptualisation of immersive play, and its pedagogical potential, rooted in the experiences of the participants of *The Oracles*. In this section the aims and methodologies of the research project are outlined (2.1) before the diagrammatical representation of the new model of immersive play is presented (2.2). This model of immersive play is unique in the way it maps the intersections and interrelations between the intensity of the experience (affect) and the engagement of the participants (effect). It may be helpful to refer to section 2.2 as you read the remainder of the report.

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The model of immersive play presented in this report, and the broader findings of the research project, have significant implications for research, practice and policy in a range of disciplines including games studies, education and drama. These are outlined in this section along with recommendations for Punchdrunk Enrichment's future work

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# The Oracles

## 1.1 Project Rationale

**The project sought to investigate how gaming pedagogies might be combined with immersive theatre principles to provide a range of learning opportunities for children as they played within and across a range of virtual and physical spaces. Although Punchdrunk Enrichment (PE) has previously integrated gaming principles into their work (Cremin et al 2015)<sup>2</sup> The Oracles was the first time that digital gaming, in the form of a 'virtual world', had been incorporated into the theatrical experience.**



PE wanted to understand how this approach to immersive play, across digital and physical realms, might support children's learning, with a particular focus on problem-solving, collaboration and communication. The game was designed to support learning in the subject area of maths,

and required pupils to use skills such as logic, code-breaking and algebra.

Educators have argued that computer games can embody learning principles (Gee, 2014)<sup>3</sup>, and there have been an increasing number of studies which have explored the challenges and

potential gains when teachers integrate digital games into their teaching practices (Beavis et al, 2017)<sup>4</sup>. However, the pedagogical implications of immersive forms of game-play are still under-researched, especially as they relate to primary school settings (Colvert, 2015)<sup>5</sup>.

## 1.2 Project Description

*The Oracles* was played by seven classes of children across eight schools in Tottenham Hale, in the London Borough of Haringey over four weeks in June 2017. It was subsequently played by a further eight schools in the autumn term. During the game the players were challenged to save the village of Fallow Cross and protect a group of villagers, who call themselves *The Oracles*, from an evil sorceress called Circe. To succeed they needed to work together to uncover Hercules' 12 labours and piece together his shield in order to restore protection to the village. The game was structured in seven episodes which took place across and within physical and virtual realms: three physical visits to a theatrical installation, three classroom sessions including the playing of a digital game and then a final culminating video.

The children first encountered Fallow Cross by playing a digital game on tablets in their classrooms. When exploring this virtual world they collected herbs and pieced together the history of the village from letters scattered around the environment. In later episodes they also navigated mazes, and solved mathematical challenges offline, such as calculating the codes needed to unlock chests in order to recover parts of Hercules' shield. At the end of episode 1 the children discovered a letter in a school room at the heart of the virtual village. The letter was a call for help and the children were told that the village was actually a 'real place' and that to save it they must each come in person.

Accordingly, in episode 2, the children travelled to a theatrical installation in a warehouse in Tottenham Hale. Once they stepped inside they found themselves in a schoolroom that

looked exactly the same as the schoolroom did in the game, though here they were standing inside it and could touch, smell and interact with it in myriad ways! The children then learnt that they needed to venture into the village again and outwit the sorceress by completing challenges in order to uncover the twelve labours of Hercules. They soon discovered that their actions in the digital game affected the physical village and vice versa. So, for example, the herbs and shields that they had collected in the virtual world appeared in the physical village and could then be used to make a protection spell. Physically placing one of the labours in the fountain at the centre of the village meant that it appeared in exactly the same spot in the virtual world. As they moved between and within these physical and virtual realms, the children developed a nuanced understanding about the importance of their interactions.



**The Fountain of Fallow Cross** in the digital game (above) and the installation (below)



**The School Room in Fallow Cross** in the digital game (above) and in the installation (below)



**Tackling Challenges** in the classroom (above) and in the installation (below)



<sup>2</sup> Gee, J. P. (2014) *What Video Games Have to Teach us About Learning and Literacy - 2nd Edition*. New York, St Martin's Press.

<sup>3</sup> Beavis, C., M. Dezuanni and J. O'Mara (2017) *Serious Play: Literacy Learning and Digital Games*. London, Routledge

<sup>4</sup> Colvert, A (2015) *Ludic Authorship: Reframing Literacies through Peer-to-Peer Alternate Reality Game Design in the Primary Classroom*. Unpublished PhD thesis. Institute of Education: University College London

# Punchdrunk Enrichment: New Practices

The creative team behind *The Oracles* included Matthew Blake as Director, Kate Rigby as Designer, Salvador Garza as Sound Designer, Elliot Griggs as Lighting Designer and Jim Bending as Lead Game Designer. It was an ambitious undertaking and a departure from their earlier work in a number of ways relating to the use of space, integration of technology, curriculum focus and duration of the project. Each of these will be discussed in this section in order to contextualise the innovative aspects of *The Oracles*.

## Use of Spaces

*The Oracles* was the first time an installation of this scale had been created for the sole purpose of developing enrichment work. The innovative use of space is integral to Punchdrunk Enrichment's work. Previous enrichment projects have involved creating a village green inside a care home for the residents to explore; setting up a magical 'Lost Lending Library' in a corner of a primary school and transforming spaces in a secondary school so that they become part of 'Prospero's Island' (complete with caves to crawl into and lockers filled with mysterious items). In these immersive installations, 'Punchdrunk Enrichment open doors to other worlds, embedded within those participants already know' (Tims, 2016)<sup>6</sup> with the aim of developing learning opportunities which lead to beneficial social and educational outcomes. However, Punchdrunk Enrichment do not only transform spaces which are familiar to participants. Occasionally Punchdrunk's public, commercial, installation spaces have been used. For example, they invited classes of children to visit 'Temple Studios' and tasked them with writing the script for a film in order to save the fortunes of the studio (actually the set of *The Drowned*

*Man*, a public-facing Punchdrunk production located in a vast, disused sorting office in Paddington, West London). However, for *The Oracles* Punchdrunk Enrichment built an entire village (complete with pub, opticians, school, church and bric-a-brac shop) inside a giant warehouse space in Tottenham Hale.

This village, which they named *Fallow Cross*, also functioned as a research and development space in which Punchdrunk could develop new forms of immersive theatre. It was never designed to be a space for a public production, rather it was used to host projects with and for the local community and schools and as a base from which to run workshops and professional development opportunities for artists and teachers. Peter Higgin, Punchdrunk's Director of Enrichment explained the significance of this space to the company in our first interview:

*Fallow Cross is interesting to the company because [...] it was the first time we've ever had a home or a space where we can experiment with ideas, which isn't a show show space and which doesn't have the pressure of a public audience visiting. So, in that sense it's about exploring future ideas for the company, and each structure within there, embodies future ideas.*

The village was central to the new flagship production of *The Oracles*, and it was hoped that the innovative practice of the enrichment work developed at *Fallow Cross* would inform future directions for the commercial arm of the company:

*Fallow Cross is run by the charity, there is a commercial entity called Punchdrunk International, and innovation sits within the charity. Very much our approach to making work and to kind of pioneering and innovating is to use spaces like Fallow Cross [...]. putting the enrichment work we do, whether it's with schools or whether it's with communities, alongside our future ideas. So, the intersection of the company's future practice will meet the company's innovative enrichment practice.*  
[Peter Higgin – Initial Interview]

*The Oracles* was a ground-breaking game, with high production values. It was significant then that this was being produced for schools in Haringey, rather than a broader commercial market:

*We are creating the newest form of theatrical engagement, the most exciting form, that we think is genre bending or innovative in terms of form and storytelling. We're giving it to audiences who might not necessarily receive these kinds*



Above: The performers carry lanterns which contain 'magic touch' technology

*of experiences. They might be experiences that you would expect to pay for, you would expect to be giving to an adult audience in terms of level of sophistication. So, we're at a point where *The Oracles* is the first example of that and it's the flagship project for the village and for the company. It's the first time we've ever had that intersection.*  
[Peter Higgin – Initial Interview]

Indeed, such spaces for experimentation are important to the company and to the sector more broadly; it has been suggested that 'as immersive theatre continues to look for new ways to keep theatre-going audiences guessing, maybe it will be to Punchdrunk Enrichment, who innovate and respond to participants constantly, that they will turn to for new ideas' (Tims 2016).

## Integration of Gaming Technologies

**The Oracles was the first time that Punchdrunk Enrichment had integrated digital gaming, in the form of a virtual world, into the immersive experience.** Peter Higgin explained that:

*One of the big future ideas for the company is about what happens when a [digital] game world meets a physical world? So, there was an overriding desire to explore that through Fallow Cross. [...] What does it feel like to have a replica digital world which you can also visit physically?*

In order to explore this, they hired Jim Bending as the company's digital design lead and lead game developer on *The Oracles*. He guided the Enrichment team through the process of game development and helped them to understand

the constraints and possibilities of developing a virtual world. Although the company's work had been likened to digital games by participants, and the company had begun to design game mechanics into their previous work (Cremin et al 2015) this process of creating and integrating a digital game was a steep learning curve for the enrichment team. Peter Higgin explained that:

*We often talk in game terms, but we didn't understand the sort of restrictions and challenges and complexities of making one.*  
[Peter Higgin – Initial Interview]

One of the first challenges was establishing common points of reference so that decision making was rooted in a shared understanding of the types of game mechanics and rule systems that could be employed. At the start of the process the Enrichment team played and discussed a range of

<sup>6</sup> Tims, C (2016) *Doorways*. Punchdrunk

**A second challenge related to the need to adopt radically new ways of working, particularly in relation to the time-scale of development...**



**Once, the focus of the mathematical purpose had been honed, the creative team set to work designing challenges.**

Left: When labour cylinders were placed in the fountain they also appeared in the digital game (in exactly the same position as in the installation!)

games with Jim Bending, in order to investigate the features and characteristics. This, Higgin argued, was very helpful:

*Because with us, our work, when we're creating a show, we always have common frames of reference like this show or this theatrical device. But we needed that common frame of reference, so he could say, "Like in Zelda, like in Candy Crush, like in Crossy Road." We then understood those game mechanics as you would in theatrical terms.*

A second challenge related to the need to adopt radically new ways of working, particularly in relation to the time-scale of development, as Higgin reflected:

*Working alongside digital development, is so very different from our normal practice. Having to translate your style of working alongside the digital style of working is totally different. We're creating a piece of theatre, and creating enrichment work is usually so organic. And with this, because you had to hang so much on what was being created in the digital world, and the team working on that, Jim and Carlos, had to sign things off so quickly. It was just like, "Right that's a very definite answer, and there is some wiggle room in what we create, but we've got to hit that and run." [Peter Higgin – Initial Interview]*

An example of this would be the close attention that needed to be paid to the way that representations of *Fallow Cross* mirrored and echoed each other across virtual and physical realms. This meant that on occasions Kate Rigby had to design props six months in advance because the artefact needed to be reproduced digitally, whereas in previous productions these could be created as little as three weeks before the start of the show if needed. Sound motifs were also developed so that they spanned the physical and digital environment., Reflecting on the process, Jim Bending explained:

*Personally, I'm very pleased with how the game has ended up looking. That was a learning curve for me and the scale of the game within something like five months of actual development with a tiny, tiny team is massive; it's a massive game [...] the quality of it really shines through. I think the atmospheres between the two are really well linked. We use the same audio [in the digital game and in the installation space], so I really feel like we nailed the atmosphere... [...] Salvador [the sound designer] did really well. [Jim Bending – Initial Interview]*

A third challenge for the enrichment team was having to integrate technology into their work in new and unfamiliar ways. Early in the

process, decisions needed to be made regarding the platform, such as whether it would be played on a PC or tablet, and it needed to be understood that seemingly simple design decisions (such as having trees in the virtual world, or travelling on a boat) would have considerable implications relating to the space needed on the server, processing capabilities and loading times. In addition to this the creative team were piloting and experimenting with the use of new tracking and mobile technologies in the installation space. An example of this was 'magic touch' technology:

*The magic touch technology is a piece of tech which allows you essentially to trigger a theatrical cue with a touch of your hand. In *The Oracles* if you were holding the right lantern and you touched Mayor's House door, then that would open it, but it was the active – physically – conductivity and the signal going through your body, and that's important to us because you're not having to swipe a card, it's actual physical touch, it's you being magical. [...] it also...identified who you were, so it was unique to you [Peter Higgin – Initial Interview]*

*The first ambition was to track them in the space. That didn't quite work, we did have a prototype of that, of tracking people, [...] but where we did succeed was, you were able to place labours here [in the fountain in the*

*installation space] and it's uploaded to the server, and then the next time the children will play the game, they're going to see those labours [in] exactly the same spot they put them in. [Jim Bending – Initial Interview]*

### Curriculum Focus

**The Oracles represented the first time that Punchdrunk Enrichment had focused on developing children's mathematical skills.**

Peter Higgin elaborated:

*We do a lot of work in terms of literacy, in terms of the imagination, in terms of creative writing [...] We haven't branched out into maths before, but actually [it] felt really important for us to be doing something which addressed a new subject area as well. So, we were challenging ourselves to address an area of the curriculum that we hadn't addressed before. [Peter Higgin – Initial Interview]*

Before designing the game, PE approached the maths leads at two of the schools with whom they had strong relationships in order to seek guidance on content of the Key Stage 2 curriculum and to gain an understanding of what teachers felt were important areas of focus. Matthew Blake, Director of *The Oracles* explained that:

*in early discussions teachers communicated the importance of*

*equipping them [students] with the skills, rather than the knowledge. So, its skills based learning, rather than knowing something by rote [and] application, real life application. So, if you needed a bus to fit 26 students in, then you had 27, in normal terms you'd round down, but actually in reality you'd have to have two buses. That is the real life maths. [Matthew Blake – Initial Interview]*

Once, the focus of the mathematical purpose had been honed, the creative team set to work designing challenges. They first had to decide how the participants would be invited to engage in problem solving. Matthew Blake saw this as something that had happened quite quickly:

*We made a decision quite early on that the [digital] game itself wouldn't address the mathematics side of the curriculum [...] That allowed us to leave that as pure gameplay and exploration, which felt right for the style of the company's work generally, and the kind of format of game we might explore in the future. So that then allowed us to go, "Okay so it's going to be in [...] in the village." [Matthew Blake – Initial Interview]*

The village in *Fallow Cross* had a number of structures, such as an optician's, church, bar and bric-a-brac shop, all of which would house clues and information needed to solve the puzzles embedded in each

of the rooms in the installation. This approach was informed by research they had undertaken into escape rooms, games which trap you inside a room until you can solve a series of challenges by uncovering clues and information in the immediate vicinity. The designer Kate Rigby worked closely with the assistant director and producer to weave the components of the challenges into the spaces. Peter Higgin argued that this too was a new way of working for the company:

*because often you don't get the designer getting that much involved in the sorts of the ins and outs of the logical problems [Peter Higgin – Initial Interview].*

During the process of design and production, despite the challenges they faced (or perhaps because of them) the idea of a 'Punchdrunk Game' developed and took form and the result was a very high quality, ground-breaking, product that was produced in a six month time frame – Quite a feat!

*As a company we are always interested in exploring the intersection of our work with other genres of work. It's always about trying to extend the experience to reinvent the experience of what it means to go to the theatre. [Peter Higgin – Initial Interview]*

# Project Structure: Overview of the Oracles

## Episode 1 (Week 1)

### Classroom Session (60 mins)

The game begins when Suki (a performer acting as a game-designer) arrives in the classroom, and asks the children if they will test her new game. The children are very keen to do this and have lots of questions for her about her job. As the tablets are given out, Suki does not give very much direction. She simply asks them to explore the game and collect any mint and thistle they might find. She also instructs them to look out for any messages or items that might help them along their way. As the game loads on the children's screens, mysterious and eerie music is played from speakers at the front of the class. There is a hush in the room as the children watch a landscape emerge on the screen and begin to tap their tablets to navigate the digital environment.



Suki supporting the children in a classroom session



Screenshot of standing stone taken from the digital game

As the children collect herbs, their individual tally is represented on the screen but there is also a record on the whiteboard at the front which displays the total number collected by the class. Eventually some children discover that there are beams of light and standing stones which will help them to navigate their way through the wilderness depicted on the screen. They also encounter Circe, the evil sorceress manifested as a storm, and have to escape from her quickly or risk losing all the thistle they have collected. Eventually the children discover a village called Fallow Cross, with a fountain in the centre and lots of locked buildings. Whilst exploring this village, one child finds a letter in a schoolroom and the letter is immediately projected on the screen at the front of the class, whilst all the screens on the tablets fade to black. The letter is a call for help! After reading the letter, Suki reveals that actually Fallow Cross is a real place and that she has three friends there who collectively call themselves *The Oracles*. Their names are Hemi, Hera and Delphi. She explains that these three villagers desperately need the children's help to save Fallow Cross from the tyranny of Circe and asks the class if they are brave enough to visit them. The children eagerly take up this invitation and agree not to spread the word about their mission except amongst their classmates and teacher.

## Episode 2 (Week 1 or 2)

### Installation Session (60 mins)

The children travel to a warehouse in Tottenham Hale and are greeted by a member of *The Oracles*, Hemi (one of the performer-facilitators) who ushers them inside. As they step over the threshold, they enter the school room which they had seen depicted in the digital game and are in awe; such is the likeness with the digital game that some feel they have stepped inside it! They are welcomed by the two remaining villagers, Hera and Delphi (the remaining performer-facilitators). *The Oracles* explain that Hercules, the mayor of the village, is now dead but left them instructions on how to restore peace to the village and free themselves from Circe's evil reign. They must collect 12 labours, which are hidden around the village but they will need to solve a range of challenges and puzzles before they find them. Once found these labours must be placed in the fountain. They explain that it is not safe to explore the village as Circe is out there and is very dangerous. However, with the mint that the children collected in the digital game Hera can now create a protection spell, which will enable them to explore the village.

These herbs have been transported to the village via a portal, and can now be found in one of the lockers in the school room. Hera removes the mint and uses it to create magic lanterns which will hide them from Circe, as long as they burn orange. However, she explains that the magic will not last long. If the lanterns turn blue Circe will see them and try to find them and they must run for the cover and safety of the school room again. They split into three groups, each led by one of the villagers (each team called Hexagons, Squares or Triangles) and set out to explore the rest of the village, which is just as it was depicted in the digital game except they can now venture inside the buildings.



One of the puzzles in the bric-a-brac shop (in the installation)



Hemi checks that the coast is clear before they set out to explore the village (in the installation)

After retrieving the keys to the village from the Mayors' house, one group chooses to explore the bric-a-brac shop. Around the room are all kinds of trinkets and lots of radios. They are asked by Hera to look for a box that might contain the labour. After examining many boxes they find one which is locked and requires a four digit code to open it. It also has strange symbols, including a compass, on the top. The children notice that the radios in the room have unusual dials, and display fractions and percentages which appear to correlate with these compass points found on the box. They gradually discover with guidance from Hera that if they use their mathematical skills to convert fractions to decimals and percentages they can turn the dials on the radios to the correct frequencies. As they do this, suddenly a riddle is played: "Hello dear listeners. My name is Mrs Weevil and welcome to my shop! Now, I have a riddle for you. Are you listening very carefully? Then here it is: What is in every doll, in every doll, in every doll, order these from big to small. Work this out and you'll have your answer." The children notice the Russian Dolls in the corner of the room and begin to unpack them. As they do they discover that they have fractions expressed in a variety of ways (% , fractions, degrees as per the radios) written on their bases and they also have letters on their heads. Once ordered correctly the letters spell EN VE LO PE. This leads them to a letter with an image of the dolls on it and inside are calculations for every letter of the alphabet. They choose the calculations which relate to the word L-O-C-K. Once they have solved these it reveals the CODE! The labour is released and they take it to place it inside the fountain. Unfortunately the children only have time to collect three labours before the magic lanterns fade and they have to race to the safety of the school room. They need to return to the digital game to collect more mint and thistle so they can create another spell and also find half of Hercules' shield, hidden in the West Kingdom beyond the village walls. They are given a paper map of the village and surrounding kingdom to take back to their classroom.

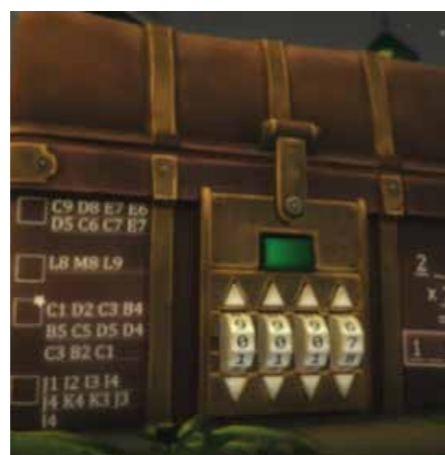


**Episode 3 (Week 2 or 3)****Classroom Session (60 mins)**

The children are delighted to welcome Suki back to their classroom. They excitedly tell her about all of their adventures in Fallow Cross and recount the challenges and problems that they solved in great detail. They explain to Suki that they need to play the game again in order to collect enough thistle and mint for Hera to make a protection spell for their next visit. When they begin to play the digital game they are given access to the West Kingdom where they must navigate a maze which has been vandalised. The children immediately suspect Circe's foul play.



Screenshot of the maze taken from the digital game



Screenshot of the chest puzzle which was projected on the whiteboard at the front of the classroom



The paper maps of Fallow Cross used during the classroom sessions

Once they have played the game for approximately 20 minutes, the game ends and their screens fade to black. Suki explains that they have collected all the thistle they need to complete the level. The class's attention is then drawn to the whiteboard where a chest has appeared. On the left hand side of the chest there are series of grid coordinates. The children are prompted to take one series at a time, and to place a mark in the centre of each named grid on a paper map of Fallow Cross. The children discover that when these marks are joined together in order, numbers appear. These four numbers (9,7,8,6). These digits then fit into the 4 gaps in the calculation written on the right of the chest. The children attempt trial and error to fit the missing digits into the calculation. If  $200 \times 7 = 1400$  &  $7 \times 8 = 56$ , then only 7 will fill the top number, making it 278. ( $7 \times 70 = 490$ ) ( $1400 + 490 + 56 = 1946$ ). The calculation should read  $278 \times 7 = 1946$ . The answer reveals the four digit code the children need to unlock the box: 1946. (There is only one correct answer) When the correct answer is submitted, a cut scene appears of the shield flying into the locker in the village. The children cheer and celebrate and ask their teacher to arrange for them to visit the village again to see Hemi, Hera and Dephi.

**Episode 4 (Week 3 or 4)****Installation Session (180 mins)**

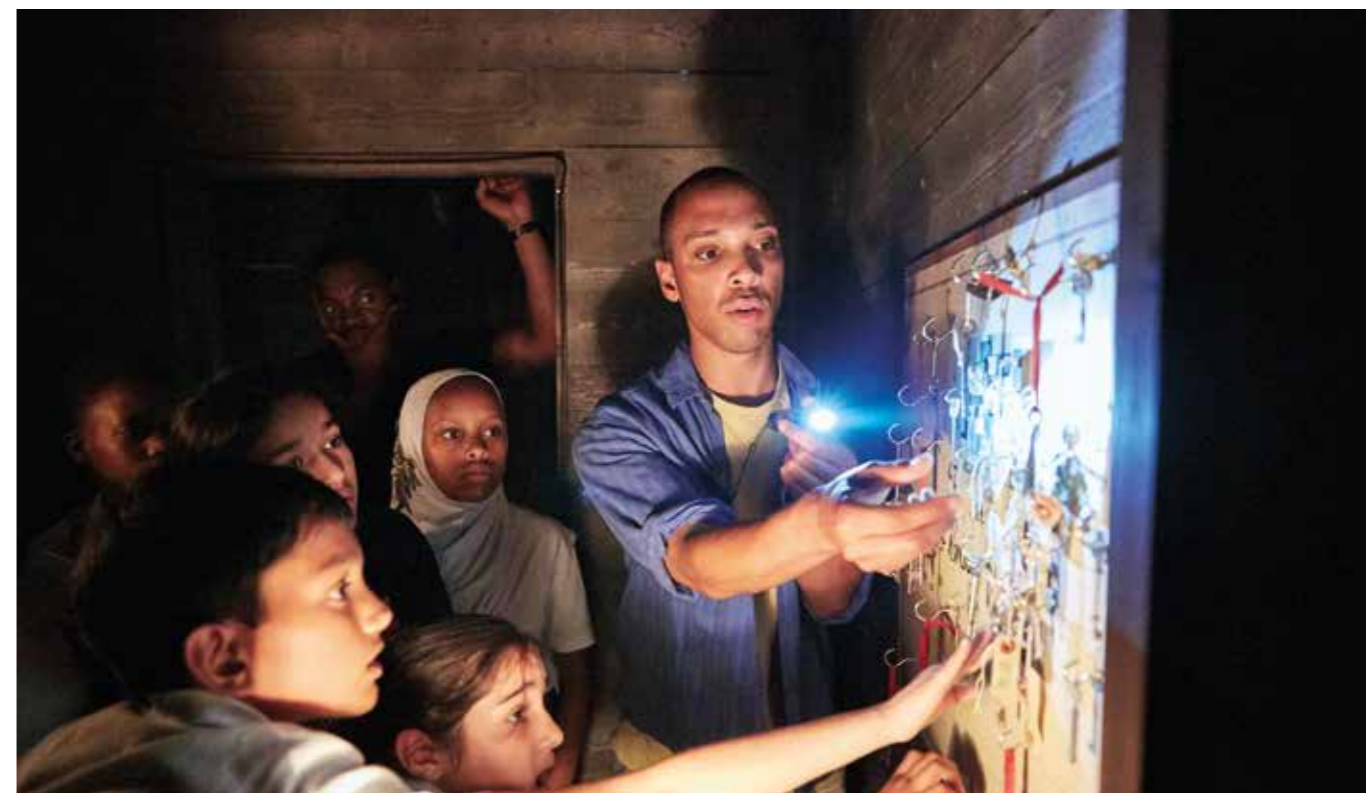
The children return to the village to discover that the shield and the herbs have been transported there via a portal in one of the lockers. They can therefore create another protection spell. In this episode the children continue to solve challenges in the village and succeed in finding six more labours. However, at the end there is a moment of high tension as Hemi gets caught by Circe, in her storm. Despite being warned of the increasing dangers associated with their mission, they beg to continue and promise to return to the East Kingdom in the digital game to find more herbs and the final half of the shield.



Artefacts needed to solve one of the challenges in the installation



The liquids children needed to combine as part of the challenge in the installation



Children collect keys from the Mayor's house so they can unlock more areas in the installation

**Episode 5 (Week 3 or 4)****Classroom Session (60 mins)**

The children are excited to have the opportunity to play the digital game again, facing new challenges as they play. In this episode, the children need to navigate their way through the Forest of Cerberus in the east Kingdom and use landmarks to help them navigate their way. As they do so they seek help from others in the room. Eventually, when enough mint has been collected they are presented with another locked chest, projected on the whiteboard at the front of the class.



Screenshot of the chest puzzle which was projected on the whiteboard during the classroom sessions



A child crosses a virtual bridge in the digital game

On the left hand side of the chest there are some grid coordinates. Once the children plot these co-ordinates on their map of Fallow Cross, they notice that each of the grid coordinates contains a symbol made up of sticks. Initially the children try to join up the grid references as they did in the previous class session but eventually they are prompted to try physically taking sticks away from the symbols. Once they begin to do this they notice that if you take away the number of sticks as shown on the chest, a word appears in the sticks and it spells a number. Taking away the sticks requires considerable patience and lots of trial and error. However, eventually the numbers revealed are as follows: D2 = 10, D6 = 3, I7 = 4, H3 = 5. The calculation on the right hand side of the chest reads  $D23 + (D6 \times H3) - I7$ . With the numbers inputted into the calculation on the right of the chest, the calculation reads  $1000 + (3 \times 5) - 4 = 1011$ . Therefore the answer to the calculation is the code: 1011 (There is only one answer) When the correct answer is submitted, a cut scene appears of the shield flying into the locker in the village.

**Episode 6 (Week 4 or 5)****Installation Session (90mins)**

In this episode, after completing a further challenge and collecting the final three labours, the children take the two halves of the shield to Hercules' house. There Hera reads the message which is written on the back of the shield halves: *'firstly put the shield together but be aware that you then must race to put the labour in its place. You have mere minutes but no longer to connect the numbers that make us stronger. Numbers in triangle squares and hexagon, start sequences to build upon.'* The children and villagers work together to understand the task and begin to speculate what might happen next. As the villagers place the two halves of the shield above the Mayor's House it begins to glow, revealing that the symbol for each group has a number associated with it. The children begin to generate number sequences starting with that number (drawing on their knowledge of times tables). Music and the sounds of a storm signal that Circe is near. The lanterns are turning blue. The participants run to the fountain. Once the final labours are in their place, the lights dim and florescent numbers which had been invisible before can be seen painted on the walls. The children hold hands, making a chain to link all of the numbers in their team's number sequence. The fountain then suddenly powers down and the light returns to the village. Circe has been defeated and the children celebrate together as they explore the village freely and without fear.



The shield glows and reveals new numbers needed for the next challenge (in the installation)



The children create physical chains using their bodies to link numbers in sequences (in the installation)

**Episode 7 (Week 5)****Classroom Session (20 mins)**

The school secretary arrives in the classroom with a parcel from Fallow Cross. After much excitement the children discover that it contains a note and a memory stick containing a recorded message. The teacher plays the short film which they have been sent by the villagers. After summarising all of the children's achievements and the impact this has had on the village of Fallow Cross the film concludes with this message: *"Like Hercules you displayed strength, wit, courage and determination. Like Hercules you are true heroes. You have proved yourselves smart and brave. As a reminder of your time with us we have sent you a small gift. It is the thirteenth labour. It represents the epic herculean journey you have completed. Please keep it safe and when you look upon it remember us and remember that whatever challenge you face in life you have the power to overcome it. Thank you for saving Fallow Cross. Until we meet again, thank you - Hemi, Delphi and Hera".* After listening to the message the children cheer and are all awarded a thirteenth labour in the form of a wooden medal.

# The Research

## 2

### 2.1

## The Research Aim

### Understanding Immersive Play

The research was undertaken by Angela Colvert from the University of Roehampton and was designed as an exploratory case study (Bassey, 1999)<sup>7</sup>. It sought to investigate the pedagogical significance of play in Punchdrunk Enrichment's *The Oracles* focused on the experiences of artists, teachers and children. The central aim was: **Understanding the Purposes, Practices, Processes and Products of Play in *The Oracles*: Mapping Multiple Perspectives of a Multi-Sited Immersive Game.**

The research was undertaken with three case-study classes (including teachers and children) in three different schools: one Year 4 class (7-8 year olds); one Year 5 Class (8-9 year olds); one Year 6 Class (10-11 year olds). Within each case-study class, six focus-children

were identified in discussion with the teachers: the sample included a gender mix and reflected diversity within their class and across the year group, particularly in terms of ability. Four Punchdrunk Enrichment performers also participated in the research, one of whom facilitated the classroom challenges and three of whom led teams of children in the installation. The views and perspectives of key members of Punchdrunk Enrichment were also sought, including those of the Enrichment Director, the Producer and the Lead Game Designer.

#### Data collected included:

- **Interviews:** undertaken at the start and at the end of the project with focus-children, teachers, artists and key members of PE;

- **Field notes:** of significant moments during play, and children's and teachers' reflections and responses after each episode of play (written, filmed and/or audio recorded);
- **Observations:** of three case-study classes' participation in *The Oracles* in classrooms and in the installation;
- **Detailed information from/on case-study students/teachers:** interviews, field notes, teacher accounts;
- **Teacher reflections:** gathered by PE staff during an end of project debrief.

All data was thematically coded to identify patterns and themes relating to the ways *The Oracles* was perceived and enacted by the various participants.

## Pedagogical Significance

### Mapping Intensity (Affect) and Engagement (Effect)

The primary contribution of this research is a new conceptualisation of immersive play, and its pedagogical potential, rooted in the experiences of the participants of *The Oracles*. Analysis of the data revealed that the **engagement** of the participants was closely related to the **intensity** of the experience.

**Intensity** was composed of four elements:

- a sense of purpose
- a sense of urgency
- a sense of place
- a sense of community

All of these were coded as 'affect' in that they were (im)material (Burnett *et al*, 2012)<sup>8</sup>, relating to the interpretations, perceptions, intentions and emotional responses of players.

The **engagement** of players included:

- constructing stories
- tackling challenges
- performing belief
- re-shaping relationships

All of these were coded as 'effect' as they related to the material, tangible aspects of gameplay such as the actions of players as they co-created the game-world through their performances, producing and distributing a range of actions and objects as the game progressed.

<sup>7</sup> Bassey, M. (1999) *Case Study Research in Educational Settings*. London, Open University Press.

<sup>8</sup> Burnett, C., G. Merchant, K. Pahl and J. Rowsell (2014) The (im)materiality of literacy: the significance of subjectivity to new literacies research. *Discourse: Studies in the Cultural Politics of Education*, 35 (1), 90–103.

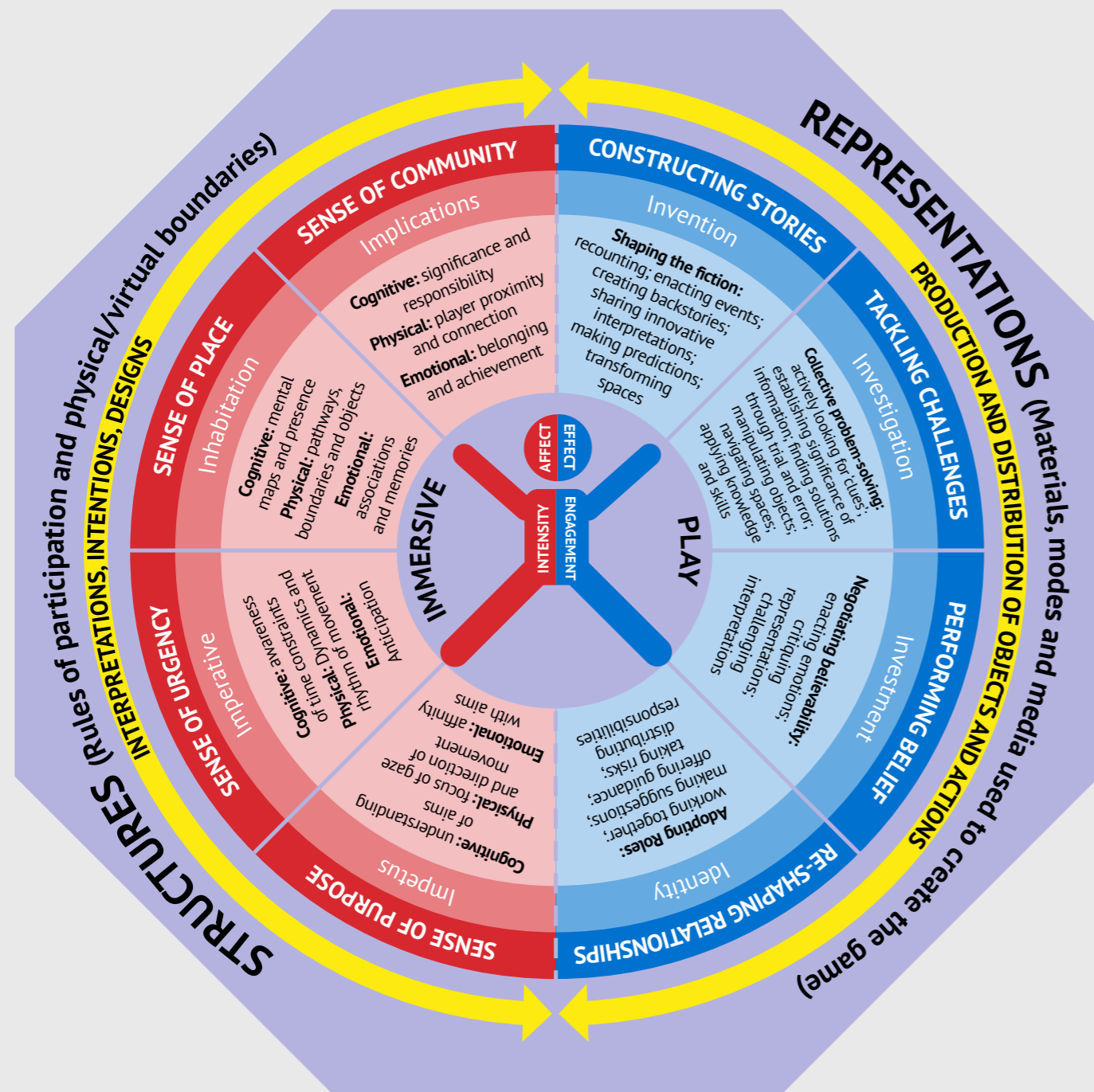
## 2.2

# Model of Immersive Play

The diagram below highlights the interconnected relationship between intensity (affect) and engagement (effect). At the centre of the model is the participant (child, artist or teacher), as play is an embodied experience. The red areas represent intensity (affect)

which is experienced by the participant cognitively, physically and emotionally. The blue areas represent engagement (effect) and relate to the actions of participants. The purple areas represent immersive play which is framed by the structures and the

representations of the game. Play is a dynamic process, as represented by the yellow arrows, in which the participants shape meanings together. Intensity of play inflects engagements and vice versa.



## Understanding Affect (Intensity)

# 3

## Understanding Affect (Intensity)

**Analysis of the data revealed that *The Oracles*, like other Punchdrunk productions, was an affective experience which was ‘felt as much as it was understood’ by the participants (Machon et al. 2014)<sup>9</sup>. Play in *The Oracles* was often characterised by the participants as having an ‘intensity’ which ebbed and flowed throughout the game and was experienced by participants in three interrelated ways: cognitively, physically and emotionally. These three aspects were always in a state of flux and can be described as a flow of knowing, flow of being and flow of feeling respectively.**

**Cognitive aspects of affect** relate to the participants’ **understanding** and **conceptualisation** of the game. These are not fixed, rather they ebb and flow from moment to moment, day to day and week by week. It is perhaps best described as a **flow of knowing** which at its most intense is experienced as a certainty and conviction and at other times doubt and confusion. Evidence of this aspect was found in the end of project interviews as they discussed their experiences. It was also evident across the observations and field notes in the comments and conversations that were held during play as players discussed their reasoning and hypotheses and shaped a multiplicity of meanings together. Although verbal interactions were the primary source of information about the participants’ cognitive understandings, these were also evident from observations of their interactions with the game-world. For example, the way participants manipulated objects demonstrated their understanding of their purpose within the game and their potential for helping to perpetuate play.

Across data sets cognitive aspects were coded as being related to: ‘understanding of aims’; ‘awareness of time constraints’; ‘mental maps and presence’ and ‘significance and responsibility’.

**Physical aspects of affect** related to **bodily sensations, movements** and the participants’ **awareness of themselves** in relation to other bodies, objects and spaces. This physical aspect was always in a state of flux and can be described as a **flow of being** related to the participants’ physical presence in the world, which at its most intense is experienced as a foregrounding of the sense of ‘situated self’. Evidence of this was found across all data sets. For instance, the bodily sensations which the participants referenced in interviews and in discussions when travelling to and from the installation included rushes of adrenalin, raised heartbeats, heat (and sweating). These were often related to physical movements, such as running from Circe in the installation or tapping on the tablet frantically in order to escape from her in the virtual world. Although

I was not able to systematically analyse the patterns of movement during *The Oracles* by creating maps of movement, my notes were detailed, and my filmed field notes enabled me to revisit and attend to movements that were not possible ‘in the moment’. In observations, the movements of participants appeared to contribute to the affective atmosphere in the game and as they responded, sometimes instinctively, to the way that others’ around them focused their gaze and moved their bodies. Movement appeared significant it that it ‘had a communicative quality in the way it signalled interest and attention’ (Daniels, 2018: 190) and ‘the dynamics of children’s movements often quickly drew the attention of other children’ (Daniels, 2018: 190). The participants’ awareness of themselves in relation to other bodies, spaces and objects was also significant and emerged from the observation data through references to ‘huddling together’ and ‘holding hands’ in the installation or ‘talking aloud’ as they played the virtual game. Across data sets physical aspects were coded as: ‘focus of

gaze and direction of movement’; dynamics and rhythm of movement’; ‘pathways and boundaries and objects’ and ‘player proximity and connection’.

**Emotional aspects of affect** relate to **feelings, bodily reactions** and **memories**.

These too change over time and can be described as a **flow of feeling** which at its most intense is experienced as strong sense of emotion which can be named such as fear, anxiety or joy and pride. At other times it may be harder to name emotions as they are more neutral and less deeply felt. A range of emotional aspects were evident across data sets. In interviews

the participants would name the feelings they experienced and verbal references to emotions were also noted in my observations and field notes. However, participants’ feelings were also evident in observations of their whole bodily reactions which were sometimes involuntary such as ‘flinching’ or ‘shaking’ or ‘crying’ which were interpreted by me in relation to the context in which they were observed as fear. I also observed smaller bodily reactions which were apparent in the facial expressions of participants. For example, my observations included multiple references to ‘eyes wide’ which I interpreted according to the context as ‘surprise’ or ‘fear’ or ‘amazement’.

Across data sets emotional aspects were coded as: ‘affinity with aims’; ‘anticipation’; ‘associations and memories’ and ‘belonging and achievement’.

In the process of analysis it emerged that these codes relating to the cognitive, physical and emotional aspects of affect, could be grouped under four broader categories: A Sense of Purpose (Impetus); A Sense of Urgency (Imperative); A Sense of Place (Inhabitation) and A Sense of Community (Implications). In the sections that follow I will take each of these categories in turn and elaborate on the ways they intersected with the cognitive, physical, and emotional aspects.



Above: Children celebrate together after completing one of the classroom challenges.

<sup>9</sup> Machon, J, N. Stammers and C. Thompson (2014) *Punchdrunk Enrichment Preliminary Report*. Punchdrunk Enrichment and Middlesex University.

## Sense of Purpose (Impetus)

### Cognitive: understanding of aims

The **cognitive aspects** of the 'sense of purpose' related to the participants' **understanding of the aims** of the game, both within the fictional frame of the game (they had to save the village) and within the broader social context (it was developing the mathematical abilities needed to solve problems). The children's understanding of the aims developed over time. I was able to 'eavesdrop' upon their ideas and their developing interpretations by listening to them talk about their reasons for playing as they travelled to and from the installation and as they played the digital game. I was also able to determine their understanding of the game by observing their movements. For example, their understanding of the need to escape Circe was demonstrated by the rapid pace of movement as they tapped the screen in the digital game or ran through corridors in the installation. In this study, their cognitive understanding of the aims of the game were not just communicated verbally but also through their use of their bodies.

### Physical: focus of gaze and direction of movement

The **physical aspects** of the 'sense of purpose' were related to the affective implications of the **focus of gaze and direction of movement**. The movement of the children as they engaged in play contributed to the affective atmosphere of the game-play. For example, in the installation, the collective gaze of the participants was sometimes centred on one area or object as they gathered together to solve a problem. At other times the players would disperse and gaze around the room in a state of 'active looking' for clues. The focus of the gaze signalled the interest of participants, which often meant that others would look the same way or move in the same direction almost instinctively at times. Gaze also appeared to have contributed to the felt intensity of the experience. For example, on gaining the first labour, a team of six children sat in a close circle, cross legged on the floor and passed the labour around the circle. As they did so they all focused on the labour, eyes wide, many of the children with mouths open. The affective intensity of this shared gaze even had an impact on my data collection as I, in that moment, stopped taking notes or filming and instead just watched as I was apprehensive of distracting the children and interrupting the moment.

### Emotional: affinity with aims

The **emotional aspects** of the 'sense of purpose' related to the players' **affinity with the aims**. In the final interviews and in my field notes there was evidence to suggest that an affinity with the aims of the game 'to save the village' were deeply felt by the focus children as they developed relationships with the characters in the game and began to care about its outcomes. There was also evidence in the interview data and field notes that the children felt an affinity with the style of game-play as they made links with games they played outside of school.

**'I saw children [...] persevere more, be a bit more resilient, be a bit more willing to get something wrong and then not get knocked back and then go again because they had to achieve this and they had to all work towards the same goal.'**

**Teacher – Final Interview**

Right: The children's gaze signaled their interest as they investigated the objects in the room.



## 3.2

## Sense of Urgency (Imperative)

### Cognitive: awareness of time constraints

The **cognitive aspects** of the sense of urgency were related to the participants' **awareness of time constraints**. This was directly related to the participants' experience of the pace of the game and their interpretations of temporal cues. These cues included the pace and volume of the ambient music both in the installation and the digital game, which got louder and faster as the urgency for action increased. Cues also included verbal reminders from performers of the time passing, including statements like 'we haven't got much time left guys – we have to hurry!' and visual cues, such as a health bar on the screen getting shorter and changing colour when players got caught in a virtual storm, or lanterns changing colour in the installation to signal Circe's imminent arrival.

### Physical: dynamics and rhythm of movement

The **physical aspects** of the sense of urgency related to the **dynamics and rhythms of movement**. Participants reported that a heightened sense of urgency was often experienced physically as a rush of adrenalin or a rapidly beating heart. Whilst in the installation I often noted the way children would flinch involuntarily at the sound of thunder, or the way they looked warily around them as they entered new rooms, sometimes shrieking with surprise or shock. The participants appeared sensitive to the movements of others. For example, one child running would often trigger others to do the same and if a child was caught in the storm in the digital game and was tapping the screen rapidly, others on the table responded to this through a comment or through a change in their own pace of movements.

### Emotional: anticipation

The **emotional aspects** of the sense of urgency related to the **anticipation of events**, which were associated with different feelings. For example, anticipation of Circe's arrival was often associated with a feeling of 'fear', 'being scared' or 'excitement'.

**'Because when the lanterns turned blue we were all scared, and then the adrenaline just rushes to you and you want to get out.'**

#### Child – Final Interview

**'When the music went [makes sound of ominous music] you just wanted to run for your lives!'**

#### Child – Final Interview

Right: A child holds a lantern which will turn blue when Circe is near.



## Sense of Place (Inhabitation)

### Cognitive: mental maps and presence

The **cognitive aspects** of a sense of place related to the participants' **mental maps and presence**. As the children explored the virtual world of Fallow Cross in the first classroom sessions, they developed an understanding of its position within a broader landscape; in the early stages of the game, in the first gameplay session on tablets, they had to weave through a virtual landscape of fields and rocks before they found the village. Subsequent gameplay sessions in the classrooms involved using a paper map which helped them to locate the village in relation to the East and West Kingdoms. The reaction of many of the children as they played the game was to try and find their peers in the virtual world asking each other, 'Where are you? I can't see you!'. This demonstrated their sense of presence in the virtual world. Visiting the installation transformed their mental map of the local area and at the end of the game many took pleasure in the idea that they could return to the village of Fallow Cross in the centre of Tottenham Hale to visit the villagers again.

### Physical: pathways, boundaries and objects

The children could not physically explore Fallow Cross through the virtual game, rather the physical experience of the digital game-play was shaped by the pathways, boundaries of the classroom layout (such as the tables and chairs and doors and floor space) and the materiality of the tablets. When playing *The Oracles* in the installation, however, the children navigated spaces with their bodies, and their sensory awareness of these spaces were an important part of the affective experience. Some pathways were narrow and others were wide, some were well lit, others were dark and full of shadows. The boundaries of play were signalled by locked doors and the walls of rooms as well as the transparent glass in the windows which enabled players to look into spaces they had not yet been able to explore physically. The objects in the installation also contributed to the children's sense of place. My observations revealed that the children would often touch and smell objects as they moved through the installation.

### Emotional: associations and memories

The **emotional aspects** of the sense of place were related to the participants' **associations and memories** which were layered and accumulative. For example, after visiting the virtual world for a second time, there was a collective atmosphere of excitement as they noticed that their actions in the installation had changed the virtual world: the labours in the digital game were in the same place as they had left them! The classrooms in which they played the digital games were replete with memories of previous lessons evident in the ways that the children always came in and knew which tables to sit at and rarely moved from those places during play. However, there were moments where ways of performing in the installation space bled into the classroom space (one child jumped out of his seat in a lesson and shut the door so that Circe could not get in!) Smells were also triggers of memories, one child likened the smell of Fallow Cross to her uncle's chicken farm in Turkey and another likened the reveal of Fallow Cross in the installation to Harry Potter World. In-between spaces such as streets and parks became a resource that could be used to play Fallow Cross and extend the game-world.

**'That particular measurement one [in the installation], as soon as they showed us I was like, they're not going to get this I don't think. Every single one her hand shot up, oh it's this [...] There was loads of measurement jugs on the table [...]I think she worked well with concrete objects. I think it just makes more sense to her when there's actual physical things that she can use. If she can see it, because the measurements are on the jugs, because she could see it, she was like oh I know and then she'd just get it straight away. Whereas if I gave her a piece of paper with that on she'd be like, I need help.'**

**Teacher – Final Interview**

**'Yeah, I felt like I was inside the game in the tablet because you see the surroundings in the tablet, it looked really real.'**

**Child – Final Interview**

**'They have a chicken and chip shop here and a corner shop, and then they have like a bank, Costa Coffee. Whereas in a village you have a candle makers, you have a pub, you have an optician, you have a mayor's house. I mean how foreign is that to children growing up in Tottenham? But I think that's what they liked about it, and they liked to have a different experience of something that they weren't necessarily used to.'**

**Teacher – Final Interview**



Right: Inside the opticians in the installation.



## Sense of Community (Implications)

### Cognitive: significance and responsibility

The **cognitive aspects** of a sense of community related to the participants' understanding of their own individual **significance and responsibility** within the frame of the game. As the children played the game they developed an awareness of the relevance and importance of their actions and became a community of players who had the responsibility for saving Fallow Cross. I observed the way the children demonstrated their collective as well as individual responsibilities in the game and investigated the ways these were reflected upon in the end of project interviews.

### Physical: player proximity and connection

The **physical aspects** of the **sense of community** were related to **player proximity and connection** during the game. In the classroom, during digital game-play and when solving the classroom challenges, the children often stayed seated at tables, in pre-defined groupings. The children were used to working with the person seated next to them and I observed children leaning over to help their partner navigate parts of the digital game. However, occasionally I observed children walking to another table to ask for help or share a discovery with one of their peers, and they would often come to the front of the class to talk to Suki, the performer in role as a game-designer. In the installation, children would often collaborate with members of a small group to complete tasks and I observed the ways that they moved with and around each other as they did so.

### Emotional: belonging and achievement

The **emotional aspects** of the sense of community were related to the participants' collective sense of **belonging and achievement**. For example, after leaving the installation for the final time, after successfully saving Fallow Cross, some children shouted 'We are heroes!' Collective cheers and shouts of 'We did it!' could be heard once classes had completed the classroom challenges.

**'It was almost like he'd learnt at Fallow Cross how to engage with others on a personal level and to interact with them.'**

**Teacher – Final Interview**

**'It was all about problem solving, working together collaboratively, making sure that they were thinking about not themselves but ... they were challenging themselves to do things that they weren't comfortable with some of them.'**

**Teacher – Final Interview**



Right: The children gather outside Fallow Cross after competing the game and strike poses which represent their team names (Hexagons, Triangles and Squares)

# 4

## Understanding Effect (Engagement)



## Understanding Effect (Engagement)

Play in *The Oracles* was perpetuated by the collective and individual engagement of children, artists and teachers. During analysis, the theme of engagement subsumed three smaller categories: Collaborative Storytelling (Invention); Tackling Significant Challenges (Investigating); Performing Belief (Investment) and Reshaping Relationships (Identity). In this research 'effect' is related to the participants' actions in the game. These actions were observed during game play and were also discussed and recounted by participants during the interviews.

**Constructing Stories** Across data sets the characteristics of this category of engagement included the following: 'recounting'; 'enacting events'; 'creating backstories'; 'shaping interpretations'; 'making predictions'; 'transforming spaces'.

**Tackling Challenges** Across data sets the characteristics of this category of engagement included the following: 'recounting'; 'enacting events'; 'creating backstories'; 'shaping interpretations'; 'making predictions'; 'transforming spaces'.

**Performing Belief** Across data sets the category of 'negotiating believability' included the following codes: 'enacting emotions'; 'critiquing representations'; 'creating backstories'; 'shaping interpretations'; 'making predictions'; 'transforming spaces'.

**Reshaping Relationships** Across data sets the characteristics of this category of engagement included the following: 'recounting'; 'enacting events'; 'creating backstories'; 'shaping interpretations'; 'making predictions'; 'transforming spaces'.

Each of the areas relating to the intensity (affect) during play can be seen to influence and shape the engagement (effect) of players as they shape the game together through their interactions.

**In the following sections, I will outline the ways that the affective aspects of the participants' experiences inflected their actions as they constructed stories, tackled challenges, performed belief and re-shaped relationships in and across classrooms, installation spaces and in-between spaces.**

**Each section is divided into three parts relating to the ways that immersive play was shaped prior to play (through Punchdrunk Enrichment's design of the game), during play (as children engaged with the game) and after play (when participants reflected on their experiences. These sections draw on interviews, researcher observations and field notes.**

# Constructing Stories (Invention)

## Prior to Play: Punchdrunk's Reflections

Prior to play, the Punchdrunk Enrichment creative team worked together to shape the fiction of *Fallow Cross* and anticipated the responses of the children and teachers. In doing so they considered the potential of the game to instil a sense of purpose, urgency, space and community. During the initial and final interviews, they reflected on the potential of their design decisions to influence the children's actions.

### Sense of Purpose: 'We've created a really complex story'

*The Oracles* was designed so that the children would develop their initial understandings of *Fallow Cross* and the plight of the villagers through their interactions with the digital game. Punchdrunk Enrichment were interested in the ways that the children would engage with the story they had created.

*[Through playing the game] they know so much already about the story before they've come here [to the installation] and I'm going to be so interested when they get here and they're asked about what they know, how much they're able to say. They'll be clued up I think.*  
[Jim Bending – Initial Interview]

*There's the story itself, which is complicated and unfolds over multiple episodes. The structure of this project is incredibly complicated, the logic of it is complicated [...] what I love are the layers that the pupils add on top of that [...] It's just really interesting to have something that we gave birth*

*to and growing all these things off it, and becoming something else in each child's imagination, something radically different.*  
[Matthew Blake – Initial Interview]

### Sense of Urgency: 'The stakes are quite high'

The aim of the game, to save *Fallow Cross*, had been designed to heighten the intensity of the experience for players so that they would engage with it emotionally. The sense of urgency in the game was related to the need to save the village from the evil sorceress Circe before it was too late!

*Thinking about often a lot of the work we create, treads that sort of exciting line between awe and wonder and fear and terror. Actually, the stakes here are quite high in that our characters are potentially going to be ... You know their home is going to be destroyed, and they'll not be able to return to it.*  
[Peter Higgin – Initial Interview]

### Sense of Place: 'It may feel like it's bigger than it is'

The digital game had been designed by the Enrichment team in order to expand and shape the children's spatial sense of *Fallow Cross*.

*Having that expanded kingdom outside of [Fallow Cross in the digital game] may give the actual village itself [in the installation], a much larger outside environment. It may feel like it's bigger than it is, those walls and the warehouse all feel like not so, not so concrete. [...] There's the sensation of, there's a kingdom outside of this, it's creating that. Yeah, that's one of the things with the [digital] game.*  
[Jim Bending – Initial Interview]

*You could go into the village, but you can't see inside most of the structures. You have to come here to go inside the structures [...] we want the sense that you could go through the gates here, and go into the other side, the other kingdoms, but you never will. So, the four walls of the world are physical space, kind of restrictors, but the digital world allows us to go beyond.*  
[Peter Higgin – Initial Interview]



Children recount events after they arrive back into the schoolroom at the end of one of the installation sessions. (They have just been chased by Circe!)

### Sense of Community: 'You're just creating an experience that they'll never forget'

*The Oracles* was designed to be an embodied experience for children, in which their actions drove events forward. Punchdrunk's aim was to create a community of players who would collectively reflect back positively on their experiences for years to come.

*You're just creating an experience they'll never forget I think and actually to be able to look back and go, "Do you remember when we did that crazy thing in that warehouse in Tottenham when we were in Year 6?" I think genuinely when we make this work, it's about giving children a gift and giving them something which will stay with them for a really long time.*  
[Alex Rowse – Initial Interview]

## Constructing Stories During Play

**The participants engaged in constructing stories as artists, teachers and children 'invented Circe'. The following three tables provide a description of this process by focusing on three instances across a range of spaces: in the classroom; in the installation and in in-between spaces. These examples of 'constructing stories' draw from observations and field notes.**

# Constructing Stories: In the Classroom

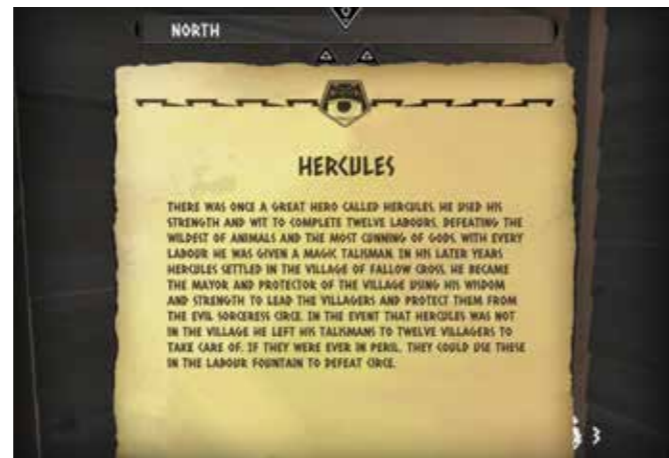
## Shaping the Fiction: Who is Circe?

The data presented here is adapted from observation notes taken during Episode One of *The Oracles* (First Classroom Session – Year 5 class of 9- and 10-year-olds)

This is the first time the children have played the digital game. Suki (the performer visiting the class acting in role as a game-designer) has asked the children to collect mint and thistle. The children have also learnt, through reading notes scattered around the virtual wilderness in the game, that they need to try and find a village called Fallow Cross. In this episode they are introduced to the character of Circe, who manifests herself as a fierce storm in the game. The children are developing their understanding of the character of Circe through interacting with her in the virtual world. They are interpreting the visual cues on the screen, and are responding to the appearance of the character.



Screenshot of Circe from the digital game



A note pinned to a standing stone in the digital game

I notice a change of dynamic on some of the tables as some of the children start to tap their screens frenetically. One calls out 'She's got me!' and slumps back in his chair [...] I walk over and observe Kylie. The screen reads 'Circe is here! Find Shelter!' She is caught in a virtual rainstorm and is exclaiming "oh no no NO NO!" as she taps the screen frantically.

Suki notices. Standing behind Kylie's chair and leaning over her shoulder she says calmly, 'If you look around you might see a shelter.' Kylie replies 'I'm looking miss. I'm LOOKING!'

The screen goes dark. Kylie's face is reflected in the screen. Her eyes are wide and her mouth open. Kylie puts her head in her hands and slumps a little, looking disappointed. Suki says 'Don't worry. Let's try again'. As the image on the screen returns it appears that Kylie has been transported further back into the virtual wilderness depicted in the game. She resumes game play tapping the screen at a steadier pace as she begins to navigate her way back to her former position.

[...] I move around the table to observe Mustafa playing. He appears to be trying to leave Fallow Cross. When I ask him why he replies 'I'm chasing Circe!' [...] Later, whilst most children are still exploring Fallow Cross, I observe Mustafa caught in the virtual storm back out in the wilderness. He counts down casually, leaning back in his chair whilst reading the health bar on the screen. He chants aloud '10, 9, 8 safe!' He smiles and looks around at the other children on the table.

Sense of Purpose	Links with Effect
Cognitive: Understanding of Aims	The understanding of the aim of the game is developed through play. At this stage, Kylie and Mustafa both understand that the aim of the game is to avoid Circe as both have experienced having play temporarily suspended when caught in the rain too long.
Physical: Focus of Gaze and Direction of Movement	As Kylie plays she leans in close to the screen and does not make eye contact with other players, whereas Mustafa appears to signal his confidence with game-play by leaning back as he plays. He often scans the room to watch the other players and narrates his actions.
Emotional: Affinity with Aims	Whereas Kylie appears to try and collect as much mint and thistle as possible and tries to avoid being caught by Circe, Mustafa has decided to chase Circe. In doing so Mustafa has chosen to subvert the aim of the game to further his enjoyment.
Sense of Urgency	Links with Effect
Cognitive Awareness: of Time Constraints	The time constraints were indicated on the screen by a rapidly depleting mint and thistle supplies and the 'health bar' (shown in red at the top of the screen). When this appears, both Kylie and Mustafa understand that they are expected to 'find shelter' fast.
Physical: Dynamics and Rhythm of Movement	Kylie taps the screen at a fast pace when caught in the virtual storm. When her play is suspended she slumps a little and resumes play by tapping the screen at a steady pace. Mustafa appears to enjoy timing his escapes so that he arrives in the shelter 'just in time'. In both instances the 'arrival' of Circe influences the pace at which the children tap the screen.
Emotional: Anticipation	Mustafa enjoys anticipating Circe's arrival as it gives him an opportunity to test his skills. Kylie seems to find the arrival of Circe more stressful and frustrating.
Sense of Place	Links with Effect:
Cognitive: Mental Maps and Presence	The children were developing their mental maps of the virtual world of Fallow Cross as they played the game. Once they had encountered Circe for the first time, they were aware of how storms were represented on the screen and the importance of navigating to shelter.
Physical: Pathways Boundaries and Objects	The children did not move from their seats during the session. They were interacting with the tablets by tapping and swiping at the screen.
Emotional: Associations and Memories	This is the second time Kylie has been caught by Circe in the game. She understands the significance of not finding shelter fast.
Sense of Community	Links with Effect
Cognitive: Significance and Responsibility	The children did not want to lose their thistle and mint. Some were more aware of the collective tally of mint and thistle than others.
Physical: Player Proximity and Connection	Whilst playing the game Kylie rarely looks up from the screen, she is deep in concentration. Mustafa often looks up, trying to make eye contact with other players.
Emotional: Belonging and Achievement	In a previous interview, undertaken before this episode, Mustafa had explained to me that he plays lots of digital games at home. He is a more confident game player than Kylie. Kylie rarely plays games at home. Mustafa appears to want to share his achievements with others in the class, whereas Kylie does not choose to share her achievements verbally.

# Constructing Stories: In the Installation

## Shaping the Fiction: Defeating Circe

### Context:

The data presented here is adapted from observation notes taken during Episode Two of *The Oracles* (First Installation Session – Year 6 class of 10- and 11-year-olds)

This is the first time the children have visited the installation. The children have succeeded in collecting three of the twelve labours needed to save the village. The episode concludes with the children having to run and hide from Circe in the schoolroom as the protection spell has worn off. They still need to collect nine more labours and they also need to collect one half of the shield which is in the West Kingdom (outside the village walls in the wilderness). In the moments described below the villagers (performers in role) and the children are discussing the next steps.

The sound of rain and rumbling thunder surrounds the children as they hurriedly enter schoolroom. Once inside they gather on the floor. Some kneel, some sit on the benches and a few children gather around the outside of the room. Many are whispering hastily to each other in intense exchanges; others are shaking their heads and smiling. Hera collects the blue lanterns from the children and speaks loudly and clearly so she can be heard. As soon as she speaks the children turn to her and listen intently. She apologises to them all *'I'm so sorry everyone. I had no ideas that that spell would weaken so quickly. I'm so sorry'* Hera, Hemi and Delphi begin to discuss the challenges they face and that they still need to collect more labours and the shield. Hemi then has an idea and exclaims *'Hang on I've still got the key to the West Kingdom!'* A child quickly suggests *'We should go to the West Kingdom!'*

*'Yeah!'* says Hemi. Suddenly lots of the children begin to talk at once, excitedly but also with tones of concern. It sounds as if some of them are trying to warn Hemi.

Hera speaks again and as she does the room quietens again.

*'I don't have enough mint to do a protection spell'* Hera explains. The children begin to shout out their ideas, all at once, but Delphi asks them to speak one at a time so that each idea can be heard. Once child exclaims *'We still have more mint!'* another counters with *'We can't go back out there'*. Hera agrees *'We can't go back out there it's too dangerous!'* Hemi shares an idea *'No, but maybe we don't need to go back out there because what happened before was you guys collected mint in the game and the mint showed up in these lockers'* Some of the children start whispering to each other. One whispers *'Yeah! Yeah! We put it in there!'* whilst looking at the locker. As Hemi moves around the room towards the locker the children turn their bodies to face him. Hemi continues *'So maybe it works the other way around. Perhaps if we put the key in the lockers it will show up in the game and you guys can go into the game and get half of the shield!'*

As Hemi places the keys into the locker all the children stare. No one is speaking. He shuts the door and a few children turn to smile at each other. Suddenly a whirring noise can be heard. The key has gone. It worked!

Hera asks the children *'But what do we do now though?'* A range of suggestions are made and countered. One child suggests, *'How about making a run for it. Let's trick Circe with one of us going outside using that [model] skeleton and using it as protection, using it as cover!'*

The other children laugh.

Hera responds firmly *'You can laugh and joke but I want you to imagine the worst storm you have ever been in. Imagine that and times it by a thousand. You do not want to mess with Circe!'*

Another child makes a suggestion. *'If we have enough, because I think the lantern wears out quicker with more people going out so if two or three people go out. Because I think we have a tiny bit of mint left because we collected more mint than there was in the basket.'*

Hera explains that *'The amount that we have is not enough ok.'*

Delphi then makes the suggestion that perhaps if they contact Suki, the game designer, she could come back to the school and they could see if they could find the shield in the game. Hera suggests that she create a finding spell to help them. The teacher agrees to the plan. Hera asks the children to collect more mint while they are playing the digital game before ushering them out hastily *'Come on. What are you waiting for? Off you go!'*

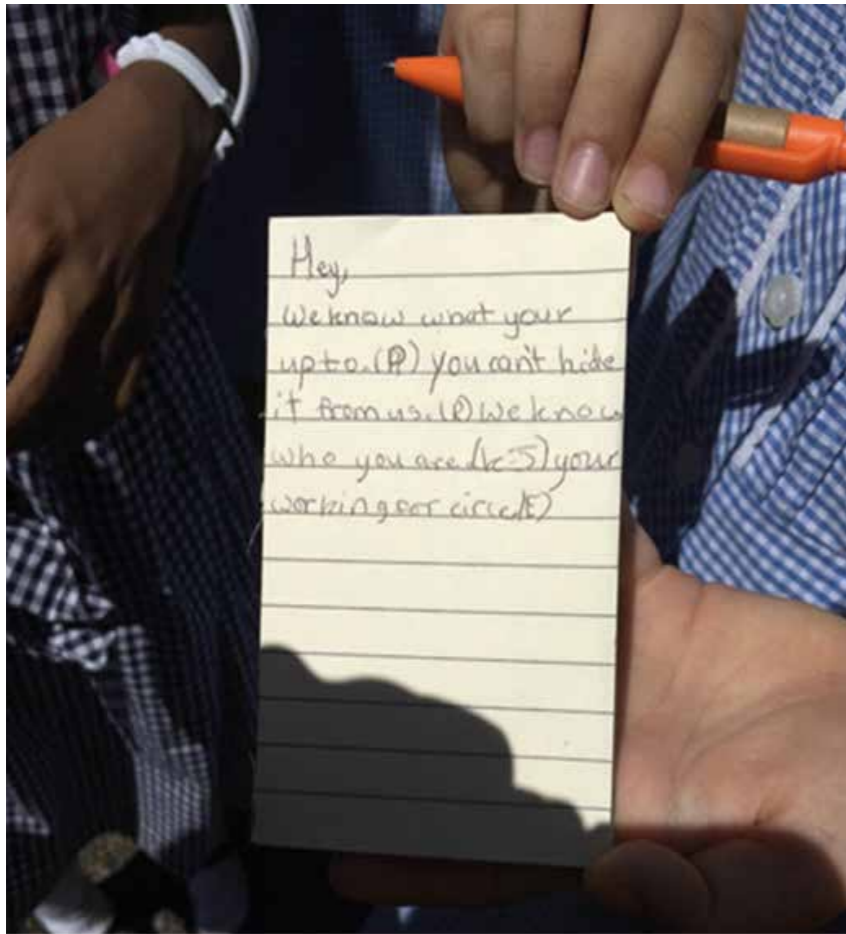
Sense of Purpose	Links with Effect:
Cognitive: Understanding of Aims	To be successful, and to save Fallow Cross, the children need to understand the link between their actions in the digital game and the way these relate to their ability to perform actions in the installation. The children understand that the mint they collected in the digital game was used in the installation to create a protection spell, and that if a key is placed in the locker then it will appear in the digital game. However, the children are still developing their understanding of how the shield is to be found in the digital game. They are still making suggestions about how they can return the installation spaces to find it. They need to be directed by the performers about the next steps in the game.
Physical: Focus of Gaze and Direction of Movement	The children focus on the performers and move their bodies, so they can do this more effectively. Many are leaning in towards the performers and kneeling up in order to hear more effectively.
Emotional: Affinity with Aims	The children appear to value the words of the villagers and want to help them defeat Circe. In making spontaneous and multiple suggestions the children demonstrate an eagerness to contribute to the solution of the problem they face at this stage in the game.
Sense of Urgency	Links with Effect:
Cognitive Awareness: of Time Constraints	The lanterns that gave them protection have run out of magic which means that they no longer have the time need to go into the village. The children are urged by the villagers to collect the mint as soon as they return to the digital game, as soon as possible.
Physical: Dynamics and Rhythm of Movement	As the time for leaving the installation draws nearer, the performers become more explicit in their suggestions for the next steps needed. Eventually the children are hurried out of the room and urged to continue their mission back at school.
Emotional: Anticipation	When Hemi places the keys in the locker the children look on intently, waiting to see if the portal has worked. As they wait some smile at each other, apparently enjoying the sense of anticipation.
Sense of Place	Links with Effect:
Cognitive: Mental Maps and Presence	The children initially do not appear to understand that there is another area of the game they have yet to access. They continue to make suggestions which involve going back out into the installation to visit the West Kingdom until the villagers explain that they needed to access this in the digital game.
Physical: Pathways Boundaries and Objects	The locker is used to represent a portal between the digital and the physical world. The children are still developing their understanding of the significance of this to play.
Emotional: Associations and Memories	The performers are trying to prompt them to imagine a new area of the digital game that they have not visited yet by reminding them of the game they played in the previous classroom session.
Sense of Community	Links with Effect:
Cognitive: Significance and Responsibility	The children are given the responsibility to collect the mint and thistle and to bring back the shield. These are jobs that the villagers cannot complete due to the threat of Circe. The children agree to take on this responsibility and understand the significance of this task within the frame of the game. Children and villagers have become part of the same community within the frame of play. They rely on each other to keep the play going.
Physical: Player Proximity and Connection	The children sit close together and often whisper to each other.
Emotional: Belonging and Achievement	The children are keen to continue collecting the labours.

# Constructing Stories: In in-between Spaces

## Shaping the Fiction: Who is Circe?

The data presented here is adapted from field notes gathered as the class travelled to Episode Six of *The Oracles* (Third Installation Session – Year 4 class of 7- and 8-year-olds)

The Year four class has arrived a little early for their scheduled session at the installation. The teacher tells them to line up by the wall and allows them to chat amongst themselves. They have been waiting about five minutes and the children are beginning to gather in clusters against the wall.



Above: A child holds a playscript that they have written with friends as they wait to enter the installation

(Please note: This image is from Angela Colvert's data collection and must not be reproduced outside the context of this report)

I notice a group of children taking it in turns to read from a small piece of paper, loudly and with great expression. As I approach they want to show me and explain that they are going to challenge Hemi as soon as they get into the schoolroom as they are convinced he is working for Circe! They have written a short script and have allocated parts to each other. They read it aloud with great expression and conviction.

It reads:

*'Hey, we know what your [sic] up to. (P) you can't hide it from us. (R) We know who you are (K.S.) your [sic] working for Circe (E)'*

It is now time to start walking to the installation space. One of the girls puts the pen and paper in her pocket and they join the line in pairs, still remaining close together [...]

Once in the installation, they confront Hemi, reciting the lines off by heart just as they had rehearsed them. The performer appears very surprised and denies the accusation with good humour and reassures them that he is there to help them. As the rest of the class files in, Hemi begins to usher them into the space and the four girls join the rest of the class sitting on the floor.

Sense of Purpose	Links with Effect
Cognitive: Understanding of Aims	The children's cognitive understanding of the aims of the game (to defeat Circe) informed their motivation and reasons for confronting the performer in this way. However, here the children have also identified a subsidiary aim of their own which involves identifying Circe's true identity.
Physical: Focus of Gaze and Direction of Movement	The children were responding to the focus and gaze of others in the group, which initially centred on the script they had composed together and later were fixed on Hemi's face. These movements helped to communicate their shared purpose of memorising and performing the script respectively.
Emotional: Affinity with Aims	The children appeared to share an affinity with the aim of making Hemi tell them the truth. This collective aim appeared to be collectively valued and bound the children together with a secret plan that no one else knew about.
Sense of Urgency	Links with Effect:
Cognitive Awareness: of Time Constraints	They were aware of the window of opportunity for planning and executing their plan. They were only waiting outside the installation for a few minutes so they had to write the script quickly and they appeared to be aware that they may only have a few moments in which to approach Hemi before all the children had arrived in the installation. The script was therefore short (taking just a few minutes to write and less than a minute to perform).
Physical: Dynamics and Rhythm of Movement	Once inside the installation, they dashed towards Hemi and as soon as they reached him they launched into their performance. Due to the speed of delivery, everyone had the opportunity to say their part before Hemi had the chance to interrupt.
Emotional: Anticipation	Whilst outside the installation, the children appeared excited about the opportunity to confront Hemi.
Sense of Place	Links with Effect:
Cognitive: Mental Maps and Presence	The children were familiar with the layout of the school room, and where Hemi would be standing when they arrived. This knowledge influenced the pathway they chose to take to reach Hemi.
Physical: Pathways Boundaries and Objects	The children took a direct and efficient route to reach Hemi which meant they could maximise the time available before the other children arrived. The script they created was not used in the installation. Outside the installation was for planning and rehearsing, inside was for performing.
Emotional: Associations and Memories	The children had been interpreting and reflecting on Hemi's actions prior to this episode. These memories had informed their actions and motivation for confronting Hemi.
Sense of Community	Links with Effect
Cognitive: Significance and Responsibility	Every child in the group took on responsibility for delivering one of the lines they had prepared together.
Physical: Player Proximity and Connection	Whilst writing the script outside the installation the children were huddled together. As they stood with their backs to other children, the conspiratorial nature of their actions was amplified. They remained close to each other as they approached Hemi.
Emotional: Belonging and Achievement	The children appeared to enjoy the interaction with Hemi and laughed and smiled as he tried to reassure them that he was NOT Circe. They appeared pleased with the execution of their plan and on the way home after the episode I overheard them recounting the event to others in the class with relish.

# Summary

## Teacher and Pupil's Reflections (Constructing Stories)

**At the end of project interviews the children and teachers reflected on their experiences during *The Oracles*. As they did so they considered the ways that the intensity of their experiences (related to their sense of purpose, urgency, place and community) influenced their collective and individual actions.**

### Sense of Purpose: 'You can't just leave them stranded'

The children's emotional affinity with the aims of the game, to save Fallow Cross, intensified over the course of the five weeks as their cognitive understanding of the aims of the game developed. Once they understood the plight of the villagers in Fallow Cross, they were highly motivated to save them and 'enacted events' such as the gathering of mint and thistle in the digital game and installation.

*The first time we actually played the game, I don't think it really had much of an impact but once we'd been there [to the installation] and seen it, then it all became real again. It all goes back to that feeling right. The first time they played a game, they were playing a game. The second time they played a game, they were collecting mint and thistle for a protection spell so they could go and save a village. So it's quite a shift in dynamics.*  
[Teacher - Final Interview]

*If you've been there once and you've seen what's happening to Fallow Cross, you can't just leave them stranded like that and let them get defeated and they probably pass away, tragically. You have to save them. You have to step up. You have to fight and be brave. You can't just leave them.*  
[Focus Child - Final Interview]

### Sense of Urgency:

The children's sense of urgency, relating to the need to avoid Circe, influenced their actions as they actively sought to develop their understanding of her character and motivations (in order to avoid her and ultimately defeat her!) The children wanted to find out as much as they could about Circe in order to defeat her and would often discuss events whilst travelling to and from Fallow Cross. One teacher observed that the intensity of their encounters with Circe in the installation seemed to fuel their discussions on the way home.

*They were discussing it the whole time. Before they went there they were discussing what they thought was going to happen. Once they'd been, on the way, because it always ended in a high, intense sort of way, they would discuss, this happened last time so what if this happens or what if this person is actually this.*  
[Teacher - Final Interview]

*When we got caught by Circe, we had five seconds, ten seconds to find shelter before she actually does anything, so maybe it's the same with the protection potion [...], so maybe when [the lantern] goes blue, we have a limited amount of time before Circe actually wets you, and then Hemi, maybe because he went out after we came back inside, maybe that's why he got wet.*  
[Child - Final Interview]

### Sense of Place: 'Maybe we went in the past whenever we went Fallow Cross'

The children's understanding of Fallow Cross and the character of Circe developed over the course of the five weeks as they engaged in iterative and embodied meaning making. For example, when they visited the installation they were surrounded by sights, smells and sounds, and inhabited dark spaces. This chance to physically explore an 'other world' prompted them to make connections with previous experiences when making innovative interpretations of the fiction of Fallow Cross. An example of this was when the children were smelling the medals they were given at the end of the game, reflecting on the way Fallow Cross smelt somehow ancient. Teachers also commented on how the ambient music in the installation influenced the children's engagement with the oral storytelling sessions in the installation.

*In turkey, my uncle's house he has a chicken farm underneath and this is what it smells like [...] but it smells like Fallow Cross as well it smells like the wood in Fallow Cross It smells like burning wood but Fallow Cross [...] It smells ancient. Maybe we went in the past whenever we went Fallow Cross*  
[Child - Field notes]



Above: The children make suggestions about the next steps

*Well they wanted to be swept off into this other world and to meet new characters and just be completely in awe of what was going on [...] When we sat down we listened to the stories, Hira was telling us about the Labours of Hercules, and the children were just so engaged with her and [...] the music was a fantastic way to hook them in [...] They were comprehending these stories [about Hercules] even though they weren't reading them. They were absorbing them and trying to get as much out of it as they could.*  
[Teacher - Final Interview]

### Sense of Community: 'They were discussing it the whole time'

There was a sense of collective responsibility in understanding the fiction of Fallow Cross, particularly the identity of Circe. When travelling to and from the installation children were, unprompted and enthusiastically, recounting events, creating back stories and making innovative interpretations. After the game had finished, the children were still speculating about what the future held for the villagers of Fallow Cross.

*They were discussing it the whole time. Before they went there they were discussing what they thought*

*was going to happen. Once they'd been, on the way, because it always ended in a high, intense sort of way, they would discuss, this happened last time so what if this happens or what if this person is actually this.*  
[Teacher - Final Interview]

*I think maybe if like Hera, Hemi and Delphi like become old, if they're like in danger again and they were old to like save the village, I think we might come and help them. They could like just show us what to do, show us around and then we could do it, because they might be old and then they can't like move their bones that much.*  
[Child - Final Interview]

### Further Reflections

All of the teachers reported that they drew on their shared experiences of Fallow Cross outside of game-play in their interactions with the children in class times and in the playground. It became a shared narrative that the teacher and children developed together. In one of the case-study classes, the teacher explicitly drew on these affective experiences during literacy sessions, asking children to write descriptive passages which conveyed the atmosphere of the village. He also responded to moments of heightened excitement immediately after gameplay when children asked to write, such as when they urged him to let them write a class email to the Headteacher to persuade her to come with them on their next visit! It would perhaps be useful for Punchdrunk Enrichment to develop a range of case-studies which demonstrate the ways in which the affective experiences of *The Oracles* inform the co-construction of class narratives outside of the game-play, and explore how children's use of media arts such as film making, animation, digital music and illustration might be used to support the children's own authorship practices.

## 4.2

# Tackling Challenges (Investigation)

### Before Play: Punchdrunk's Reflections

#### Sense of Purpose: 'It was less about action and more about strategy'

Punchdrunk designed a series of challenges for the children to complete. Some of these were revealed at the start of the digital game, such as the need to collect mint and thistle and the need to find Fallow Cross. However, some of the aims were not revealed until the children had visited the installation. The design of *The Oracles* therefore prompted children to deepen and extend their sense of purpose over time.

*It was less about action and more about strategy, so I've included things like mazes, small puzzles, very small puzzles in the lower levels and to avoid, so you have to look out for her, the shadows, her rain.*

[Initial Interview – Jim Bending]

*The higher goals of level one are to get to Fallow Cross that's the first goal, which is presented to them right at the start, find Fallow Cross and then you have secondary goals, which they don't know about, which[...]it's not traditional to be like in a Mario game, collect stars without knowing what they're good for. But in this we have done that, it's collect them in, don't know what it's good for, but they'll find out soon, [...] there's really high goals above that, which are to save the village, [...] But game wise those two things, it's get to Fallow Cross, find thistle.*

[Jim Bending – Initial Interview]

#### Sense of Urgency: 'You want to control time'

Punchdrunk Enrichment understood the need to work within the time frames set by lesson length in schools and also the need to work within curriculum time pressures. They wanted the game to feel exploratory but to be achievable within the time frame.

*We don't want to put people on a linear path, but we give them the objective of finding Fallow Cross. Those two, you can obviously do both, of having a big open space and finding a destination. But then if you want to control time in a classroom setting, how do you marry those two up?*

[Initial Interview - Jim Bending]

*We had discussed what if you come to session one and whatever happens in session one [in the digital game] could take you off in a different direction when you come back here [to the installation]. But that's a nightmare. [Or what if] you don't complete the [digital] game [and] you have to keep playing the game, or you come here [to the installation], and you don't complete session one [and] you come back in a true game playing style. But obviously [this isn't feasible] with the reality of life and working with a school on a strict timetable*

[Initial Interview – Matthew Blake]

#### Sense of Place: 'beyond just exploring a world there was a need to explore'

Punchdrunk Enrichment wanted to design a digital world which presented the children with a space they felt compelled to explore and one which was intuitive to navigate.

*We don't want to put a compass in the game because we don't want to say go here, we don't want to put an arrow on the floor saying, go here, but we want them to not feel disorientated, so how do you visually help people to [navigate the game]. Lots of little things like that.*

[Jim Bending – Initial Interview]

*Personally, I think the work we do is exploratory, so it's about exploring a world. So, I think for Jim it was about trying to make sure that beyond just exploring a world there was a need to explore it or a reason to explore it. And actually, that you understood that immediately and you felt that you wanted to do that and felt compelled to do that.*

[Peter Higgin – Initial Interview]

**Punchdrunk Enrichment wanted to design a digital world which presented the children with a space they felt compelled to explore and one which was intuitive to navigate.**

#### Sense of Community: 'How do you gently coax people into the right path?'

Punchdrunk Enrichment were aware of the need to instil a feeling of agency amongst the players, and wanted children to feel that their actions were significant in the game

**How do we create the feeling of agency while on the very first stages of the game, where you can feel quite disorientated, and overwhelmed? How do you gently coax people into making what we would think is the right path, the ideal way to go?**

#### Initial Interview

– Jim Bending

**There's probably more in terms of the [digital] games, more area to explore, whereas in the theatrical space you are more on rails and there's less opportunities to make choice.**

#### Final Interview

– Peter Higgin

### During Play: Researcher Observations

**The participants engaged in collective problem solving as artists, teachers and children 'investigated possibilities'. The following three tables provide a description and commentary on this process by focusing on three instances across a range of spaces: in the classroom; in the installation and in in-between spaces. These examples of 'tackling challenges' draw from observations and field notes.**



# Tackling Challenges: In the Classroom

## Collective Problem-Solving: Looking for Clues

The data presented here is adapted from observation notes from Episode Five of *The Oracles* (Second Classroom Session – Year 4 class of 7- and 8-year-olds)

The children in the Year 4 class have played the digital game for about 20 mins and are now collectively trying to unlock the chest which is projected on the whiteboard at the front of the class. There are three groups of co-ordinates on the chest which, if plotted on the map, will reveal four numbers which they must then use in a calculation in order to create another number – the four digit code needed to unlock the chest.



Children plot co-ordinates

Joanne and Joy are plotting co-ordinates and show Suki what they have discovered.

**Joanne:** *I've noticed something. Because these two [co-ordinates] are here and these two are here. They are both on these funny numbers*

**Suki:** *These funny symbol things?*

**Joanne:** *Yeah*

**Suki:** *Ok. What about the other ones do they have them as well? Have a look.*

The children continue to plot the co-ordinates and then call Suki again. They raise their hands and wait a few moments before walking to the front of the class to share their findings. As I walk around others are trying to join up the co-ordinates using rulers. [...] This is significant as this was the method by which they had revealed numbers in the previous classroom challenge.



A child moves to the front of the class to share her idea with Suki

Children gather at the front of the class to share their theories to Suki.

Five children are now at the front explaining their ideas to Suki. They all look at the chest projected on the board as they listen to each other's ideas.

**Suki:** *Maybe I should get everyone's ideas if everyone sits down...*

**Abas:** *Maybe the co-ordinates don't matter. Maybe it's how many 6s they have. So we can add that so say 6x6 is 36. 36 x 6 is something D6 is.*

**Suki:** *But there are symbols in every box that the co-ordinates point to...*

**Carmel:** *You need to know what number D6 is and H3 is so we can add them.*

**Suki:** *Yes definitely so what is there in the D2 D6 I7 and H3 that will help you find a number?*

**Dexter:** *I have a different idea. My idea is that we multiply all the numbers like 6 x 9 and then times 7 x 8 and then add the two answers and put them into that thing*



A child comes to the whiteboard to present a solution

The teacher sits at a table with one group of children whilst Suki takes suggestions from the class.

**Erica:** *I've found the number 8,5,2,1. Because of I did the coordinates and in each box there's numbers so I counted the sticks and some of the numbers had subtraction so [...] then on the first one there were 14 sticks so I minused 6 and I got 8 [...]*

**Suki:** *So we could try that...Shall we try it?*

**Poetry:** *You still have to do the other half (The calculation on the chest)*

The class teacher makes a tentative suggestion.

**Teacher:** *I'm not sure if there's anything in it but I looked at it again and rather than trying to find numbers, I could see letters and if you physically take away six sticks, it looks like letters. I'm not sure, I can only see it in the first one.*

*He demonstrates on the whiteboard.*

**Suki:** *Do you want to try it? Taking them away physically?*

Sense of Purpose	Links with Effect
Cognitive: Understanding of Aims	The children were familiar with the challenge of plotting co-ordinates as they had completed a similar task in the previous classroom session. However, the children generated a range of ideas about how the co-ordinates related to the numbers they needed to generate. Eventually, the teacher needed to suggest the method they should try in order to support them to solve the challenge. Some children appeared confused by the process at times but most were keen to understand the steps that were needed. Some of the mathematical concepts had to be explained as they had not covered them in class previously.
Physical: Focus of Gaze and Direction of Movement	The focus of the children's gaze was down, towards the maps and whiteboards when working together at their tables. They later moved to the front, or towards Suki when sharing ideas. The session concluded with the teacher demonstrating a method on the board as the children watched.
Emotional: Affinity with Aims	The majority of children in the class remained enthusiastically focused on each stage of the task. However, the attention and drive of some children wavered when asked to engage in extended trial and error.
Sense of Urgency	Links with Effect
Cognitive Awareness: of Time Constraints	In this instance the teacher became aware of the time constraints of the episode, as it needed to be completed within the allocated session time. He therefore introduced a new strategy to the children. The time constraints were not made explicit to the children.
Physical: Dynamics and Rhythm of Movement	There was a swiftness to the way the children plotted the co-ordinates but the pace slowed when the children were attempting to solve the calculation, which they found more challenging.
Emotional: Anticipation	Once the code had been entered, all of the children wanted to open the chest and there was a hush as the code was entered.
Sense of Place	Links with Effect:
Cognitive: Mental Maps and Presence	The children began seated in the places which had been allocated to them by the teacher. The teacher sat near the front of the class near his computer and Suki stood by the whiteboard. This meant that they only used the resources on their tables.
Physical: Pathways Boundaries and Objects	The children were asked to physically take the sticks away, and this was demonstrated by the teacher crossing out some of the lines on the page. The teacher later reflected that providing the children with matchsticks, or encouraging them to use pens as sticks, might have made this challenge easier.
Emotional: Associations and Memories	There was a confidence when undertaking the initial stage of the task as they were drawing on their memories of the previous classroom challenge. However, the concept of removing sticks to create letters was unfamiliar to the children and eventually needed to be modelled.
Sense of Community	Links with Effect
Cognitive: Significance and Responsibility	The children were keen to share their ideas with Suki, but there was little cross pollination of ideas between children. It was only when the teacher or Suki suggested a change of approach that these were taken up.
Physical: Player Proximity and Connection	The children rarely moved from their seats, unless they wanted to show Suki something or ask her a question. There were few instances when children worked collaboratively outside of their pairs. Many were working individually.
Emotional: Belonging and Achievement	There was a collective cheer when the chest opened and many shouted 'We did it!'

# Tackling Challenges: In the Installation

## Collective Problem Solving: Looking for Clues

The data presented here is adapted from observation notes from Episode Two of *The Oracles* (First Installation Session – Year 6 class of 10- and 11-year-olds)

The children have entered the bric-a-brac shop and are about to undertake a series of linked challenges relating to converting percentages, decimals and fractions. (For more detail on this episode. Please refer to the overview of *The Oracles*)



The dials on the radios



The dolls which were passed around the group

The children turn the dials of the radio together.

Over the speakers a crackly recording is played: "Hello dear listeners. My name is Mrs Weevil and welcome to my shop! Now, I have a riddle for you. Are you listening very carefully? Then here it is: What is in every doll, in every doll, in every doll, order these from big to small. Work this out and you'll have your answer."

**Hera:** What did she say?

**Laura:** What's in every doll?

**Hera:** What's in every doll in every doll in every doll?

**Laura:** Oh oh oh look look look them them them!

**Hera:** Order them from big to small

**Laura:** Look it's that. It's that. It's that. I found it! I found it! I did it!

**Hera:** What is it?

**Laura:** Order it! Order it!

**Teacher:** Guys work together

The children manipulate and investigate the dolls

**Daniel:** Who wants to open this?

He passes a doll back.

Two of the children take it. Many of the children are holding the dolls now. One girl takes them apart.

**Hera:** What does it mean? What are those dolls? Is there anything on those dolls?

**Laura:** 20% 3 ninths. Oh you're meant to order it

**Hera:** From big to small

**Teacher:** Look let Charles come in, look.

**Hera:** What's on the dolls? Tell me I don't know what's going on.

**Teacher:** Guys you've got to tell Hera

Rachael tells Hera that there are fractions on every doll.

**Hera:** Charles suggests turning the fractions into percentages [...]

One of the children, Levan, stands next to the teacher, being guided through the process. As they do Laura interrupts but the teacher continues.

**Teacher:** Simplify it first (no let him do it) How many threes go into 9? 9 divided by 3

**Levan:** ....oh....

**Teacher:** It's three and you've done the numerator and now you need to do the denominator

Sense of Purpose	Links with Effect
Cognitive: Understanding of Aims	This is the first time the children have entered one of the 'puzzle rooms' in Fallow Cross. After establishing that they need a code to open a box with a labour inside they look around to see if the images on the box relate to any of the objects in the room. Once they understand the task the teacher supports one child through the process. Hera repeats the riddle to help guide the process.
Physical: Focus of Gaze and Direction of Movement	The children move about the space as separate individuals prior to solving the challenges. It is only when they are solving the challenge of the dolls that they stand together as one group.
Emotional: Affinity with Aims	The children appear highly motivated when investigating the significance of objects and information. They appear intrigued by all of the objects.
Sense of Urgency	Links with Effect:
Cognitive Awareness: of Time Constraints	Hera stresses that they don't have long and the children are encouraged to work at speed. At times they check the lantern to see if it is still orange (and that Circe is not too close!). Laura wants to solve the challenge quickly and takes the lead.
Physical: Dynamics and Rhythm of Movement	As the lights flicker there is a pause as the children wait expectantly. They stand very still whilst listening to the radio recording. This is then followed by a flurry of activity and deliberate movement as they realise that they need to move towards the dolls to solve the problem.
Emotional: Anticipation	As the riddle plays I observe that Laura's eyes are wide. She appeared startled as she looked about her. There is a stillness after turning the dials as the children wait to discover the consequences of their actions.
Sense of Place	Links with Effect:
Cognitive: Mental Maps and Presence	On entering the space the children are invited to explore the bric-a-brac shop. They are asked to find a box but as they search, they notice and comment on many of the items in the shop.
Physical: Pathways Boundaries and Objects	The space is cramped and there is little floor space. This presses the children up against many of the items in the shop as they shuffle through the space.
Emotional: Associations and Memories	This is the first puzzle room that the children visit in the installation. Many are unfamiliar with what a bric-a-brac shop is and appear fascinated by their surroundings. They move around the space tentatively and are very gentle when handling objects. They are not yet familiar with the multi-step structure of the challenges in the installation.
Sense of Community	Links with Effect:
Cognitive: Significance and Responsibility	The teacher and artist are taking on joint responsibility for encouraging the children to work together. After prompting, the children begin to distribute the tasks relating to translating the fractions into percentages. It is not clear that Laura (who is one of the most confident mathematicians in the class) sees the significance of others in the group in this instance and is keen to tackle the challenges independently. (Later in <i>The Oracles</i> , this Year 6 group distributed tasks without prompting and began to recognise the significance of the contributions of others when tackling challenges. Please see <i>Re-Shaping Relationships in the Installation</i> on pp 70–71)
Physical: Player Proximity and Connection	The enclosed space means that children must often squeeze past each other. As they turn the dial in unison, two or three hands meet on the small dials. In these moments there is a sense of the importance of collective action as they take action simultaneously.
Emotional: Belonging and Achievement	One of the focus children, Laura, was keen to establish her own achievements in this challenge, often verbalising the aspects that she had solved. However, the artist reinforced and foregrounded the contributions of a range of participants including Charles.

# Tackling Challenges: In Between Spaces

## Collective Problem Solving: Collecting Mint

The data presented here is adapted from field notes gathered as the children travelled back from Episode Two of *The Oracles* (First Installation Session – Year 5 class of 9– and 10–year-olds)

At the end of the episode in the installation, the children have been asked to collect more mint and thistle the next time they play the digital game, so that Hera can create another protection spell. As they travel back some children begin to gather leaves from the front gardens of houses that line the street.



On the way back to school from the installation, the children walk in pairs in a line behind their teacher. They walk to the right of the pavement, staying away from the road and walking next to the walls that separate the pavement from the front gardens of the houses.

I notice Remy is being handed some leaves by his partner who is walking alongside him. Remy is looking at them and tearing bits off and smelling them. The other boy has ripped leaves spilling out from the top pocket of his shirt. He also appears to have his trouser pockets full of leaves. Remy sees that I've noticed.

**Remy:** *He's got thistle miss. Lots of it!*

**Me:** *Has he?*

**Remy:** *Not really miss it's from a plant on the way*

**Me:** *Ah I thought you'd brought it with you from Fallow Cross!*

I fall behind a little to walk alongside Mario and his partner. They also have leaves, one each of their hands. They are also tearing them and smelling them.

**Mario:** *We've found mint!*

**Me:** *Where? In Fallow Cross or outside?*

**Other boy:** *Outside .*

They continue to break it up and smell it as they walk.

Sense of Purpose	Links with Effect
Cognitive: Understanding of Aims	Prior to leaving the installation the performers had reminded the children that they would need to play the digital game again and collect lots more mint and thistle before they returned to the installation. This may have influenced their actions on the way home.
Physical: Focus of Gaze and Direction of Movement	Mario is further behind in the line than Remy. It is possible that his actions are influenced by an awareness that others in the line ahead of him were collecting leaves from the bushes. The children's gaze only occasionally focused on the leaves and they looked ahead as they smelt the leaves.
Emotional: Affinity with Aims	Although their actions will not have a direct impact on the outcomes of the game, the children appear to be engaging in the challenge of collecting mint as a way of extending their imaginative engagement with the fiction of Fallow Cross.
Sense of Urgency	Links with Effect
Cognitive Awareness: of Time Constraints	The children are aware of the time it takes to walk back to school, and that returning to school will potentially mean that this imaginative activity will end.
Physical: Dynamics and Rhythm of Movement	The children appear to be ripping the leaves 'absent-mindedly' and their attention is only partially on the leaves as they walk. The rhythm of their actions are not regular.
Emotional: Anticipation	There is little evidence of anticipation related to this activity. They do not expect their actions to have consequences in the game. However, the children have been prompted by the villagers to anticipate their next digital game-play session.
Sense of Place	Links with Effect
Cognitive: Mental Maps and Presence	They are familiar with their local area and may be aware that only in this part of the walk will they have access to the bushes so opportunities for collecting leaves is limited. This may be one of the reasons that they fill their pockets.
Physical: Pathways Boundaries and Objects	The pathways are determined by the teachers' choice of route back to school. The boundaries within which the children move are shaped by the pavement, road and the walls and bushes which block off the front gardens of residents.
Emotional: Associations and Memories	Their engagement in this activity appears to be informed by the memories of the installation they have left.
Sense of Community	Links with Effect
Cognitive: Significance and Responsibility	The class have been tasked with collecting mint before their next visit and have been informed of the significance of their actions in the digital game. They understand that in order to save the villagers they must collect more mint and thistle in the game.
Physical: Player Proximity and Connection	There is an expectation that the children walk in a line, in pairs, behind each other and this influences their interactions.
Emotional: Belonging and Achievement	The children are part of a community of players in that they understand the significance of the mint whereas the teacher does not.

# Summary

## After Play: Pupil and Teacher Reflections (Tackling Challenges)

**The intensity of their experiences during *The Oracles* influenced the participants' collective and individual actions as they engaged in the process of tackling challenges together.**

### Sense of Purpose: 'You had to work out what to do with the maths'

Many of the challenges required the children to adopt strategies of trial and error when attempting to solve problems. In doing so they investigated the potential significance of objects, actions and information. Problem solving, and the application of mathematical knowledge, was viewed as an integral and valuable part of the experience by both teachers and children.

*Even if you're very, very able at maths, if you can't read it and know what you need to do, then that's a wasted talent in this context because you can be good at maths but there's no one sitting there giving you problems to do. You need to work out what the problem is before you can work out the problem.*

[Teacher – Final Interview]

*You already knew how to do the maths but you had to figure out what you're meant to do with the maths.*

[Child – Final Interview]

### Sense of Place: 'It wasn't just rote learning'

All of the challenges were shaped by the spaces in which they took place, and the intensity with which the children engaged with problem solving ebbed and flowed across these spaces. Teachers observed the children as they interacted with physical objects in the installation and often reported being surprised by the children's capabilities, particularly in the installation spaces. Those who were less confident were seen to engage more deeply with the challenges and the more able children also demonstrated and applied knowledge in ways they had not had opportunities to do in the classroom setting. The children too reflected on the intensity of concentration they experienced when tackling challenges.

*He seemed more engaged, he seemed more interested. It was very kinaesthetic, like it was very ... I mean it wasn't just rote learning, learning facts, he was touching things, he was manipulating things, he was opening things up, he was twisting things, and that was something that he found stimulating. Then if he saw something not quite right he'd say, "Hang on, look at this", and I didn't know that he could do that necessarily*

[Teacher – Final Interview]

*You have to really focus [on] the clues, the notes and talking and, it's like because you will see something and it's the same thing as you saw on this note you saw and yeah, it gets intense.*

[Child - Final Interview]

### Sense of Urgency: 'We didn't know how much time we had!'

The intensity of the experience, instilled a sense of urgency amongst the players as they worked together to solve the problems and challenges. This affected the strategies and approaches that they adopted which included working at speed and distributing responsibilities. For many of the case-study children, the time-pressure they experienced in the game developed their understanding of the importance of collaboration; there was the sense that collective action and engagement would lead to faster solutions.

*I'm used to like getting my ideas and just doing it. But I think I got better at taking part, like taking part and helping others, like to make sure that it gets easier, so it's easier and faster that everyone has an idea so we could get there very quickly and save the village, because we didn't know how much time we had. It could have been an hour, one minute, one second even.*

[Child – Final Interview]



Above: Children measuring together in the installation

*If we did like one person did everything, then it would take longer, because it would take longer to work it out, whereas if you have a group, then if you're struggling, then someone else could help you and then you'll get it done quicker.*

[Child – Final Interview]

### Sense of Community: 'They working as a team to work out a problem' (sic)

Team work was viewed as an important part of the experience by the children. The teachers also noticed an increased motivation and resilience amongst some of the children.

*It was like we were working as a team because when we were doing the problems if someone was doing something and they worked it out and there was a second part to it and they didn't know how to work it out, told us they did so they could done it and they working as a team to work out a problem.*

[Child – Final Interview]

*I saw the children [...] persevere more, be a bit more resilient, be a bit more willing to get something wrong and then not get knocked back and then go again because they had to achieve this and they all had to work towards the same goal.*

[Teacher – Final Interview]

### Further Reflections

The children developed their teamwork during *The Oracles*, and more confident mathematicians worked alongside the less confident to solve the challenges in the installations. However all of the teachers, when reflecting on the classroom sessions, would have liked to have been more involved in the delivery of the sessions so that they could have supported the children in the classes more effectively. Although many of the children benefited from the process of trial and error in the classroom sessions, it did require considerable resilience and some were a little confused by the process at times. It might be beneficial in future projects for Punchdrunk Enrichment to leave enough flexibility in the design of the classroom challenges to enable teachers to adapt the content and delivery. In this way they could potentially deepen the sense of community shared by teachers and children in the sessions by distributing responsibilities for completing aspects of challenges amongst the children in ways that were tailored to the needs of the class.

## Performing Belief (Investment)

### Prior to Play: Punchdrunk's Reflections

The production values of the digital game and the installation were high and considerable attention was given to creating representational links between the digital game and the installation. Punchdrunk Enrichment wanted the children to be enthusiastic about playing the game and understand their role and significance in maintaining the fictional frame.

#### Sense of Purpose: 'Don't get caught by Circe'

Punchdrunk Enrichment ensured that the design of the digital game and the installation communicated one of the central aims of the game – to avoid Circe! This involved shaping a consistent fiction in which the children's actions had consequences.

*Obviously with lots of the Enrichment work, it's about a really tight logic and a really tight reality. And this instantly they go [when playing the digital game] "Okay I understand, don't get caught by Circe, Circe kills you, you'll have to start again, or she's the threat." So as soon as they come here [to the installation] they understand that that exists in a game form, and they're playing that in reality. The comments that when they first open the door to the village and they saw it, they thought it was computer generated. It was only when they stepped into it ... So then instantly they're like, "I understand the rules of this world, because I've been here in computer form".*  
[Peter Higgin – Final Interview]

#### Sense of Urgency: 'There needed to be some threat in the world'

Punchdrunk Enrichment considered the rhythm of the gameplay in relation to the ways they could instil a sense of urgency amongst the players. The sense of peril in the game was related to the character of Circe and the consequences of being caught by her. Towards the end of the second experience one of the characters gets trapped (momentarily) in the space by Circe. It was a scary moment for the audience. Punchdrunk Enrichment felt that this addition was needed, as otherwise their audience would get used to the format of visit, solve the puzzle and get chased out of space by Circe. This dramatic moment upped the stakes, added a level of threat and kept the audience on their toes when they visited the next time.

*We felt very much in need to, in the live experience, make sure the second experience was distinct from the first, [...] so we ended up having, inserting a moment of*

*peril, where one of the performers, the characters gets trapped out by Circe and it has to be saved by other characters [...] it was like, okay [...] how do we maintain the tension without it feeling... too scary, but at the same time keeping interest?*  
[Peter Higgin - Final Interview]

*There needed to be some threat in the world or some mechanic that added some traditional game play, so [...] Yeah, I mean thinking about Circe and thinking about the game, I think there is, you actually do have that die mechanism in the game, a real setback yeah.*  
[Jim Bending – Final Interview]

#### Sense of Place: 'When a tornado takes them back to a checkpoint, they know that something is bad'

The digital game was designed to mediate the players' expectations and their experiences of the installation space. By beginning the experience with a digital game Punchdrunk Enrichment signalled the 'game status' of the peril.



Above: The children clasp their hands over their mouths to silence themselves so Circe does not hear them

*The digital world means that you can safely explore on your own, and you can run into danger, but the child isn't harmed because it's all on a screen [...] when you come to the village, you're again in the same lens of I know this is a game, but I know I'm safe. [when] you move the game world with the 2D kind of screen, you're able to feel like you've died as a character, but you're that one step removed from it. Actually, we always want people to buy into the world, and to believe in the world. We never want anybody to genuinely feel like they're going to die. We always want people in the world, in the game, just playing with it, kind of entering and not ... And potentially forgetting that they're in a game and blurring those boundaries. I think it's interesting that the game is potentially a way to mediate that experience.*  
[Peter Higgin – Initial Interview]

*Before they've even got there [to the installation], they've been slightly safely scared so already and maybe a little bit, yeah a little bit*

*tense around her when she takes, when so say a tornado takes them back to the check point, they know that something is bad, and I don't know how that's going to transfer when they get to here, but I mean... When they hear the same sounds, because it's very linked and we got plans to reinforce that link as well by, I want to add more lightning in after seeing the light design, so like they see the same things. They should, I just don't know how they're going to react to this...*  
[Jim Bending – Initial Interview]

#### Sense of Community: 'They're playing along here'

The Punchdrunk Enrichment team needed the children to 'play along' and instructed the actors to keep discussions focused on the mission at hand.

*They kind of do believe it's real, and in as much as they need to, because they're playing along here each time. They're not wandering around, not going, "Oh it's not*

*real I'm not going to do it." They are playing it, and they're getting excited about coming here. They are playing it there and they are going to, or [we're] hoping they'll be excited when they complete the game.*  
[Matthew Blake – Initial Interview]

*If you do get asked those questions, which are there to derail, acknowledge, deflect, focus on [the] mission [you say] "Oh great, that's an interesting idea, but at the moment we're ..." As opposed to setting up a lie, because the moment you lie, you probably have to tell about 10 other lies.*  
[Matthew Blake – Initial Interview]

**The following three tables focus on three instances when the participants 'performed belief' and draw from observations and field notes.**

# Performing Belief: In the Classroom

## Negotiating Believability: I'm Scared!

The data presented here is adapted from observation noted from Episode One of *The Oracles* (First Installation Session – Year 5 class of 9- and 10-year-olds)

This is the first time the children have played the digital game. As they play they make links with their previous experiences of games and genres such as horror and ghost stories. They begin to 'perform belief' as they enact the emotion of fear.



Screenshot of the schoolroom taken from the digital game

**Remy:** *I'm scared, I'm scared!*

Teacher walks over to the table.

**Remy:** *I saw a class*

**Teacher:** *Have you gone back out of Fallow Cross?*

**Remy:** *Yeah. I saw a class with a skeleton.*

**Teacher:** *Did you explore it?*

**Remy:** *No, no (shaking head vehemently and frowning brow)*

**Teacher:** *Why not?*

**Remy:** *I don't want to go in there...I can go back. I can go back...but I don't want it to catch me.*

Sense of Purpose	Links with Effect
Cognitive: Understanding of Aims	Remy understands that he needs to stay safe in the game. At this stage in the game he has already had to shelter from Circe in order to reach the village of Fallow Cross.
Physical: Focus of Gaze and Direction of Movement	His focus is on the screen but as he verbalises that he is feeling scared he looks up to try and make eye contact with others in the class. He shakes his head vehemently as he explains he's not going back to the room with the skeleton in.
Emotional: Affinity with Aims	Earlier in the game play he has exclaimed that he does not want to play because he is scared but here he is demonstrating a determination to keep going, and he does not stop playing.
Sense of Urgency	Links with Effect
Cognitive Awareness: of Time Constraints	The time constraints in this instance are inferred by Remy. He has had to run from Circe in a limited timeframe otherwise he would risk losing all the mint and thistle he had collected. He seems to be expecting to have to move away from the skeleton quickly too.
Physical: Dynamics and Rhythm of Movement	He taps the screen steadily, and in doing so navigates his way out of the virtual village.
Emotional: Anticipation	He is anticipating being chased by the skeleton and this is influencing his choice of actions as he tries to escape Fallow Cross.
Sense of Place	Links with Effect
Cognitive: Mental Maps and Presence	Having navigated his way into Fallow Cross he is able to retrace his virtual movements with relative ease.
Physical: Pathways Boundaries and Objects	Remy remains in his chair throughout play.
Emotional: Associations and Memories	He appears to be interpreting the representations on screen by drawing on his knowledge of other genres such as those linked to horror, or ghost stories, in which skeletons might chase you! He does not associate a skeleton as something you would usually find in a schoolroom and it is not clear he has recognised it as a schoolroom (as Punchdrunk had intended).
Sense of Community	Links with Effect
Cognitive: Significance and Responsibility	The significance of his actions are not established yet, but drawing on his experience of other games and horror genres he appears to understand that he must try to survive.
Physical: Player Proximity and Connection	He often expressed his emotions by saying he is scared and looking around at other players but he remains seated at all times.
Emotional: Belonging and Achievement	He is performing his belief in the fiction for the benefit of others in the room, but also to heighten his enjoyment.

# Performing Belief : In the Installation

## Negotiating Believability: Are you scared?

The data presented here is adapted from observations noted from Episode Three of *The Oracles* (Second Installation Session – Year 6 class of 10– and 11–year-olds). This is the second time they have visited the installation and they have had to abandon their mission and flee to the safety of the school room. This time the sense of peril is heightened as Hemi is left behind and caught by Circe. The children perform belief as they enact the emotion of fear.

After Hemi calls out and taunts Circe. The storm begins. It sounds fierce. Thunder can be heard and the music changes tempo, playing faster and in a minor key. The children begin to run, following Hemi and Hera and Delphi. Sometimes the villagers signal for them to stop with a hand gesture and wave their hand to prompt them to crouch down in corners. In these cramped spaces the children huddle together, hiding from Circe until the doors between corridors are opened and they then run again.

Once in the school room they do not sit down but mill and pace about in an anxious manner, some jumping up and down. There is screeching and screaming and shouting as the sounds of the storm play outside and the tempo of the music remains the same. Such is the level of movement and volume of voices that Hera shouts at them to sit down. Once seated she shouts again *'Where's Hemi? Where's Hemi?'* Delphi responds *'He's not there!'* The children scream again. Hera tells them she's got to go outside. As she does so Delphi ushers the children to the window so they can look out for her. They are screaming and shouting. I can hear shrieks of *'She's there! 'Hemi Hemi Oh that's not Hemi that's her! 'Can you still see her?' 'Yes!' 'Is she still there?' 'No!' 'yes!'*

One child looks round and notices that some children are sitting, still and quiet, far away on the other side of the room on the benches. He shouts across the room, smiling broadly. *'Hey are you scared?'* Before turning back to join the huddle of children, placing his hands on a child's shoulders in front of him and bouncing up and down, pressing on their shoulders to propel himself higher.

Suddenly Hemi and Hera burst through the door. Hemi is limping and his leg is wet. One child asks *'What happened to Hera?'* Another exclaims *'He got wet from Circe!'*

Hemi explains, *'The good news is I got the key, the bad news is Circe saw me I was lucky to get away alive!'* Delphi quickly says *'Ok I'm calling it. There's NO way I'm taking you out there again. It's WAY too dangerous.'*

Most of the children beg and plead to be able to complete the mission. Delphi continues, shaking her head *'No, It could have been one of you out there.'* Some of the children have their hands clasped together as they plead and shake them imploringly. One shouts – *'There's power in numbers!'*



Hemi returns to the schoolroom after being caught by Circe

Sense of Purpose	Links with Effect
Cognitive: Understanding of Aims	The children understand that this is a climactic moment and many seem to demonstrate a shared purpose of heightening the tension further through whoops, screeches and screams. They also seem to understand the playful purpose of these events, often smiling before resuming their performance of fear.
Physical: Focus of Gaze and Direction of Movement	The children look to each other on arriving in the schoolroom, perhaps checking the responses and facial expressions of their peers. When Hera, Hemi or Delphi speak they turn their heads and bodies towards them as if awaiting directions or cues as to the next steps.
Emotional: Affinity with Aims	Some are clearly enjoying the heightened sense of peril. Many appear to have an affinity with the aims of watching out for Hera as she braves the storm, demonstrated by their eagerness to participate in this frenzied performance. However, a few children appear uncomfortable with this part of the experience and choose to remove themselves from the heart of the action. Instead they sit at the side of the room - still and looking pensive. In looking out for Hera and pleading with Delphi to be able to continue with the mission once Hemi had returned, the majority of children performed belief in order to perpetuate play.
Sense of Urgency	Links with Effect
Cognitive Awareness: of Time Constraints	The children are aware that they need to return to the schoolhouse as quickly as possible once the storm begins as this is how the previous installation session had ended too.
Physical: Dynamics and Rhythm of Movement	The sense of urgency when in the schoolroom leads children to act in different ways. Many of the children jump excitedly and smile at each other as they hug each other in mock terror. Some hold their chests, as if feeling their heart beating. Others sit on the bench at the side signalling their separation from events, removing themselves from the performance of peril that is playing out in front of them. Those at the side become observers rather than participants.
Emotional: Anticipation	The anticipation of being caught by Circe heightens the tension amongst the group and the anticipation of Hemi's arrival after his capture leads to a noisy reaction from the children.
Sense of Place	Links with Effect
Cognitive: Mental Maps and Presence	The installation is dark and there were many pathways and buildings in which people could hide. The space is unfamiliar and, due to the threat of being seen by Circe, the children understand that these are not 'safe spaces' in the game.
Physical: Pathways Boundaries and Objects	When trying to escape Circe, they press themselves against the walls as they wait for Hemi, Hera and Delphi to usher them through the door and back to the safety of the schoolroom.
Emotional: Associations and Memories	The children know that encounters with Circe are to be avoided. In the digital game you would be sent back to a checkpoint if caught in the storm, which some children interpreted as 'dying'. This association with the game heightened the perceived peril amongst players.
Sense of Community	Links with Effect
Cognitive: Significance and Responsibility	Some children are keen to go into the storm to find Hemi. When Hera goes in search of Hemi many of the children appear to enjoy the responsibility of being look out, playing at keeping each other safe.
Physical: Player Proximity and Connection	When travelling around the installation the children are aware of their bodies in relation to others. They put their arms around each other as they crouch in corners as if in solidarity. Once in the schoolroom they hug each other, and some hold hands performing unity.
Emotional: Belonging and Achievement	With the phrase <i>'There's power in numbers'</i> the child suggests that they have collective strength that they can pit against Circe to defeat her.

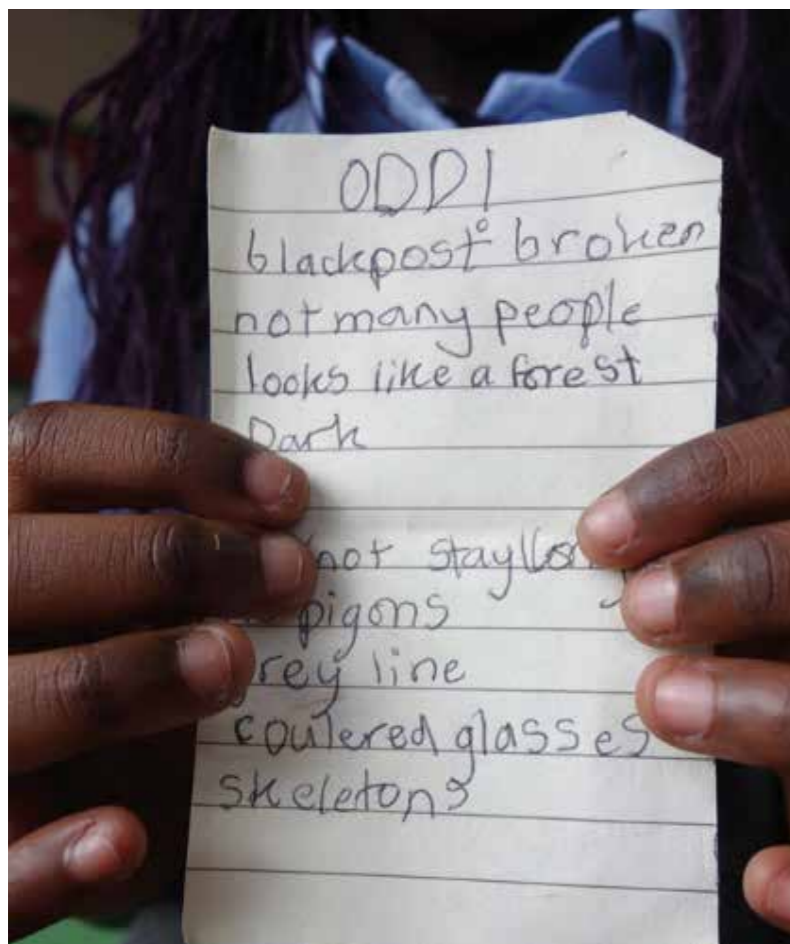
# Performing Belief: In Between Spaces

## Negotiating Believability: Suspicious Sightings

The data presented here is adapted from field notes gathered as the children travelled to the installation for Episode Two of *The Oracles* (First Installation Session – Year 4 class of 8- and 9-year-olds)

Here the children ‘perform belief’ as they interpret their local environment drawing on the fictional frame of the game.

The class are traveling to the installation for the first time and the children are not sure how they will find Fallow Cross. The class arrives a little ahead of schedule so the teacher takes them into the park opposite and gives them some free time, explaining that in ten minutes they will be entering Fallow Cross. I observe two children in the park before the first installation session and also observe them as they travel back to school again.



A child holds up a list of ‘suspicious sightings’.  
(Please note: This image is from Angela Colvert’s data collection and must not be reproduced outside the context of this report)

Left: A list of ‘suspicious sightings’ created by the players as they travelled to and from the installation. (Please note: This image is from Angela Colvert’s data collection and must not be reproduced)

I notice two children sitting on the grass with a note book. They are looking around them, pointing at things and writing them down [...] They show me their notebook and tell me that they are noting down suspicious and strange things that they notice in the park [...]

On the way home the same children sit side-by-side on the bus. They have the notebook out again and are adding things to the list.

The last entry is skeletons. Is this related to the image of a skull on the side of the bar near Cannon Street?

Sense of Purpose	Links with Effect
Cognitive: Understanding of Aims	The majority of the class are not playing <i>The Oracles</i> in the park, whereas these two children have chosen to do just that. The children understand that they are searching for the ‘real Fallow Cross’ but when they arrive at the park they do not know what or where this is as they have not been to the Fallow Cross installation yet.
Physical: Focus of Gaze and Direction of Movement	As the two children scan the environment together, they are always looking in the same direction and their heads often move in unison. When one of them notices something they deem significant they point to the feature and describe it. All the while the two children are focused on the object. Once both have ‘noticed’ it, they then face each other to discuss why it is ‘suspicious’ and note it down on their list.
Emotional: Affinity with Aims	This challenge of finding evidence of the proximity and location of the village is a self-directed extension of the aims of the game – to find Fallow Cross.
Sense of Urgency	Links with Effect:
Cognitive Awareness: of Time Constraints	They are aware that they will be taken to Fallow Cross in 10 minutes but are using the time in the park as a prelude to this event. This may have influenced the type of text created, as a list is quick to compile.
Physical: Dynamics and Rhythm of Movement	There are long periods of slow head movements as they silently scan the environment, punctuated by more sudden movements such as pointing to a feature of interest. They appear responsive to these subtle changes of pace and once the significance of an object is agreed upon it is hurriedly written down.
Emotional: Anticipation	Interpreting the environment may be serving to heighten their sense of anticipation prior to entering the installation. After the installation they add fewer items to the list and their engagement in the activity is less intense.
Sense of Place	Links with Effect
Cognitive: Mental Maps and Presence	The children have played the digital game prior to arriving in the park but do not know where they will find the ‘real Fallow Cross’
Physical: Pathways Boundaries and Objects	Broken black posts, trees and grey lines on the ground take on new significance within the fictional frame of play.
Emotional: Associations and Memories	Before entering the installation the children are drawing on associations relating to their knowledge of the game. For example, Fallow Cross is deserted in the digital game and so a deserted park perhaps becomes suggestive of Circe’s presence.
Sense of Community	Links with Effect
Cognitive: Significance and Responsibility	The children’s shared responsibility for finding Fallow Cross on their first visit appears to inform this activity.
Physical: Player Proximity and Connection	The two children sit close together in the park, far removed from other children who are running, racing and playing games approximately 100m away.
Emotional: Belonging and Achievement	This is an activity that is secret and exclusive, and sets them apart from the rest of the class. On two occasions other children approach the pair and the paper is hidden from sight.



# Summary

## After Play: Children's and Teachers Reflections (Performing Belief)

**The intensity of their experiences during *The Oracles* influenced the participants' collective and individual actions as they engaged in the process of performing belief together. An example of this was the way the participants engaged in 'negotiating believability' as artists, teachers and children 'invested in the fiction'.**

### Sense of Purpose: 'You needed to take it seriously'

The children wanted to 'preform belief' in order to perpetuate play. The teachers and children both reflected on the fact that the experience 'felt real'.

*We were worried that the children wouldn't believe it. And to a certain extent they didn't. However, they wanted to believe it so much. And that was all down to the kind of real nature of it.*

[Teacher – Final Interview]

*I felt that what was important was that you needed to take it seriously, not take it as a joke, because maybe it could have been real*

[Child – Final Interview]

### Sense of Urgency: 'The children were very scared [...] that was real'

The children experienced an intensity of emotion when Circe appeared, both when they were playing on the digital tablet and when in the installation. They often expressed their fear but this was a performance, often accompanied by the occasional giggle or a smile. However, for some the sense of peril was overwhelming and they chose to remove themselves from the

action at these points by sitting at the side or gravitating towards the teacher for reassurance.

*Sometimes I was scared but I looked around and people were laughing and smiling so I knew it was alright.*

[Child – Final Interview]

*The children were very scared, very wary of certain things, and that was real [...] I think it was positive. They always wanted to go back, and they always wanted to talk about it. So it wasn't like it they were scared of being scared, they embraced it and they really did think about 'why was I scared?' or 'what made me scared?' [...] We had discussions back here as well about what things caused them to be scared. [...] they were saying it was really suspenseful, and when the lightning went it was a loud crash and thunder and you just didn't know what was going on. The darkness, anything that's clouded in mystery and magic and mayhem and everything. It was good, it was nice.*

[Teacher – Final Interview]

### Sense of Place: 'I felt like I was inside the game in the tablet'

The children's sense of place influenced their actions. For example, when exploring the digital representations of Fallow Cross and the installation spaces they drew on memories and associations related to their experiences of other genres, particularly horror and ghost stories.

*Also even though it wasn't real, Fallow Cross, it was inside a warehouse, it still felt intense and real and I actually thought that Circe's going to come out from nowhere and try and capture someone*

[Child - Final Interview]

*I wanted to stay at the front because if you are at the back you get grabbed!*

[Child – Final Interview]

*I thought it was interesting today, that they all said the schoolroom was haunted, and that's obviously, there's no mention of that [...] They've obviously used their previous experience of a skeleton in a dark room in a deserted town [...] It's a horror film, its horror. [Also] it was funny because Fatima, she's obsessed with the Ninjas, the Ninja Lego men and when we go round the corner [...] she was going, "It's like being a Ninja" [laughing].*

[Teacher – Initial Interview]



Above: The children encounter Circe as they play the digital game

### Sense of Community: 'We came up with a theory'

In *The Oracles*, children and teachers shaped the fiction of Circe together. The children were often observed by the teachers critiquing the representations in the game. In doing so they were negotiating the believability of the digital game, and the environment and performances in the installation. If an event occurred which they deemed to be strange or less authentic in relation to other aspects of gameplay they would often seize upon the opportunity to create their own theories in order to perpetuate their playful engagement with the fiction. Teachers too developed the fiction with the children by performing belief in Circe. For example, one

teacher told the children that he had seen her in the installation – sparking a rumour that the children gleefully took up and embellished as they developed it.

*Me and my friend, we came up with a theory, because [...]we were puzzled because Hemi, he wasn't even scared about going outside, and I was confused because everyone else was scared, but he wasn't. [...] And the theory that we came up with was that Hemi is Circe because: 1) when we were running back he stopped and hid in the corner messing with something, and 2) he wasn't scared to go outside, so we think that he is Circe.*

[Child – Final Interview]

*They've almost let themselves become immersed in it, even*

*though they know it's not real, they're so into the story and they're so into what happened, "I saw this, and I saw this" and I was like, "I told you, I told you about Circe" and they're like, "Yeah I saw it too". So, all of that has come from me saying I saw something and Fahma saying she saw something and then all of the rest of them have gone, "Yeah, yeah, yeah I've seen it too". [...] I said, "Well, I saw, it was just a flash in the face and she was really white and really dark eyes", Fahma went, "Yeah, yeah I saw that too" but she had blonde hair or something, [...] and then they all had their own little versions of what they had seen, and in fact they hadn't seen anything [laughing]. it's like their imagination is quite literally coming to life for them.*

[Teacher – Final Interview]

### Further Reflections on Challenges and Future Opportunities

The teachers engaged in dramatic play alongside the children in the installation and also, to a lesser extent, during classroom sessions, as they pretended to learn about *The Oracles* with the children. In fact, all the teachers reported feeling like players themselves when in the installation, often being in awe of the experience and feeling like they too had suspended disbelief. Perhaps giving the teachers a more significant fictional role in the events in the installation would have provided further opportunities to extend their participation and offered up opportunities for exploring the potential of process drama techniques such as teacher-in-role that could be transferred to classroom sessions.

On rare occasions, when external visitors accompanied the children in the installation, they did not perform belief and the children noted that when adults did not look scared when Circe arrived it affected their affective experience. Perhaps giving visitors some additional guidance prior to their entry may help to prevent this in future.

Some children found the instances of peril in the installation a little overwhelming and chose to remove themselves from play. Perhaps in future productions, a mechanism could be devised which would give children greater control over the intensity of their experiences, without having to remove themselves from the action.

# Reshaping Relationships (Identity)

## Prior to Play: Punchdrunk's Reflections

### Sense of Purpose: 'There were all sorts of Players'

Punchdrunk Enrichment did not reflect on, or predict, the nuances of children's motivations for play in the initial interview but in the final interview they recognised the multiple approaches to play that they had observed, especially when playing the digital game.

*I think, there were all sorts of players. Some people were really racing ahead and they would just get really far and some people would actually slow down and explore areas, and actually take the time. And, some who were just really curious as to how the game was built and they were looking at ways of poking holes in it, trying to find ways they could break it, but just natural stuff and wondering what it was made in, and there was all that stuff outside of it, but yeah there were some who really did pick up on collection and finding those little story sections as well, they would really focus in on those. Then there were some who enjoyed the, trying to get as far as they could and the challenge of getting away from Circe.*

[Jim Bending- Final Interview]

### Sense of Urgency: 'Having that threat hanging over them did bring them together'

As with previous projects, Punchdrunk Enrichment intended to situate the children as the protagonists in the story. However, as the game progressed the children began to identify not as individuals propelling the story forward but as a team, pitting their wits and energies against a common enemy.

*I think there is something to be said of like human beings learn so much and kind of bind together through hardship. Although this actually isn't life or death, they are going to come back out and go to school. They do genuinely believe in the situation they're in and they do believe that Circe is there. And having that threat hanging over them did bring them together and made them do things that they otherwise wouldn't have done necessarily.*

[Artist performer – Final Interview]

*I don't think you can ever underestimate or undervalue the benefit of having a really rich kind of experience where you are at the centre of that as a story, where you're the protagonist. [...]*

[Alex Rowse – Initial Interview]

### Sense of Place: 'Playing on tablets alongside each other'

Children demonstrated an awareness of their peers in the spaces, both virtual and physical, when playing and often guided others around those spaces.

*[we saw the children] making sure that their friend gets a go on doing something in one of the puzzle rooms. Likewise playing on tablets alongside each other, but making sure that their friends sees where they're meant to be going and that, "Oh have you found the forest? I've found the forest, go this way, go this way." I think that's yeah, been really rewarding to see.*

[Matthew Blake – Final Interview]

### Sense of Community: 'It's working as a group and going on something epic together'

Punchdrunk Enrichment were pleased with the teamwork that was demonstrated by the children during the game.

*I think what's really interesting for me with these things, as ever, is the kind of teamwork and the communication and the kind of the care that pupils take of each other when they're going on a journey like this [...] I always like to see in our work, because I think no matter whether it's in this digital place or a physical space, it's working together as a group and going on something epic together.*

*I knew that if teachers bought in and were up for it, the exciting thing is going on a journey with their class, and having that state of like plausible ignorance where actually they're experiencing it all as well [...] And maybe just getting to know their pupils in a slightly different way I hope. And being surprised by their pupils and I think from speaking to some of the teachers I think that is the case.*

Right: The players return to the installation. Some run in whilst one player talks to Dephi



# Re-shaping Relationships: In the Classroom

## Adopting Roles: Celebrating Collective (and Individual) Achievements

The data presented here is adapted from observation notes of Episode Seven in *The Oracles* (Fourth Classroom Session – Year 5 class of 9- and 10-year-olds)

At the end of the game, the children are given identical medals as a reward for completing the challenges and on being awarded these all three focus classes began to interpret their design as a symbol of their teamwork. In one of the classes a child observes that she could see all of their teams integrated into the design and remarks 'Look it's got all of us there, a triangle, hexagon and square!' The event described here captures a moment immediately after the medals have been handed out in which children celebrate their collective and individual achievements.

The school secretary arrives with a parcel from Fallow Cross. The children are so excited and call out to the teacher 'Open it now! Open it now!' Inside is a memory stick and a note from the villagers asking them to watch the film they have sent. After watching the film, which outlines the children's achievements and praises them for their bravery, they burst into spontaneous applause. When they see what is inside the parcel and discover that there is a medal for each of them they cheer really loudly and some of the children punch the air in celebration.

After the medals have been handed out, I notice a small group of children who have gathered together around a table to compare the medals. They hold them close to each other's and very rarely let go of their own medals. If they do, they do not take their eyes off them, and part with them only for a moment before reaching for them again.

I note down some of the comments: 'Look we all have different labours' [...] 'Mine is different from everyone's as well' [...] 'Everyone's is a different colour' [...] 'Because we all different'

As they talk they compare the sizes by holding them against each other. They also compare the weight by holding two, one in each hand, and moving their hands up and down as if they were scales. They even test to see if they smell different!

One child holds her medal to her nose and closes her eyes as she breathes in. 'It smells like Fallow Cross' she says. Another child remarks that it smells of Delphi's candle makers and another says it reminds her of a church.



The children gather around a table in the classroom to compare the medals they have been awarded (Please note: This image is from Angela Colvert's data collection and must not be reproduced outside the context of this report)

Sense of Purpose	Links with Effect
Cognitive: Understanding of Aims	The children understand that this medal is being awarded to them in recognition of their individual and collective achievements. They cheer at the end of the film in celebration.
Physical: Focus of Gaze and Direction of Movement	The focus of the children's gaze is on their own medal and those of their peers. They appear to track the movement of their medal if it is held by another child.
Emotional: Affinity with Aims	Sometimes the medals are exchanged momentarily but the medal is always returned to the original owner. These medals, although almost identical in appearance are not interchangeable. These are passed around as precious objects and are handled with care.
Sense of Urgency	Links with Effect
Cognitive Awareness: of Time Constraints	This is a hiatus in the middle of a maths lesson. Maths worksheets are still laid out on the table. The teacher is not rushing them but they are likely to be aware that they will need to complete the maths tasks before the end of the session so they will not have long to examine the medals.
Physical: Dynamics and Rhythm of Movement	The children's movements are considered and quite slow. The smelling of medals is repeated several times by individual children and the breaths they take are slow and deep.
Emotional: Anticipation	The anticipation of opening the parcel led to the expression of great excitement as the children cheered and urged the teacher to let them open it straight away.
Sense of Place	Links with Effect
Cognitive: Mental Maps and Presence	As the children inhaled the scent of the medal many of them closed their eyes thereby shutting out the visual stimuli related to the room, so they could better focus on the smell of the wood.
Physical: Pathways Boundaries and Objects	The circle created by the children creates an enclosed space in which the medals can be moved around for comparison. The pathway of their medals are always tracked by the children.
Emotional: Associations and Memories	The medals are objects closely associated with Fallow Cross and their markings and colours are examined in great detail. As the children smell the medals some of them begin to talk about memories of places which they associate with the smell of the medals. One child says it smells of Delphi's candle makers and another says it reminds her of a church.
Sense of Community	Links with Effect
Cognitive: Significance and Responsibility	The medals were being awarded for individual achievement but the children are keen to compare them and look for similarities as well as differences.
Physical: Player Proximity and Connection	The children gather together to compare the medals immediately after celebrating together.
Emotional: Belonging and Achievement	There is a sense of shared achievement as the children cheer!

# Re-shaping Relationships: In the Installation

## Adopting Roles: Distributing Responsibilities

The data presented here is adapted from observation notes of Episode Three in *The Oracles* (Second Installation Session – Year 6 class of 10- and 11-year-olds)

The children have entered the Mayor's House and have discovered a grid on the back of a large rug in the centre of the room. They have also discovered that the books on the bookshelf are labelled with co-ordinates. They begin to lay the books on the floor and are eager to solve the challenge so they can release one of Hercules' labours from the locked box in the room. This group had initially needed considerable prompting to work together and one of the children, Laura, had led the problem solving (See 'Tackling Challenges in the Installation' pp 50–51) In contrast, in the event described below, the children distribute responsibilities.



Children stand around the grid on the back of the mat after having revealed a code



One child opens a book to investigate the contents



The teacher leans over to guide a child as she reads the equation written inside the book

The children are placing all of the books on the floor in a grid, marked on the back of a mat on the floor. The teacher remarks *'This is good team work guys.'* Hera agrees *'Yes this is really good team work.'* When the books are placed on the grid according to the co-ordinates on their spines, letters and numbers can be seen. Hera reads it out *'D3 P159'* They all chant in unison *'D3 P159'*. Hera reads it out again *'D3 P159'*. They all chant in unison after her *'D3 P159.'* Hera offers a suggestion, *'Hang on everybody if we've just been doing co-ordinates, we've been doing A-F 1 to 6 and this says (slowly) D3 P159'*.

Rachael exclaims *'a D3 book!'* and reaches for a book in the D3 positioning. She opens it up and looks inside. Hera asks *'Is that the D3 book?'* 'Yes' replies Rachel. *'What's the P159 then?'* Laura points at the book and says *'There was a bookmark wait keep on that page!'* and Charlie agrees *'look there's a book mark'* Everyone leans in closer to Joanne as she examines a piece of paper she has removed from the book. Levan asks *'What's that inside?'* Hera makes another suggestion *'P159 p159 p159. What if it's a page?'* One of the children says *'Oh yeah go to it!'*

Rachael turns to page 159 to reveal a large number 5 painted inside the book. Laura exclaims, *'Five!'* Rachel has also noticed smaller print and the teacher prompts her to read it aloud. He leans over and points at the symbols. It is an equation. The children work out that the equations in the book lead to the next co-ordinate and the next book.

Eli picks up the next book and works out the co-ordinate. Charlie picks up the book and reads the next one. Stanley works it out. Levan gets the next one and Joanna leans over his shoulder to see the number printed there. *'What numbers do we have?'* asks Hera. A range of children read them out *'5793'* Three children gather round the locked box to enter the four digit code and release the labour. One child checks who opened the chest last time to ensure that it's someone new who enters the code to release the labour.

Sense of Purpose	Links with Effect
Cognitive: Understanding of Aims	After understanding that all books must be placed on the grid, all children engage in this task. However, there are many stages to this challenge and the children need considerable prompting from Hera to understand that the numbers and letters they see written on the books relate to co-ordinates and page numbers. Once the requirements for each stage are understood all children work towards achieving it.
Physical: Focus of Gaze and Direction of Movement	The children gather around the mat. This enables a good sight line for seeing what others are picking up but occasionally a child will move round to read over the shoulder of another.
Emotional: Affinity with Aims	The children want to work as a team and appear to see this as an important aim. They make sure everyone is involved.
Sense of Urgency	Links with Effect
Cognitive Awareness: of Time Constraints	The children work steadily throughout the challenge. There is no flickering of lights in the room to distract them from the task and no one is looking at the lantern. They are completely focused on solving the challenge as fast as they can.
Physical: Dynamics and Rhythm of Movement	The placing of the books on the mat is swift, and all the children move at a similar pace. Everyone is involved, and carries books from the bookcase to the carpet until the grid on the carpet is filled. Once this stage of the challenge is completed, there is a pause as the children try to work out the meanings of the symbols that are printed on the books. Once the children understand that the books contain equations, different children reach for the books on the grid. The rhythm is slower but still steady and the children wait for their peers to solve the calculations before moving to the next stage.
Emotional: Anticipation	There is excitement as each new stage of the challenge is revealed and understood. The children appear confident that the four digits they have revealed will unlock the labour.
Sense of Place	Links with Effect
Cognitive: Mental Maps and Presence	The children have not entered this room before and are given time to explore. This enables them to notice unusual features and markings, such as the co-ordinates on books, that they later discover are significant.
Physical: Pathways Boundaries and Objects	The carpet creates a bounded space around which the children gather. The books are objects that are easily transported and passed around. The books are examined closely and a range of children make suggestions about how the objects could be used and placed.
Emotional: Associations and Memories	The children seem familiar with the process of solving the multi-step challenge and examine objects closely for clues. This is why they appear interested in the significance of the bookmark. (Although this was not actually needed in the challenge, the process of solving problems in the installation is often as much about discounting information as insignificant as it is about solving calculations)
Sense of Community	Links with Effect
Cognitive: Significance and Responsibility	The children demonstrate an awareness that multiple people are responsible for solving the challenge.
Physical: Player Proximity and Connection	The children gather around the rug and as problems are tackled, occasionally a child peers over the shoulder of another to see the calculations.
Emotional: Belonging and Achievement	The children want to ensure that different people have the opportunity to release the labour from the locked box. There is a sense in the room that a range of different people should also be given space and time to solve stages in the challenges

# Re-shaping Relationships: In Between Spaces

## Adopting Roles: Celebrating Collective and Individual Achievements

The data presented here is adapted from field notes gathered as the children left Episode Six (Third and final installation session – Year 4 class of 8- and 9-year-olds)

This event described here captures a moment at the end of *The Oracles* after the game had been completed. In these moments on the threshold of the installation, the children and performers perpetuate play.



The children pour out into the carpark, some squinting because of the light. Some shout 'We did it! We saved Fallow Cross!' Others shout "We're heroes! We're heroes". Many of the children double back to gather nearer the entrance to Fallow Cross. A few sit on the benches outside, arms around each other.

A group of children gather around the performers clamouring to ask the characters questions that had remained unanswered. Although, the game has officially finished, many of the children want the game to continue. One child finds a way to continue play by hastily writing a letter 'From Hercules' on her notepad and delivering it to the performers. In the improvised scene that follows, the performer reads the letter aloud and the characters and children celebrate together.

After this the children explain to the performers that they can now explore Tottenham. One child explains that "Now you guys can have proper meals and drinks" another agrees, "You can get food now. You can just go to the Tesco"

The performers read the letter that the child has written and they celebrate their victory together. (Please note: This image is from Angela Colvert's data collection and must not be reproduced outside the context of this report)

Sense of Purpose	Links with Effect
Cognitive: Understanding of Aims	Here the purpose and impetus of the children appears to be to extend play. The aim of the game – to save Fallow Cross – has been achieved.
Physical: Focus of Gaze and Direction of Movement	In the moment pictured above, all three actors are focused on the written text they have been presented with. The children's gazes are on the faces of the performers.
Emotional: Affinity with Aims	In presenting this letter to the performers the child directs and extends the game.
Sense of Urgency	Links with Effect
Cognitive Awareness: of Time Constraints	The game had finished, their mission was complete and the children were aware that in a few minutes they would be led back to school and they, in all likelihood, would not be meeting the villagers again.
Physical: Dynamics and Rhythm of Movement	The children had walked out into the bright sunshine in a rush of excitement and jubilation on completing the game but they had slowed down as they reached the bottom of the ramp and entered the carpark. Many turned back and sat on benches or milled about the entrance to the installation. Some returned to the ramp to talk with the characters.
Emotional: Anticipation	In the moment described here, a child passes the letter to Hera and awaits a response. (This is the third time she has tried to integrate one of her texts into the game). There is an intensity to the reading of the letter.
Sense of Place	Links with Effect
Cognitive: Mental Maps and Presence	The village of Fallow Cross appears to be part of the children's mental map of Tottenham as they begin to direct Hera, Hemi and Delphi to new places they can eat in the local area now that they are free from Circe.
Physical: Pathways Boundaries and Objects	The performers and children stand together on the threshold of the installation: the performers stand just inside Fallow Cross, whilst the children gather on the ramp leading down to the car park. The boundaries between fictional and real world blur and merge.
Emotional: Associations and Memories	The children take the final opportunity to ask questions of the characters that remain unanswered. They want to discover more about them and their future plans now that they are rid of Circe.
Sense of Community	Links with Effect
Cognitive: Significance and Responsibility	This is an improvised moment, which is led by one of the players and taken up by the performers.
Physical: Player Proximity and Connection	As they leave many of the children are hugging and have their arms locked around each other's shoulders.
Emotional: Belonging and Achievement	Many children are sighing or uttering exclamations such as 'We did it! We saved Fallow Cross!' and 'We are heroes! We are heroes!' In the image we see the performers celebrating the achievement of the players

# Summary

## After Play: Children's and Teachers' Reflections (Reshaping Relationships)

**The intensity of their experiences during *The Oracles* influenced the participants' collective and individual actions as they engaged in the process of re-shaping relationships with each other. An example of this was the way the participants engaged in collective problem solving as artists, teachers and children 'shaped identities' as players.**

### Sense of Purpose: 'We did a big thing and we were helping people'

Many of the children expressed a strong emotional connection with the act of 'helping the villagers' in the game. For others the experience of overcoming fear in order to tackle the challenges was significant. There was a sense of shared success at the end of the game.

*I think my favourite part that was the most significant was, for me, when we found the first three labours when we first went there, because then I felt like that we did a big thing and we were helping people, so that was significant.*  
[Child – Final Interview]

*My important thing was to figure it out and defeating that enormous, gigantic, horrific, unseeable monster that I hated and I kept getting scared of [with] my own unknowable power*  
[Child – Final Interview]

### Sense of Urgency:

The children's awareness of the time-constraints influenced the way they tackled the challenges and distributed responsibilities. Whilst some of the children did parts of the calculation in the puzzle rooms, other children were busy looking for clues. Some of the less confident children let the more confident children take over when it was important to work at speed. Some of the more confident children learnt to restrain their urge to solve things fast and let others have a go.

*The first time, do you know when we first went to Fallow Cross and we went to that bric-a-brac shop? I did understand it but it would take forever to work out for me. [...] I could work out some of it but not all of it. [...] I just let them do it.*  
[Child – Final Interview]

*You have to be good at having patience is because say if you're not the one that's doing the problem and the other person can't do it, you'll have to try and help them instead of being like, 'Oh hurry up', or, 'You can't do it, let me do it', you have to also be able to control yourself.*  
[Child – Final Interview]

### Sense of Place:

The spaces influenced the way the children engaged with each other during play. In the classrooms children sat in predefined seats and worked with those directly next to them. However, in the installation spaces the sense of collaborative problem solving was manifested physically.

*Basically, when we were putting the shield together and then we had to rush to the fountain to put three final labours in. There was this moment where we had where some of us had to [...] had to be [...] connected, we had to put it in the numbers using our hands and then it was the moment that we crouched down and then we saved Fallow Cross.*  
[Child – Final Interview]

### Sense of Community: 'There's like a shared sense of success'

Teamwork was seen to be as important in the classroom challenges as in the installation. The teachers observed that the children interacted widely in the class and that some of the less confident children were more willing to make suggestions, even to the more confident.



Above: The children celebrate after defeating Circe!

*There's like a shared sense of success so it's not on just one of them. And even in the groups when we were doing the activities at Fallow Cross, it wasn't down to one person, it was down to the team and it wasn't that spotlight on just them. Which I think takes away a lot of that nervousness about failing.*  
[Teacher – Final Interview]

*It's kind of like making us show our free spirit, like our free spirit towards what we can do in mathematics and what we can do in team work per se [...] to show*

*who we are when it comes to solving problems, doing our best I mean even when we're running. Listen to me Remy's like lightning he's like lightning I mean me myself [...] I'm quite slow but at the end of the day we all have different speeds, and we all have different minds and some of us we don't think alike but at the end of the day it's improving our team work.*  
[Child – Final Interview]

*Because when we were working in the group we had to like take turns, and we had to express all*

*of our ideas instead of just one person doing everything, and we had to all help, and to be honest I'm usually not one to listen to others. [...] Because they all had interesting ideas and they were really good at adding to what we already had.*  
[Child - Final Interview]

*She's sharing with other, yeah, with children that she most like, a lot of the time she wouldn't necessarily be sharing that much with.*  
[Teacher – Final Interview]

### Further Reflections

When children played the digital game for the first time, several of the children were initially confused as to why they could not see the other players. Due to time constraints, Punchdrunk Enrichment were not able to create a multi-player online game. However, in the future, it would be interesting to see how virtual environments could be developed to support collaboration between players. Performers and teachers also reported that some spaces in the installation seemed to support deeper collaboration and shared focus during tasks than others. In contrast to the installation sessions, there were fewer instances of collaboration and shared problem solving in the classroom spaces and sessions. Further research is needed to explore the way that collaboration is shaped by the spaces and contexts which support immersive play across physical and virtual spaces.



# Mapping Affect and Effect in The Oracles

The model of immersive play presented in this report can be used to understand the flow of affect and effect, intensity and engagement, moment to moment. However, it can also be used to understand the ways that the affect and effect of play were interrelated over the course of *The Oracles* project. Using the model to investigate instances of engagement supports an understanding of the way that the affective aspects of play influence and shape the actions of players and vice versa.

The pedagogical significance of these areas, as they pertain to immersive play during *The Oracles*, can be summarised as follows:

## Constructing Stories (Invention)

Affect	Links with Effect
<b>Purpose (Impetus)</b>	Constructing stories was an <b>iterative process and embodied experience</b> , during which <b>artists, teachers and children shaped the fiction together</b> through dialogue, performance and the production of texts. The children were highly <b>motivated to understand and shape the narrative</b> and regularly engaged in detailed collective recounts when travelling back from the installations with their peers in order to <b>clarify events</b> and to <b>relive scary moments</b> . All teachers saw <b>potential to inspire children's writing</b> , and sometimes integrated the fiction of Fallow Cross into subsequent lessons, but due to time constraints not all felt able to integrate this into their curriculum planning. Some children created written texts outside of class (such as <b>letters and short scripts</b> ) and shared these with the performers in order to <b>influence gameplay in the installation</b> .
<b>Urgency (Imperative)</b>	The imperative to defeat the character of Circe prompted players to <b>extend the narrative by co-constructing and contesting conspiracy theories</b> related to her 'true identity' and possible collaborators. In doing so, they also <b>developed an additional imperative aim for gameplay</b> .
<b>Place (Inhabitation)</b>	Children, teachers and artists shaped the gameplay through the <b>transformation and exploration</b> of spaces. Observations revealed that children were able to make <b>innovative connections</b> between their physical and virtual experiences of Fallow Cross, particularly in relation to their <b>understanding of characters</b> and through <b>imaginative interpretations of everyday (non-designed) spaces</b> .
<b>Community (Implications)</b>	The focus-children across all three classes <b>demonstrated empathy</b> for the characters' plight and experienced a <b>collective sense of responsibility</b> during the game. Many of the children said that they <b>felt like heroes</b> after playing the game and felt a <b>deep sense of pride</b> in their <b>collective and individual achievements</b> .

## Tackling Challenges (Investigation)

Affect	Links with Effect
<b>Purpose (Impetus)</b>	Analysis of observations and field notes, revealed that the focus-children in the case-study classes were <b>highly motivated to complete the challenges</b> in order to complete the quest and save the village. Although the children recognised the <b>importance of maths knowledge</b> in the game, they also identified a range of other skills needed such as <b>team-work</b> and <b>running fast!</b> The teachers observed that the <b>need to apply mathematical knowledge and skills in meaningful contexts</b> was a strength of the game, particularly in the installation. They also valued the opportunity to make <b>curriculum links with children's interests in gaming</b> . The children were motivated by gathering herbs in the digital game and although for many the <b>focus was on collective endeavour</b> , others <b>introduced a competitive element</b> .
<b>Urgency (Imperative)</b>	The teachers remarked on the <b>resilience and focus</b> of some of the children as they <b>engaged in trial and error for extended periods</b> both during the classroom challenges, and when in the physical world of Fallow Cross. Although all focus-children felt that <b>their involvement was central to completing the quest</b> , occasionally the pace of play in the installation meant that the <b>less confident mathematicians focused on finding clues</b> (pieces of information) for the group rather than <b>applying knowledge in calculations</b> .

<b>Place (Inhabitation)</b>	Teachers and artists observed that the <b>tactile and concrete ways of working</b> out solutions to problems by manipulating objects in the installation <b>supported both the able and less able mathematicians</b> in engaging with the challenges. Although the digital game was single-player, <b>children offered advice to each other</b> when tackling navigational challenges in the digital realm.
<b>Community (Implications)</b>	The focus-children linked time-constraints with the <b>need to work together</b> to complete the challenges and they <b>identified as a team</b> during the game. The <b>performers facilitated the problem solving</b> during the installation, and the <b>teachers reported feeling like players</b> at times. During the classroom challenges, children worked in twos and threes on identical tasks and <b>shared their approaches and strategies</b> with each other. In this process the <b>teachers became facilitators</b> .

### Performing Belief (Investment)

Affect	Links with Effect
<b>Purpose (Impetus)</b>	Teachers commented that the children <b>wanted to believe</b> in the game and <b>invested time and energy in developing the game-play with their peers</b> . Teachers often engaged in <b>imaginative, improvised interactions</b> with the children and artists whilst in the installation and also, to a lesser extent, during classroom episodes.
<b>Urgency (Imperative)</b>	The evil character Circe's imminent arrival, and the urgent need to escape, were signalled by changes in the digital and physical environment. At these moments the children <b>helped to shape the atmosphere of suspense through their physical responses</b> : sometimes these were conscious performances (such as screaming or huddling together when the lights flickered in the installation or exclaiming when caught by Circe in the virtual world) but others were involuntary (such as flinching at the sudden sound of thunder or sighing when shelter was reached in the virtual world). This <b>embodied performance deepened their engagement</b> and understanding of the characters. Although most children enjoyed the thrill of the fictional peril posed by Circe in the installation, there were instances in which <b>some children found moments of heightened urgency overwhelming</b> .
<b>Place (Inhabitation)</b>	In the installation, the children, teachers and artists all <b>used their bodies to enact belief</b> in the fiction and when, very occasionally, an adult participant did not use their bodies to enact 'fear' or 'curiosity' during the installation the children and artists found this distracting and that it detracted from the experience. The children reported that they felt like they <b>were playing a 'real-life game'</b> and they were keen to explore Fallow Cross in the installation and in the game. They <b>formed mental maps</b> of the fictional world and some of the children made <b>imaginative connections between Fallow Cross and their local environment</b> .
<b>Community (Implications)</b>	The <b>children negotiated the believability of the game</b> , with their peers by making <b>links with their prior knowledge</b> of games and narratives, <b>critiquing representations</b> of the game-world and <b>contesting the interpretations</b> of others.

### Re-Shaping Relationships (Identity)

Affect	Links with Effect
<b>Purpose (Impetus)</b>	In playing the game, <b>each child adopted the role of 'team member'</b> . Teachers enjoyed playing <b>alongside the children</b> in the installation but, during the classroom challenges the <b>teachers would occasionally have liked to have played a more active role in facilitating and guiding the learning</b> .
<b>Urgency (Imperative)</b>	Teachers observed that some of the children were <b>taking more risks</b> in their learning due to the pace of game-play and noticed <b>increased confidence</b> and <b>reduced 'fear of failure'</b> amongst some of the children.
<b>Place (Inhabitation)</b>	The sensory and spatial aspects of the game often prompted children to <b>make links with their personal experiences</b> and knowledge of the local area.
<b>Community (Implications)</b>	Teachers also observed the occasional <b>shift in the social dynamics</b> in the classroom, with the <b>less confident pupils more willing to offer information</b> and suggestions to their peers. The more able/confident learners appeared <b>more willing and likely to seek and accept advice</b> from their peers.



# Conclusion



## Implications and Contributions

**The model of immersive play presented in this report, and the broader findings of the research project, have significant implications for research, practice and policy in a range of disciplines including games studies, education and drama.**

### Practice: 'Using the Model as an Pedagogical Tool'

In order to develop their pedagogical practice Punchdrunk Enrichment has undertaken a number of internal evaluations and partnered with independent academics, in order to reflect on and understand the potential of their approach. Peter Higgin explains the significance of this to the ongoing work of his company: 'This process of interrogation has been profound, informing our strategic thinking, shaping projects artistically and logistically, and embedding a reflexive approach into our work.' (Tims, 2016)<sup>11</sup>. Previous reports have focused on evaluating the impact of their work on children's

learning in Key Stages 1 and 2 (5–11 years) (Punchdrunk, 2012)<sup>12</sup> and Key Stage 3 (11–12 years) (Cremin et al, 2015)<sup>13</sup> and have focused on evaluating literacy attainment and engagement. These reports have reported a range of significant gains for participants including, developing children's ability to discuss and generate ideas and engage orally with narratives, influencing children's eagerness to write and having a positive impact upon children's attainment in writing. However, these investigations have also highlighted the need for the company to further develop a shared understanding of their approaches to immersive learning with teachers in order to extend the legacy of their work in a range of educational settings

(Cremin et al, 2015). Punchdrunk Enrichment responded to this need by commissioning this exploratory case-study.

Rather than requesting an evaluation of *The Oracles*, which would have specified outcomes to be measured at the outset, they agreed that the researcher could begin mapping multiple perspectives of the multi-sited immersive game through gathering interview data from a sample of participants (including artists, teachers and children) and undertaking regular observations of play throughout the five weeks of the project. In doing so they hoped to develop a more nuanced understanding of the purposes, practices, processes and products of *The Oracles* and

gain insights into ways in which the educational potential of their pedagogical approach may be better communicated to and understood by the partners they work with. The findings of this research have suggested that framing their work as 'immersive play' may be useful as they develop projects with future partners and offers new ways of explaining how their approaches to immersive theatre inform and shape the engagements of participants.

The model of immersive play presented in this report highlights the way that using play and gaming pedagogies to guide the engagements of children (and teachers) offered multiple possibilities for participation, in which the significance of affect and effects ebbed and flowed. There are numerous definitions of play. However, Salen and Zimmerman usefully define play broadly as 'free movement within a more rigid structure' (2004:304)<sup>14</sup> and explain that 'play is an expression of the system, one that takes advantage of the space of possibility created from the system's structure' (2004:304). *The Oracles* was a 'system' of rules for participation and sensory representations of the world which made possible certain ways of interacting and engaging through play. This approach is typical of Punchdrunk's work more broadly in that they regularly shape spaces of possibility (both physically and metaphorically) which are taken up in various ways by children and teachers. However, more work is needed to understand the pedagogical potential of 'immersive

play' in the new media age. Recent empirical studies have convincingly demonstrated that the very nature of play in the new media age has changed and that 'contemporary play draws on both the digital and non-digital properties of things and in doing so moves fluidly across boundaries of space and time' (Marsh et al, 2016)<sup>15</sup>. *The Oracles* broke new ground in supporting play across and within the classroom, installation and in-between spaces, and the theoretical model presented in this report provides a new way of conceptualising immersive play in school contexts across a range of spaces.

### Research: 'Using the Model as an Analytical Tool'

The model of immersive play also provides an analytical tool, which brings into focus how children's cognitive, emotional and physical experiences inflect their engagements with learning opportunities in educational settings. Some educational researchers have already begun to examine the ways in which affective aspects of the school environment influence children's experiences and in doing so have foregrounded the importance of attending to the 'immaterial' aspects which include space; the materiality of 'stuff'; the ways that screens mediate reality and the embodiment of the meaning-making process (Burnett et. al 2014)<sup>16</sup>. Burnett has highlighted that 'learning in education is influenced by who we are with and how we

feel and what we want to achieve' (Burnett and Bailey, 2014)<sup>17</sup>. This research is aligned with this view and suggests that it is important for educators and researchers to adopt investigative approaches which explore children's engagement in school settings in ways which acknowledge the interconnections between the intensity of their affective experiences and the effects of these on their engagements with learning opportunities and creative possibilities. In order to support future studies into 'immersive play', this research provides an analytical tool which takes account of the multiple ways that the affective aspects of play, such as a child's sense of purpose, urgency, place and community, influence their engagements with each other, their environment and the challenges they face. In this new model of immersive play, these aspects are mapped and integrated in order to support those undertaking future studies into participants' engagements with immersive theatre, gaming and play to explore and map the interconnections between affect and effect.

As well as being a useful tool in educational research, this model also makes a contribution to games and theatre studies. Southerton (2016)<sup>18</sup> has argued that 'newly emerging hybrid gaming forms highlight the need for a shift in thinking within game studies to explore the way that immersion is constantly changing' and that 'theories of immersion need to accept the unstable and contextual nature of gaming experiences [...]'.

11 Tims, C (2016) *Doorways*. Punchdrunk

12 Davies, S. (2012) *Under the Eiderdown Evaluation Report 2009–2012*. Punchdrunk.

13 Cremin, T., J Swann, A. Colvert, and L. Oliver (2016) *Evaluation Report of Prospero's Island: An Immersive Approach to Literacy at Key Stage 3*. Punchdrunk Enrichment, Open University, Hackney Learning Trust.

14 Salen and Zimmerman (2004) *Rules of Play: Game Design Fundamentals*. The MIT Press.

15 Marsh, J., L. Plowman, D. Yamada-Rice, J. Bishop and F. Scott (2016) *Digital play: a new classification*, *Early Years*, 36:3, 242-253

16 Burnett, C., G. Merchant, K. Pahl and J. Rowsell (2014) *The (im)materiality of literacy: the significance of subjectivity to new literacies research*. *Discourse: Studies in the Cultural Politics of Education*, 35 (1), 90-103.

17 C. Burnett and C. Bailey (2014) 'Conceptualising Collaboration in Hybrid Sites: Playing Minecraft Together and Apart in a Primary Classroom' in Burnett, C., j. Davies, G. Merchant and J. Rowsell (eds.) *New Literacies Around the Globe: Policies and Practice*. New York, Routledge.

18 Southerton, C (2014) 'Zombies, Run!': Rethinking immersion in light of non-traditional gaming contexts' in J. T. Velikovskiy and A. M. Cook (eds) *Transmedia Practice: A Collective Approach*. Interdisciplinary Press



Above: A map of Fallow Cross

This model offers a new conceptualisation of immersive play, as the ebb and flow of intensity and engagement across time and space which may be useful to those seeking to design and evaluate players' engagements with games that span online and offline spaces and those that offer augmented realities which merge fictional contexts with everyday spaces. For those researching immersive theatre aesthetics, the model usefully foregrounds the 'affect' so central to the dramatic form, but also serves as an invitation for future research to explore the way affect influences participants' actions from moment to moment. In his summary of evaluations of Punchdrunk Enrichment's work, Tims (2016) has suggested that 'unlike other work in more established fields of arts education - work that knows what it is looking for and how to measure it - this is less charted, more experimental territory.' It is hoped that Punchdrunk Enrichment will be able to use this model to analyse, in new and more nuanced ways, the impact of the experiences they shape with participants.

### Policy: 'Using the Model to Shape and Support Creative Partnerships'

It is important that policy makers recognise and attend to the potential gains of supporting teachers in engaging with playful pedagogies and creative partnerships across the primary age ranges. *The Oracles* was shaped by children's, and teachers', engagements and supported a range of exciting and complex learning opportunities, which flowed across classroom, installation spaces and in-between spaces. Wohlwend<sup>19</sup> (2011) argues that play is powerful as it 'provides a mechanism that enables children and teachers to import and value students' familiar cultural resources'. This research suggests that incorporating digital gaming into the experience of immersive play helped the children to frame their subsequent experiences in the installation and classroom as play. (2011:123). Edwards (2013)<sup>20</sup> has argued that educators need to understand the potential of 'converged play' in their classrooms, and recognise the

significance of play informed by popular culture and digital media. With *The Oracles*, Punchdrunk Enrichment have highlighted new ways forward not only by exploring play's ebb and flow across digital and physical spaces, but also by demonstrating that artists and schools may work together to support and inspire children's leaning as they construct stories, tackle challenges, perform belief and reshape relationships together. Tims (2016)<sup>21</sup> has suggested that 'using immersive theatre as a tool to educate, care, explain and enlighten is new, exploratory work. Just as the children who experience Punchdrunk Enrichment projects struggle to put it into words, we are only just finding out what it can do and what uses it can be put to.' The new model of immersive play presented in this report offers a framework which games designers, educators and artists can use as they explore and examine the intersections of their work and explore the educational potential of new collaborations.

## 6.2

# Summary Recommendations

This research sought to understand the purposes, practices, processes and products of *The Oracles* from the perspective of artist, teachers and children. In doing so, it revealed and mapped the relationship between the intensity (affect) and engagement (effect) of the participants' experiences over five weeks of gameplay. The model of immersive play which emerged from this study provides a pedagogical and research tool which can be used by teachers and artists to understand and investigate how the 'affective' aspects of play, relating to emotional, cognitive and physical interpretations and experiences guide and inform the active engagement of players.

*The Oracles* provided many opportunities for participants to co-construct stories and engage in distributed problem-solving. In doing so, the children performed belief (McGonigal 2009) in the fictional world and merged their personal identities with their fictional responsibilities to 'save Fallow Cross'. This research has highlighted that the engagement of players was inextricably linked with the intensity of their experiences in the virtual and physical spaces. In order to understand the pedagogical significance of immersive play in *The Oracles* then, learning needs to be viewed as a process of embodied meaning making, an ebb and flow of affect and effect across physical

and digital spaces. In order to extend the pedagogical possibilities for engagement, in *The Oracles* and future work, it is recommended that Punchdrunk Enrichment consider:

- Developing a shared understanding of the potential and principles of immersive play and gaming with teachers and children;
- Further considering how the use of the local environment (such as school halls, streets, buses and parks) might be used to provide further opportunities for student engagement;
- Considering ways to develop teachers' confidence and skills in integrating dramatic play into their teaching and learning, demonstrating how to use and transform everyday resources and environments;
- Supporting teachers to observe and document students' engagement, raising awareness of the relationship between 'affect' and 'effect' during play;
- Extending the ways teachers and artists can be responsive to children's narrative suggestions during gameplay;
- Working in partnership with teachers to shape and adapt the classroom challenges for each cohort;
- Structuring gameplay so that children are given more agency and control in deciding how and when to engage with the affective intensity of the installation;
- Maximising use of social media and digital authoring tools, before and after projects to create a creative 'portal' for communication between participants;
- Increasing opportunities for tackling challenges in the digital game collaboratively (e.g. through the virtual co-presence of players or by distributing challenges and puzzles across the virtual world/classroom setting);
- Structuring the classroom challenges to provide a range of entry points and degrees of difficulty in order that children with different abilities can access them in a variety of ways;
- Compiling suggestions and resources for cross-curricular work relating to *The Oracles*;
- Build in weekly debrief and evaluation sessions between participants, particularly between teachers and Punchdrunk Enrichment, so that the process of play can be adapted as the game progresses.

<sup>19</sup> Wohlwend, K. E. (2011). *Playing their way into literacies: Reading, writing, and belonging in the early childhood classroom*. New York: Teachers College Press.

<sup>20</sup> Edwards, S. 2013. 'Post-industrial play: understanding the relationship between traditional and converged forms of play in the early years.' In Burke, A. and Marsh, J. (eds.) *Children's Virtual Play Worlds: Culture, Learning, and Participation*. New York: Peter Lang

<sup>21</sup> Tims, C. (2016) *Doorways*. Punchdrunk

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Photography by Paul Cochrane

Researcher: Dr Angela Colvert, Senior Lecturer in English Education  
Knowledge Exchange Lead (Ed Tech and Media Arts)  
University of Roehampton  
[angela.colvert@roehampton.ac.uk](mailto:angela.colvert@roehampton.ac.uk)

Executive summary available here:  
<https://argle.net/downloads/The-Oracles-Executive-Summary.pdf>

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