

Digital Play in the Early Years

From ACMI to classrooms at St James Primary School

May 2025

Professor Louise Paatsch^{a,b} Dr Celine Chu^{a,b} Martin Thomson^c Courtney Mogensen^c Dr Maria Nicholas^{a,b} Jacquelyn Harverson^{a,d} Dr Sharon Horwood^{a,d} Dr Marcus Horwood^{a,b} Dr Chris Zomer^{a,b} Professor Julian Sefton-Green^{a,b}

^aARC Centre of Excellence for the Digital Child, Australia ^bSchool of Education, Deakin University, Victoria, Australia ^cSt James Primary School, Sebastopol, Victoria, Australia ^dSchool of Psychology, Deakin University, Victoria, Australia





Centre of Digital Excellence for the Child.



Digital Play in the Early Years: From ACMI to Classrooms at St James is a research report prepared by Deakin University for ACMI

Contact details Deakin University Professor Louise Paatsch Iouise.paatch@deakin.edu.au Locked bag 20000 Geelong VIC 220 www.deakin.edu.au

ACMI Christine Evely Christine.Evely@acmi.net.au PO Box 14 Flinders Lane Melbourne VIC 8009 www.acmi.net.au

This research project was made possible by funding from the Australian Research Council Centre of Excellence for the Digital Child (project number CE200100022).

In the carriage of this research, we acknowledge the generous time and valuable support provided from:

Christine Evely, Head of Education, ACMI Susan Bye, Senior Producer, School Programs, ACMI Indigo Holcombe-James, Strategic Research Lead, ACMI The ACMI Education Team Tara Robertson, Science Communication and Strategic Partnerships Manager, QUT Cathy Belleville, Project Officer, Deakin University Garth Kydd, Principal, St James Primary School

We also acknowledge St James Primary School's children, parents and teachers who gave so willingly of their time and thoughts during the conduct of this research project.

This research project was approved and overseen by the Human Research Ethics Committee of Deakin University (Application ID: 2024/HE000015) and the Diocese of Ballarat Catholic Education Limited (DOBCEL).

All research activities adhered to the approved protocols, including those related to gaining informed consent.

We acknowledge the Wadawurrung and Wurundjeri people as the traditional custodians of the lands upon which Deakin, ACMI and St James stand, and we pay respects to their Elders past, present and emerging for they hold the memories, the culture and the dreams of the Aboriginal and Torres Strait Islander people. We recognise and respect their cultural heritage, beliefs and continual relationship with the land, sea and waterways, and we recognise the importance of the young people who are the future leaders.



© ARC Centre of Excellence 2025 Except where otherwise noted, this work is licensed under <u>https://creativecommons.org/licenses/by/4.0/</u> Images used in this report courtesy of ACMI, the ACMI website and St James Primary School Published by Deakin University 2025

ISBN: 978-0-7300-0198-0 E-ISBN: 978-0-7300-0199-7

This report may be cited as:

Paatsch, L., Chu, C., Thomson, M., Mogensen, C., Nicholas, M., Harverson, J., Horwood, S., Horwood, M., Zomer, C. & Sefton-Green, J. (2025). *Digital Play in the Early Years: From ACMI to Classrooms at St James*.

Contents

Contents	
Executive Summary	2
Summary of Key Eindings	····· 2
1 Eactoring aniovment and fun	····· 2
2. Encouraging interaction with the exhibits	2
2. Encouraging interaction with the exhibits	2
S. Exploring understandings of now digital technologies themselves work	л
Recommendations	4 F
ACMI Exhibition and Workshop	
ACMI Exhibition and workshop	
Fairytales and Fantasy workshop	1
Beings exhibition	8
Participants	9
Data Collection	9
Data Analysis	10
Findings	11
ACMI Fairytales and Fantasy workshop: Perspectives from children and teachers	11
Expressions of enjoyment, excitement and mixed feelings: "Happy and excited"; "Nervous"; "Bored	"11
Exploring the effects of digital technologies: "It makes stuff look like it's real, but it's not real"	13
Playful experience: "I am a knight"	14
ACMI Beings exhibition: Perspectives from children and teachers	16
Fun and playful: "I get to be the monsters and make them do cool moves"	16
Interacting with the exhibits: "If you put your hand up, your plant will get more bigger"	18
Discovering how technologies work: "You could glitch the technology"	20
From ACMI to classrooms at St James: Teacher practices and children's work	22
Discovery class: Fairytales	22
From ACMI to classrooms at St James: Teacher practices and children's work	33
Exploration class: Beings	33
Conclusion	
References	40

Executive Summary

Currently, little is known about how children experience and engage with digital technologies in museums and galleries, how these experiences extend beyond school, and how such learnings may be integrated into the classroom. Without greater insight into children's experiences and engagement with digital technologies in situ, it is difficult for both teachers in schools as well as education teams and creators of exhibitions within these public spaces to support children's learning from these digital technology experiences. The current study presented in this report aims to address this gap in the research.

This research project builds from the existing long-term partnership between <u>Deakin University</u> and <u>St James</u> <u>Primary School</u> where researchers, teachers and students continue to explore and extend understandings of digital play. St James has a long-standing commitment to implementing a play-based learning approach through all year levels within the school. More recently, the school has participated in workshops and reflective practices with the researchers from the <u>ARC Centre of Excellence for the</u> <u>Digital Child</u> to generate new constructs of digital play that include both theories of play and of technology.

In 2024, this partnership between the school and the research team began to include the partnership between the ARC Centre of Excellence and the Australian Centre for the Moving Image (ACMI) – in a new partnership focused on the broader question of 'what is digital play?' This new partnership has resulted in the co-design of the first research project in collaboration with ACMI Strategic Research Lead, Indigo Holcombe-James, ACMI Head of Education, Christine Evely, ACMI Education Team, St James' teachers Martin Thomson and Courtney Mogensen and principal Garth Kydd, and the Deakin node researchers from the ARC Centre of Excellence. The main aims of this study were to explore how young children in the early years of schooling (Foundation to Year 2) engage in digital technologies as presented in a *Fairytales and* Fantasy workshop and Beings exhibition at ACMI, and how these new learnings might be transferred into the classroom.

This report draws on data collected from video recordings of children's interactions during the *Fairytales and Fantasy* workshop and *Beings* exhibition at ACMI, semi-structured interviews with teachers and Year Foundation – Year 2 children, teachers' planning documents, and children's work.

Summary of Key Findings

This summary of key findings draws on these various data sources to synthesise key insights into young children's experiences with digital technologies at these ACMI exhibitions and workshops, and how teachers further supported these learnings in the classroom. These findings are presented in response to the following two research questions:

- 1. What are teachers' and children's views of the selected exhibitions and workshops at ACMI?
- 2. How are the new learnings and skills experienced at the selected ACMI exhibitions and workshops translated into classroom practice?

Findings from the analysis of these data are discussed in detail in the body of the report in relation to two specific ACMI exhibits and workshops. However, overall findings identified three broad themes in relation to the teachers' and children's views across both the *Fairytales and Fantasy* workshop and the *Beings* exhibition offered at ACMI: (1) fostering enjoyment and fun; (2) encouraging interaction with the exhibits; and (3) exploring understandings of how digital technologies themselves work.

1. Fostering enjoyment and fun

ACMI provided children with opportunities to experience fun and enjoyment in both the *Fairytales and Fantasy* workshop and the *Beings* exhibition. Children expressed their enjoyment in seeing the green screens and cameras, dressing up in costumes, being able to move their bodies to manipulate what they saw on screen, and to share their experiences with others. However, for some children there was evidence from the responses from teachers and the children themselves that not all aspects were fun and enjoyable, particularly in relation to the *Fairytales and Fantasy* workshop where they reported a lack of student agency, boredom and pressure of performing in front of their peers.

2. Encouraging interaction with the exhibits

ACMI provided children with opportunities to interact with digital technologies including the green screen in the *Fairytales and Fantasy* workshop, as well as the 13 artworks in the *Beings* exhibition. Responses from children and teachers showed that the experiences provided opportunities for exploration, agency and creativity, as well as creating a comfortable environment to engage with the artworks. However, it is still unknown how these opportunities for exploration, agency, creativity and choice differ from other children's everyday digital experiences at school and at home.

3. Exploring understandings of how digital technologies themselves work

ACMI provided children with opportunities to explore the different ways in which digital technologies work, as shown in the responses by teachers and children regarding how the green screen could provide a backdrop for a narrative story in the Fairytales and Fantasy workshop, and how the children often tried to understand or even 'trick' the digital artworks in the Beings exhibition. Most children in the Foundation class had no previous experience with the green screen, nor had the class teacher used it in her classroom. It was also reported by the classroom teachers that most children had never visited ACMI prior to their excursions at either the workshop or the exhibition. There was no evidence as to whether children had had similar experiences with digital technologies in other museums or public spaces.

Further findings from teacher planning documents and children's work samples showed how the teachers at St James Primary School deliberately planned learning activities around curriculum goals that incorporated evidence of the new learnings and skills experienced at the selected ACMI exhibitions and workshops. These included developing a class set of protocols for acting around a green screen based on what the ACMI educators had outlined to the children in the Fairytales and Fantasy workshop, using the children's own Beings created at ACMI to support the development of children's narrative, use of the ACMI Beings resources from the website to plan classroom activities, and incorporating some of the processes involved in creating a digital Being presented by the artwork developers. Teachers noted that the ACMI experiences challenged them to experiment with technology in new ways to support children's developing narratives and to reconstruct fairy tales. It was also evident that both teachers carefully scaffolded the children's learning across these planned activities including providing prompts, modelling and acting out story though play and using classroom storyboards. However, it is difficult to attribute all these practices as being an outcome from the experiences provided at ACMI given that the teachers already use many of these practices in their classrooms. Clearly further research is warranted to understand the explicit impact of the experiences at ACMI on the pedagogical practices of teachers.



Recommendations

The findings from this research provide evidence of the ways in which a group of teachers and children in Foundation – Year 2 from one Primary School in Victoria viewed two selected exhibitions and workshops at ACMI – the *Fairytales and Fantasy* workshop and the *Beings* exhibition. These findings also provide some initial insights into the ways that some of these new learnings and skills experienced at ACMI have translated into classroom practice.

The following **four overall recommendations**, based on the researchers' insights and reflections from the children and teachers, seek to help strengthen and expand the work of ACMI in working with schools to build 'screen literate and technologically skilled watchers and players' and to engage children in digital play experiences.

- 1. That ACMI continues to provide digital play experiences for children in the early years of schooling. This will support the core objectives of ACMI. It will also build stronger relationships with teachers to understand and articulate shared pedagogical purposes of digital play leading to a greater understanding of how these intended purposes can be strongly aligned to curriculum content.
- 2. That ACMI continues to investigate the relationship between the new learnings afforded by the digital play experiences offered at ACMI and the everyday digital experiences at school. Such investigation will provide greater comparisons of ACMI's points of difference regarding new and different concepts of digital play with everyday schooling. Such contrasts stimulate children and teachers to reflect on their own learnings and the ways in which these new learnings can be better aligned to curriculum content.
- 3. That ACMI explores further ways to provide children with greater agency and more choice to support their engagement with the digital play activities at ACMI. As reported by both teachers and students in this research, greater children's involvement fosters learning, play, creativity and collaboration with peers.
- 4. That ACMI expands its reach to provide access to these distinctive digital play experiences for all children in the early years of schooling particularly in a time where costs associated with school excursions have increased. While ACMI generously provided support for the classes from one regional school to attend ACMI as part of this research, there is a need to explore possibilities for greater access for all schools in regional, rural and remote areas.



Introduction

Children in their early years (birth to 8 years) are growing up in societies where networked digital technologies such as tablets, smartphones, computers, internet-connected toys and voice assistants are not only commonplace, but central to social modes of communication and information sharing (Chaudron, Di Gioia, & Gemo, 2018). As digital technologies have become integrated with young children's participation in society, a corresponding body of activity pertaining to young children's play with digital technologies, encapsulated in the notion of "digital play" has emerged (e.g. Bird & Edwards, 2015). Despite this central interest, a recent systematic review of literature on young children's digital play (Chu et al., 2024) found only three studies that investigated young children's digital play in public spaces (e.g. markets, gyms, museums). This suggests that currently little is known about how young children experience and engage in digital technologies in public spaces including semi-formal learning spaces (Sefton-Green, 2004) such as museums, and how these experiences may be translated into teaching and learning at school. These findings also suggest that digital play is mainly conceptualised as something that takes place individually and privately rather than recognising the public and shared dimension to digital play. Hackett et al. (2020) report that more than ever before, there is a rise in the number of young children entering museums, which has resulted in an increased interest in how programmes, events, activities, and exhibitions best serve this audience. Given that many of these spaces integrate digital technologies into such programmes, greater insight into children's experiences and engagement with digital technologies in situ at public learning spaces is needed (Danby et al., 2018; Nolan et al., 2022).

For many young children, visits to these museums are often part of school excursions. However, little is known about how the learnings from such digital experiences are captured and translated into the classroom. The aims of this research are to explore teachers' and children's perspectives of their experiences with digital technologies in a museum environment, and the ways teachers use these experiences to plan and implement teaching and learning activities that align with the curriculum. The study employed a qualitative case study to investigate complex phenomena within their real-life contexts using multiple sources of evidence (Nair et al., 2023; Yin, 2018). The unit of analysis comprising the case was one school, St James Primary School, attending and engaging in associated school-based activities around an educational excursion to a museum exhibition.

This collaborative research between the Deakin node of the Australian Research Centre of Excellence for the Digital Child (ARC-CoE-DC) and one museum in Melbourne, Victoria – ACMI (formerly Australian Centre for the Moving Image) aimed to build understandings of teachers' and children's perspectives of how exhibitions and workshops offered at ACMI engage children, and how these experiences translate in the classroom.

The ARC-CoE-DC is the world's first research centre dedicated to creating positive digital childhoods for all Australian children, focusing on healthy digital lives, educational empowerment, and safe digital spaces. ACMI is a museum of screen culture located in Melbourne's CBD and has a vision 'to build a vibrant, diverse connected society of screen literate and technologically skilled watchers and players, and a thriving ecology of creative makers' (ACMI, https://www.acmi.net.au/).



This Research

This report documents one research project conducted by a research team from the ARC-CoE-DC (Deakin University node) to understand how young children in the early years of schooling engage in digital technologies at ACMI, and how these new learnings are translated into the classroom. The research project is part of a larger program of research in the ARC-CoE-DC, *Digital Play in the Early Years* that explores digital play practices in the early years of schooling in one primary school located in regional Victoria, St James Primary School. St James implements a playbased learning approach, with a strong focus on pretend play. As part of the Digital Play in the Early Years program of research, the leadership group and teachers in the early years of schooling have been seeking ways to further their understandings of how children's everyday experiences with technologies, including experiences beyond home and school, can be represented and enacted in play-based learning classrooms that incorporate all aspects of the mandated Australian and/or Victorian curricula.

In 2023, the first study was conducted between the centre's Chief Investigator Louise Paatsch (Deakin), Research Fellow, Celine Chu (Deakin) and Associate Investigator Suzy Edwards (ACU) along with five teachers at St James. The aims of this study were to broaden teachers' understandings of digital play as a pedagogical construct to explain children's engagement and use with digital technologies. Specifically, the philosophy of technology, including two main perspectives in this body of knowledge known as *technological determinism* and *critical constructivism* were introduced as explanations for thinking about technologies in the early years (Edwards, 2021). This study also supported these teachers to consider how and why technological learning opportunities are provided in their classrooms alongside their beliefs about technology and children's play.

The current research study¹ aimed to further develop understandings of children's experiences with digital technologies beyond the classroom in a semi-formal learning space, ACMI, and how these learnings can be transferred into the classroom.

The two research questions driving this report were:

- 1. What are teachers' and children's views of the selected exhibitions and workshops at ACMI?
- 2. How are the new learnings and skills experienced at the selected ACMI exhibitions and workshops translated into classroom practice?

1. The study employed a qualitative case study to investigate complex phenomena within their real-life contexts using multiple sources of evidence (Nair et al., 2023; Yin, 2018). The unit of analysis comprising the case was one school, St James Primary School, attending and engaging in associated school-based activities around an educational excursion to ACMI. After securing ethical clearance from Deakin University Human Research Ethics (Application ID: 2024/HE000015) and the Diocese of Ballarat Catholic Education Limited (DOBCEL), organisational consent was sought from St James and ACMI. The school then assisted in recruiting Foundation to Year 2 children and their teachers to take part in the research using *Plain Language Statements and Consent Forms (PLSCF)* prepared by the Deakin research team. Parents/caregivers of the children were provided with the PLSCF so they could consider consenting to their child participating in the research. Children also provided assent to be interviewed and for their work samples to be used in this report.



ACMI Exhibition and Workshop

The ACMI exhibitions and workshops included in this study are the *Fairytales and Fantasy* workshop and the *Beings* exhibition. The children and teachers from both classes travelled approximately an hour and a half by bus to ACMI from their school in regional Victoria. Most of the children had not been to ACMI prior to their excursion.

Fairytales and Fantasy workshop

The Fairytales and Fantasy workshop aims to provide 'an engaging exploration of on-set roles and performance as students turn themselves into far-out fairytale characters and restore order to Fairytale land' (ACMI, <u>https://www.acmi.net.au/</u>). This workshop was planned by ACMI's education team and focused on a fractured version of the Cinderella fairytale whereby the children became characters in the narration of the new story. After the children arrived at ACMI they were ushered into the ACMI studio where they were introduced to the ACMI team, then assigned to small groups of three to four where they were given particular roles, rehearsed their lines, dressed up in costumes, and acted out the story in front of the green screen. They also learnt specific skills related to how green screen is used to create narrative.



Fairytales and Fantasy (ACMI)



Beings exhibition

The Beings exhibition, shown at ACMI between May and September 2024, features immersive and interactive installations designed by international digital and media at collective, Universal Everything. These playful interactives and hypnotic visuals invite children to interact with them through movement and play to bring the 13 artworks to life. The artworks grow and change in real time



Kinfolk (2024) – Beings exhibition

as children interact with the colourful cast of characters. Children moved around the exhibition freely, moving from one artwork to the next, and at times revisiting the artworks several times as they jumped, danced and experimented with the different ways the characters could move, grow and disappear from the screen.

We are all Unique (2022) - Beings exhibition



Participants

Thirty-six children and two teachers consented to participate in this current research. There were 14 children at Foundation level (first year of schooling - referred to at the school as Discovery class), and 22 at Years 1 and 2 (referred to at the school as Exploration class). Both teachers hold a Bachelor of Education (Primary) qualification and over eight years of teaching experience. The children and their teachers attended selected exhibitions and workshops held at ACMI. The children from Exploration attended the Beings exhibition and the Story of the Moving Image at the end of Term 3, prior to commencing the Term 4 classroom theme on Robots. The children from Discovery attended the Fairytales and Fantasy workshop and the Story of the Moving Image in week 2 of Term 4, as part of the classroom theme on fairytales. This report documents the children's and teachers' views of their experiences with digital technologies at the Beings exhibition and the Fairytales and Fantasy workshop. It also presents the ways in which the teachers translated these experiences into their classrooms.

Data Collection

Qualitative data were generated through video recordings of children's interactions at ACMI, photographs, semistructured interviews, researcher observations at the ACMI workshop and exhibition, and through a collection of teachers' planning documents and children's classroom work samples.

Video recordings were captured by ACMI staff on the days that the children attended. Children were divided into two groups (consent and non-consent) so that only those children whose parents had consented were filmed. Children whose parents did not give consent attended the *Story of the Moving Image* while filming in the selected exhibition and workshop took place. Once filming was complete, the non-consent group moved to the exhibition or workshop while the consent group visited the *Story of the Moving Image*. The Deakin research team also observed the group with consent on each of the visits.

Teachers and children were interviewed in person at the school within two days after attending their excursion to ACMI. A list of questions was created for the children to explore what they did and how they felt after attending the Beings exhibition and Fairytales workshop at ACMI. Teacher guestions explored teachers' views on how their students engaged with the exhibitions and workshops, what engagement meant to them, and how they could tell if their students were engaged. In addition, teachers were invited to comment on their own learnings and the aspects of the exhibition and workshop that they would implement in their classroom practices. Each interview lasted up to 30 minutes. Teachers were interviewed together, while children were interviewed in small groups of four to five children. These interviews were then transcribed and read over by the Deakin research team to identify themes for this report.

During the final term of the school year, the two teachers planned activities around their classroom themes of Robots and Fairytales, which involved implementing some of their learnings from the ACMI exhibition and workshop. Artefacts of children's work and teacher planning documents were collected to gain understandings of how the learnings experienced at ACMI were translated into classroom practice.

For the purpose of this report, only data from the semistructured interviews, teachers' planning documents and children's work samples are included.

Data Analysis

Transcripts of the children's and teachers' semi-structured interviews were analysed to identify common themes. The analysis involved reading all responses to become familiar with the data followed by coding the responses and naming the themes to identify what the children and teachers said about their experiences of the exhibition and workshop at ACMI. Teachers' planning documents and children's work samples collected at the end of Term 4 were examined to explore how the experiences at ACMI were translated into the classroom. The analysis was conducted by CI Louise Paatsch (Deakin) and RF Celine Chu (Deakin), independently. Where there was disagreement between the two researchers, the researchers discussed each difference until agreement was reached regarding the findings.

Findings

The findings are presented in three main sections. The first section presents the children's and teachers' views on the *Fairytales and Fantasy* workshop. The second section presents the children's and teachers' views on the *Beings* exhibition. The third section describes how the learnings experienced at ACMI were translated into classroom teaching and learning at St James.

ACMI Fairytales and Fantasy workshop: Perspectives from children and teachers

This section discusses the findings from interviews with the children from the Discovery class and their teachers around their experiences of attending the *Fairytales and Fantasy* workshop at ACMI. Three key findings were identified: (1) Expressions of enjoyment, excitement and mixed feelings; (2) Exploring the effects of digital technologies; and (3) Playful experience.

Expressions of enjoyment, excitement and mixed feelings: "Happy and excited"; "Nervous"; "Bored"

Expressions such as "happy and excited", "well I felt excited" and "good" were evident in the data from the interviews in relation to what they felt about the *Fairytales and Fantasy* workshop. The children's excitement was evident from the beginning of the workshop (see Figure 1) as described by their teacher:



Figure 2: Practice walking on a rope before filming the fairytale

So they went in and sat down and the excitement grew when the magic lantern came on the screen, and the little movement of the light, that was when they started engaging with it all ... I think because it became real, like it was no longer just a green screen that they saw, like they had the projector that came down and then magic lantern came on and it was like, oh, this is a bit of excitement, like this is what I'm here for.

Seeing the green screen technology, filming cameras, and props in-use and anticipating the use of these technologies for their acting fuelled the children's excitement (see Figure 2). Children's responses included:

I was happy when I first got there. That I was going to go on a TV screen.

Excited because I like watching the people on the – on the TVs. Like the background and stuff, cool.

The children also enjoyed the opportunity to dress up in the costumes provided at the workshop (see Figure 3). Both children and teachers commented on the joy of dressing up stating, "I was happy to dress up", "You get to dress up in costumes" and "That aspect of choosing their own costume, that gave them that sense of joy".



Figure 1: Pointing to the magic lantern on the green screen

In contrast to these feelings of excitement and enjoyment, many children also expressed feelings of anxiety, nervousness and discomfort when they were expected to perform in front of their peers, sharing that it was their "first time acting in front of a green screen, first time acting". One of the teachers also commented that for many children, there was a sense of nervousness when remembering their line and that they had wished the time to go quickly,

When you go on set, I've got to remember my line, and that was it. And then they were done, their costume went off and they went and sat and watched the rest. Yeah, it was when are we finished.

This teacher also pointed out that some children "didn't love the on screen as much because it was like I've forgotten, I'm frozen, I don't know what to do". The teacher's observations were supported by several children's comments around feelings of discomfort experienced during the filming process:

I liked it, just watch other people just and then until it was my turn, I was a little bit scared because I was in front of you. Yeah, I felt embarrassed kind of.

I had to close my eyes to let you go across. Because I was kind of nervous because I thought everybody kind of. No, I just have a fear of being stared at kind of. Being in front of people.

It kind of makes my body feel like, oh no, I've done something wrong.

And my first day there I was a bit excited but nervous. Grumpy. Because I a bit shy sometimes.

Nervous. Because it's big.

The structure of the workshop involved children rehearsing their lines and waiting for their turn to film their scene in the story. This process often resulted in some children commenting that they felt bored from having to wait for the other groups to have their turn filming their fairytale scenes (see Figure 4). Specifically, some children commented that:

I was bored because we all [had to] wait until the other people finished and we have a go. And I was bored. We were the first group, so we had to sit.

I just had to sit there and just wait and wait, and wait, and wait, and wait.

I didn't like it because it was just boring kind of.

Figure 4: A group of children waiting for their turn to film



Figure 3: Choosing and dressing up in costumes

Overall, the children expressed positive feelings of excitement and happiness at *Fairytales and Fantasy*. They enjoyed aspects of the workshop, particularly the opportunity to film a fairytale scene with the use of a green screen, to be able to choose and dress up in costumes, and to see themselves and their friends on screen. Feelings of anxiety, nervousness, and disinterest were expressed by children and their teachers, particularly in relation to having to learn and remember their scripts, acting in front of an audience, and having to wait for each group of children to film their fairytales.



Exploring the effects of digital technologies: "It makes stuff look like it's real, but it's not real"

Prominent in the responses from the children and teachers was the joy the children expressed regarding the opportunities they had to explore the effects of digital technologies, particularly the green screen (see Figure 5). One of the teachers noted that the children's experience at *Fairytales and Fantasy* had enabled them to learn about the green screen technology. As one teacher noted:

They [children] had never seen a green screen before. They learnt what that was, and we've taken that back into the classroom, and they're like oh that's what we saw at ACMI.

Expressions of joy, surprise and excitement in relation to the children's exploration of the green screen effects were also evident in the responses from the children. Typical responses included:

Like the box, like you went past it and the green screen's there, and we actually went past it and it was like we came through a door. It felt like we were in real-life, but no...But on the like TV, it was nothing and it looks like we went through the door.

The desert with the canyon, there was a cliff next to the bridge. I loved it because I was walking backwards.

There was a rope across two canyons. I was also excited to see if anybody fell off the rope.

We had to like, climb up Rapunzel's hair. We used the green screen, and then it changed, like when it was Rapunzel's hair, even though we used green.

It makes stuff look like it's real, but it's not real. Looks like real, even though they're not real when you're doing story tales. We see it on the TV.

When there was a rope on the ground, there was like, something else on the TV not matching, like a canyon. A canyon, and we have to pretend that we're walking across a line, and we can't fall off, and we have to be very careful. I want to see if I can fall off and see if you can see me there. Because it's a little bit of magic. Was very cool.

In addition to the joy of exploring the use of the green screen, the children's curiosity and interest in the film creation process (see Figure 6) was also evident from their responses. Some children commented that:

The person at the back was making it on their TVs look like there was a background.

On the top area. I think he was controlling the TV, and I think he was controlling the magic fairy too.

The actors were all on them, every single little screen. Because the camera makes people get to go on the big screen and the small screen.

You have to take your shoes off because shoes make noise. They make taps, it makes taps, and we don't want to hear the tap noise. We can't make any noise. Only because it will get into the camera, and you don't want to hear that yucky noise.





Figure 6: Preparing to film

Overall, the teachers felt that the visit to the Fairytales and *Fantasy* workshop was valuable in providing the children with opportunities to experience and to explore the green screen technology in ways that were not supported in classrooms. As one teacher commented,

Part of the Victorian Curriculum is to identify and explore the digital systems for a purpose. So I suppose unpacking what a green screen is and what we can do, that's definitely supported their learning because prior to the ACMI visit we hadn't spoken about green screens, we hadn't done one down in the classroom.

The knowledge gained from the visit to Fairytales and Fantasy had inspired the teachers and children to further explore the use of digital elements in the re-telling of traditional fairytales. Examples of the children's work and teacher practices will be presented in more detail in a later section of this report.



Playful experience: "I am a knight"

This theme relates to the children's engagement in play, predominantly in pretend play which involved role-play (including dressing up), play scripts and simple sequences of play action. Children reflected on these experiences at the Fairytales and Fantasy workshop and noted that they engaged in a playful fairytale experience.

I am a knight. And then we had to work on some words. The words we have to say in the story.

We had to dress up as like princesses and stuff. So we each had a line to read out and one of the lines was run, so when we - they said run, we had to run back offstage.

We filmed a little fairytale which is to find – what was his name again? Yeah Cinderella.

As part of this opportunity to participate in pretend play, children also noted the importance of collaboration and co-construction as they developed the script. Children valued working in small groups and being able to share the experience with their peers (see Figure 7).

Travis was the leader, then I was after, then Parker came after him...We stand up and like you're walking on a rope of a canyon.

I was with Myki and Winnie, and we had to like, climb up Rapunzel's hair.

Me and Tom, we go get the crown and pumpkin, and then we would say our stuff.

Figure 7: A group of children performing their fairytale

Similarly, the children had found the interactions with the workshop facilitators, who were enthusiastic and energetic, to be entertaining and playful (see Figure 8). For example, one child described one such interaction related to the facilitators and the ways they brought magic to the experience:

I liked the magic too. And the people couldn't see it. Fairy was in the actual camera. It was, they were missing it, they – we were looking at the screen, and they were looking at us, so they missed it, and they missed it. And they said we're tricking them, and then we said we're not tricking.

While the children enjoyed the opportunity to role-play a fairytale character and participate in the filming of the scenes, one child expressed dislike for role-playing his fairytale character stating that "I had to do that one, I didn't like it. You didn't get to choose. I had to do it". It is unknown whether this child experiences similar feelings when participating in role play activities outside of ACMI. Several children also shared similar feelings in relation to the lack of choice over what they could do.

In the room you didn't get to choose what kind of thing you did.

I had to do Little Red – no, not- we were looking for Cinderella.

The teachers also reported on the children's lack of agency at the workshop, which they felt had contributed to the children's feelings of anxiety, nervousness, and for many of them, even forgetting their lines during filming.

It showed too in the video, that when they were practicing, because they didn't have ownership over the creation of their lines they forgot them, they would get on set and go, they'd freeze and go I don't know what I was meant to say. And that happened in more than 5 of them I think, to go I've forgotten my line.

The other costumes that they put on they didn't take on that character. And I feel like they might have felt a little bit lost in oh this is a really cool costume but now I have to just say my one line, I don't get to be that character.

The teachers offered some suggestions for the ways ACMI could promote children's agency at the workshop, including enabling the children to make their own choices and decisions, and to be given opportunities to problem-solve in the ways the narrative could be developed. For example, they suggested:

Maybe have different fairy-tale settings that the children could put themselves into with their choice of fairy-tale character. And then creating a scene based off that fairytale setting rather than this is the story, this is the line you have to say. I think that, if they had different fairytale settings that they could engage with that they knew, that might have helped them go, oh well I get to play a bit more here because I get to choose what I'm saying, it's not I'm being told what to say.

It would have been really cool to see which way they took the story as a group, rather than this is where the story has to go, these are your lines, and then we'll produce a movie that's the outcome.

While the *Fairytales and Fantasy* workshop provided a playful and entertaining experience for the children, findings from the responses from the children and teachers indicated that they would have liked more opportunities for exploring the different fairytale characters and have more involvement in the development of the script. Such involvement would allow the children the freedom to decide what they would do and say with their chosen characters.

Figure 8: A group of children interacting with a workshop facilitator



ACMI *Beings* exhibition: Perspectives from children and teachers

This section discusses the findings from interviews with the children from the Exploration class and their teachers around their experiences of attending the *Beings* exhibition at ACMI. Three key findings were identified regarding: (1) Fun and playful, (2) Interacting with the exhibits, and (3) Discovering how technologies work.

Fun and playful: "I get to be the monsters and make them do cool moves"

This theme relates to the children's views of *Beings* as fun and playful because they enjoyed moving their bodies to manipulate how the beings appeared on the screen. When the children were invited to talk about what they did at *Beings*, responses related to joy, fun and happiness were evident. Response included:

I felt calm, and I felt happy. Because it was only calm there, and it wasn't that loud.

They make me feel excited and I had lots of fun. It made me feel nice and calm and it was really cool to watch them move and change a bit each time. Several children noted that the *Beings* exhibition provided a playful experience with digital technologies (see Figure 9). They interacted with the artworks in playful, inquisitive and exploratory ways, noting that:

It was fun and we got to do things like being plants and monsters.

It was really fun and exciting, and we were like turning into monsters and moving around and they just copied what we were doing.

They make me feel excited and I had lots of fun being like making the monsters do cool moves and stuff.

We were having blob fights. That was one of my favourite parts, because when you got close to each other, then you would like, become one blob. And then you would just come back out, and back in and then back out.

Many children also expressed enjoyment in making their own beings at the exhibition (see Figure 10). The experience of using different coloured transparent shapes for making their own Beings allowed them to be creative in a fun and playful way. Children commented:

I liked making our own Being. I did something that kind of looked like a parrot and mixed in with a chicken.

When I was making my being, I wanted it to be like a being, I wanted it to be like a little blob. My first being I wanted it to be like a weird being.

Making your own beings. So, you can use different shapes, like big noses.

Making beings they were really fun to do, and I think, and I'm pretty sure I did two beings because they were so fun that I wanted to do two, so I did two.

Where you got to make your own beings, I made a little duck. It had a big, long nose like a snowman.



Figure 9: Children moving their bodies at the Kinfolk artwork



Figure 10: Making their own beings

The children's joy and excitement experienced from these playful experiences across all the different artworks at the *Beings* exhibition also extended to joy they felt when being able to share these experiences with their peers (see Figure 11). Children commented:

Hannah, me and Sabrina were, and Rachel and Magi and Gretta too we were, we, when the shapes were falling down, we tried to touch them and when they fall down to a new layer, we pretend we died.

I was on the one where you, when they did the model one and I said to Samantha to come look at it because it was really funny. Then we both did it.

I kind of showed Sabrina because I was showing her what textures the person was changing into.

Me and my friend Angus we took turns of choosing what to do, so we both know what we were going to, so it started with Angus, so he picked something, we did that and then I picked something, and we did that and then Angus picked something and then I picked something and we both took turns and we could both have the same amount of turns.

The teachers who attended the *Beings* exhibition reflected on the children's behaviour as an indicator of their level of engagement and enjoyment with the artworks (see Figure 12), noting that:

They [the children] were happy to stay and watch the whole video. There wasn't anyone who needed to rush off or move around.

They [the children] were talking with their peers around them and talking about what they were seeing and what they were wondering.

The students like just to let them have the time to play with it. We didn't move on too long and they were generally happy to stay and just pause and look and watch others interacting and then try it themselves.





Figure 11: Children interacting with each other at the *Symbiosis* artwork



Figure 12: Children watching the We are all Unique artwork

Interacting with the exhibits: "If you put your hand up, your plant will get more bigger"

Prominent in the responses from the children were the different ways they could interact with the artworks at *Beings* and how this made them feel. Many children enjoyed being able to influence the beings on the screens through moving their bodies. For example, children commented:

I like that you could stand on the dot and then you move your arms around and they're big, they're sometimes hairy, and sometimes tall and sometimes little. I liked moving hands and legs around.

I found it really fun because it was like a desert and when you hopped on, the plants grow but when you were off it went all away.

You can make your own plant, and you can grow it. If you put your hand up, your plant will get more bigger.

I spent the most time in the one that we move around, and it copies us because I liked how it copied me. And I like how it looks, and it changes when someone else goes on it.

I spent a lot of time doing that blob because it was really fun and when you went off, it dissolved. And it was really satisfying that you could connect the blobs to make one big blob. The ability to influence and bring about the different effects on the Beings gave the children a sense of agency (see Figure 13), which in turn gave them the feeling of satisfaction and of being empowered.

I felt like control, helpful kind of. Controlful and powerful at the same time. I felt like it wasn't me, but I could, it felt like a power to control it.

I felt like I was a shining star looking above and to see what was going on in the clouds. Just plants growing.

I liked spending lots of times with the plants because I could make them grow and then you go down it's beginning to grow...I liked that bit because I felt I could make stuff grow with plant power. I called it plant power.

I felt powerful kind of because I could control them.

I liked controlling the blobs and when we were doing it, we were having blob fights. That was one of my favourite parts.

My favourite thing was probably controlling the plants. I liked how it grew. Grew how like, big you made yourself kind of and if you went down small, it would get smaller.



Figure 13: Interacting with plants on the screen



Figure 14: Sitting and watching Beings on the screen

for the children to construct personal meanings and draw on their own personal schemas. Teachers commented that:

They [children] had that choice. I can go over and I can interact here or if I don't want to I don't have to. I can watch my friends do it and I can get almost just as much out of it as if I did it myself, and/or I can talk to this person about it because I am not really sure and they have a go and then maybe now that I've seen someone else do it maybe I will have a go. So there's different levels of interaction or different levels of being part of the artwork. Not everyone engaged in the same way and that's good.

There are some students who are incredibly quiet and wouldn't say anything in front of a group but you can just watch how they're sort of quietly moving over and watching and might do a little bit of movement and just seeing what happens and just see go gently, whereas others those ones who are just dancing because they felt comfortable and that's what was the space for it, and enjoying themselves in it and not feeling any worry about other people watching or saying anything.



Figure 15: A child dancing in front of a screen

-

The teachers also highlighted the importance of choice and agency that the *Beings* exhibition afforded for the children. They noted that the children were excited and felt they could choose what to do and how they wanted to interact with the exhibits, which also supported their level of enjoyment and engagement at *Beings*. They also observed differences in children's behaviours when interacting with the artworks at *Beings* compared with how they may have been at school, suggesting that the artworks provided opportunities

DIGITAL CHILD

While many children enjoyed moving their bodies to influence the beings on screens, some children preferred just to watch the Beings (see Figure 14). Children stated that:

I spent most time sitting on a fuzzy chair and watching the monsters because it made me feel cozy and it made me feel excited.

I spent a lot of time watching the human change into different life's textures. Because there was lots of cool things that were on it. There was lots of different crystals and bubbles and lots of different types of fur and bark and rock.

We heard the textures just creaking, and making the same sound that the texture was, it was just interesting. And I was just staring at it.

I liked the one where it changes. It starts with stone into pebbles, into diamonds and to bigger diamonds, then it changes and it pretends it's walking.

I felt like I was in nature watching the person who changed to different textures and things.

The teachers also reported that the *Beings* exhibition provided a comfortable environment that allowed the children to engage with the exhibits in their own ways (see Figure 15). For example, one of the teachers observed that the children did not feel constricted, commenting:

There were moments where because there was movement, they were even dancing in the space just because they felt comfortable to dance and move within it and there wasn't anything in particular interacting with them as they did that, but they just had that feeling that that's what they could do. There was no worry about what anyone was doing.

Discovering how technologies work: "You could glitch the technology"

The *Beings* exhibition also provided valuable opportunities for the children to explore different ways in which digital technology was used in the artwork. High levels of excitement and curiosity were reported as they tried to discover how technologies worked (see Figure 16). Some responses from the children included:

So there's a little thing watching you, and then they turn, and when you read it, it looks like you are marble stuff. It's like you're skinny and then you turn to something else.

There's a sensor that sensors you. And you don't even have to stand on the circles while it sensors you. So you could glitch the technology in one of the things. So, it's one where the hairs growing it? And when you step on it, it will get bigger, and it will change. Whenever you hop off it will disintegrate. And then when you hop back on, it will keep disintegrating. But then it glitches, and goes back on, and then when you go back off, it turns off. And then when you are back it's still off. But then you have to wait a minute, and it will go back on.

So with the blobs, I, I worked out something that was really cool you could, if you went off the circle just a tiny bit, and then jumped back there, then it would ram the other blob.

I liked tricking the monsters because you go on the circle and then you try to trick them.

I didn't know that they actually would do something like when you hopped on the plants it would be like you were watering a plant that we'd grow, but when you hopped off you didn't water the plants, so it would go away.



Figure 17: Touching the wall of the Transfiguration artwork

One child suggested that technology could be incorporated into the section where they make their own Beings, so that they could interact with and control their own creations.

I think what would have made it better was if your Beings could go on the screens, and you could move your Beings around...Little things like that and you could put your Being on the screen. That would go on the screen, and you could control your Beings. If you scanned your card on it and then you scanned it on the wall, then it would come up.

Some children also suggested further ways that technology could have been used to enhance the experience with particular artworks in the *Beings* exhibition. For example, several children noted that, particularly at the *Transfiguration* artwork (see Figure 17), having different textures to touch and feel while watching the figures transform to different textures would have improved their overall experience of the artwork. One of

> the children also suggested that more building parts for making their own beings could be added that were not limited to specific colours and shapes.

Figure 16: Exploring and making discoveries about the artwork technology



The overall experience of *Beings* was highly positive as indicated in the children's and teachers' responses in the interviews. For one teacher, the exhibition had broadened their understandings of digital play as more than for the purpose of gaming activities and highlighted the importance of movement and sensory experiences for children's play. The teachers often appeared to see things from a pedagogic point of view as much as they thought the children were more engaged on the specific tasks. As one teacher commented:

What I took away is that a whole-body engagement... We've had this idea of digital play as video games, screen time and there's that debate about whether it's good or whether it's not. What it showed me is that the digital interaction can be bigger than just sitting on a chair and that kids can engage with it. Kids can make up their own stories. Kids can and when they are with their peers they are using a whole lot of language to describe what's going on, so it leads itself to many more possibilities than what we generally hear in the media about digital play and that's pretty cool.

As one of the teachers expressed, his experience of *Beings* – whether from the content of the *Beings* artworks or from his observations of the learning occurring within the different space provided at ACMI had inspired him to incorporate digital play activities in the classroom that promoted whole-body movements.

It also said to me that in the classroom I can try to provide opportunities for that whole body digital interaction which led me to go and look for apps that we could use on iPads that enable that.

Translations of these learnings into classroom practice is presented in the next section of this report.





From ACMI to classrooms at St James: Teacher practices and children's work

Discovery class: Fairytales

This section presents the ways in which the Discovery class teacher, Courtney, planned and implemented her teaching program across Term 4 prior to, and after, attending the *Fairytales and Fantasy* workshop at ACMI. In addition, examples of children's work are also presented.

Courtney developed a Unit Plan on Fairy Tales across the 10 weeks of Term 4. The learning tasks developed as part of this Unit Plan were linked to the Victorian Curriculum, including **English** – Reading and Viewing, Writing, and Speaking and Listening; **Digital Technologies** – Digital Systems, Data and Information, and Creating Digital Solutions; **General Capabilities** – Critical and Creative Thinking, Personal and Social, and Ethical Capability; and **The Arts** – Drama and Media Arts. Courtney planned activities for the first two weeks of term prior to attending the ACMI workshop to introduce the children to traditional fairytales. This included exploring traditional fairytales including *Goldilocks and the Three Bears* and the *Three Little Pigs*. Courtney also introduced the children to fractured fairytales including *Goldilocks and the Three Dinosaurs*. She also provided the children with resources to act out these stories using their class storyboard (see Figure 18). These resources included both structured and unstructured objects such as figurines of characters, fabrics, trees, blocks and other art materials to build the setting (see Figure 19). Together the children collaborated to develop their narratives combining both traditional and fractured fairytales (see Figure 20).

Figure 18: Storyboards of Goldilocks and the 3 Bears and Goldilocks and the 3 Dinosaurs





Figure 19: Use of structured and unstructured objects to build their narrative in play



Figure 20: Children collaborating to build their narratives combining traditional and fractured fairytales

1000

In week 3 of Term 4 the children and teachers attended the Fairytales and Fantasy workshop at ACMI. On returning to school, Courtney planned for the children to construct their own narratives to be performed in front of the green screen at school. Prior to the children acting out their narratives, Courtney scaffolded the children through a series of carefully planned learning activities including developing their oral narratives on the storyboard using figurine play and role play, then drawing the sequences of steps in their story ensuring that there were characters, a setting, an introduction of a problem, and a resolution. She provided the children with a story plan, which included spaces for children to think about the beginning, middle and end of their story. Children drew pictures in each of the spaces provided, then Courtney sat beside them to ask about their story, noting the key elements of their narrative. Figure 21 shows some of the children's plans and Courtney's notations of the children's explanations.





Figure 21: Children's plans and teacher notations of children's fairytales



Willow and the Three Bad Snowmen

Beginning

Box 1 & 2: Student F and the Three Bad Snowmen and the setting – Arctic

Box 3: The three bad snowmen start making snowballs

Middle

Box 1: They destroy the first igloo with snowballs Box 2: They destroy the second igloo with snowballs Box 3: So she makes a home under the ice and they can't find her

End

She lives happily ever after because they can't find her.



Arthur and the Three Ninjas

Beginning

Box 1 & 2: Arthur and the Three Ninjas in the city setting Box 3: The bad ninja starts fighting Student E and his two ninjas

Middle

Box 1: The bad ninja captures Arthur and the two ninjas in a cage

Box 2: He took them to jail

Box 3: They have a dream about escaping jail

End

Box 1: They wake up and do what they dreamed of Box 2: They lock the bad ninja up.



Oscar and the Three Rhinos

Beginning

Box 1: Character drawing Box 2: Oscar's house Box 3: The rhinos come to Oscar's house and barge in

Middle

Box 1: They eat the muffins in the kitchen and because there are 9 muffins, they each get 3

Box 2: They sit down to play video games. The first game they play is Fortnight and they die so they play GTA but that's not good. The last game they play is Minecraft and it's great.

End

Then they have a pillow fight and Oscar kicks them out of his house.

Courtney then spent several weeks supporting the children to write their stories. The following two examples (figures 22 and 23) illustrate how the children moved from their narrative drawing plan to their written story.

The first presents the story of Arthur and the Three Ninjas written by a six-year-old boy, while the second, Willow and the Three Bad Snowmen, was written by a six-year-old girl. Both stories show different levels of narrative complexity that replicate the structure of many fairytales. They also show a similar structure of fractured fairytales presented at ACMI as well as the structure introduced by the teacher in relation to characters, setting the scene, presenting multiple problems and developing possible resolutions.

NIS

In

y city.

TUN

then he

The narrative of Arthur and the Three Ninjas sets up the characters and setting (i.e. city) and progresses through a number of sequences of events using temporal and connecting words (e.g. then, one day). It also shows an understanding of cause and effect (e.g. It was cold and we couldn't get out so we slept) as well as including simple problems and resolutions (e.g. going to jail, dreaming of escaping, then making the three massive holes, and trapping the Ninja).

The story also ended with a simple conclusion (e.g. sending the Ninja to jail and playing with the other two Ninjas).



Arthur was running in the city

One day Arthur got in a fight with one Ninja.

I went to jail because the Ninja tricked us. We had to stay there.



ATY hur V

running

DIGITAL PLAY IN THE EARLY YEARS



The narrative of *Willow and the Three Bad Snowmen* also shows evidence of narrative structure. The story includes an orientation (e.g. a wolf walking in the Arctic then sees three bad snowmen), characters, a sequence of events that shows temporal understandings (e.g. destroyed the first house,

WELLOW

calle

wolf

wa

3 A

and destroyed the second house) that included a problem and a resolution whereby the character had a goal, as well as evidence of understanding cause and effect (e.g. houses were destroyed "so I made a home under water"). The narrative's conclusion showed the use of feelings to show that the character achieved their plan (e.g. Willow was happy). Again, it is difficult to determine the extent that the ACMI visit to the *Fairytales and Fantasy* workshop attributed to the child's narrative development. Clearly further research is warranted to investigate the direct impact of the ACMI experience on children's understandings and creations of story.





After visiting the ACMI workshop, Courtney continued to support the children to produce their narratives using green screen. Prior to using the green screen, she planned several learning tasks. Some of these planned tasks appear to show some aspects of the new learnings from ACMI but also demonstrate how the teacher recontextualised these learnings for her purposes, combining activities and practices that she had used previously in her classroom. Table 1 shows the resources she used along with suggested learning tasks including revisiting the protocols that were introduced at ACMI for acting around a green screen and taking on the role of film director. During the final weeks of Term 4, the children produced their written narratives using green screen. The author of the narrative took on the role of director and worked collaboratively with their peers to produce the final product. The following set of screenshots in Figure 24 present excerpts from an example of the production of the green screen narrative – *Arthur and the Three Ninjas*.

Table 1: Teacher's plan for green screen learning tasks

GREEN SCREEN LEARNING TASKS				
Possible resources				
Green Wall/Green Screen				
Keynote Program				
iMovie App				
Digital Backdrops to use in Keynote				
Clapper Board				
Props & Costumes				
Suggested learning tasks				
1. Visit ACMI to use the green screen				
Upon returning from ACMI and experiencing the green screen, create a class set of protocols for acting around the green screen.				
o E.g. Shoes off (to create less noise)				
o Quiet on set (all voices must be off when recording)				
o Walking Feet (no running near the camera equipment)				
o Listening Ears (listen to the director (student who has created the story) at all times)				
o Respectful Play (respect the props, costumes and other students performing)				
3. Divide students into small groups of 3–4 students				
4. Have students use their story plan to share their story with their peers.				
5. Director chooses the characters and instructs other students on what they need to do based on the story plan.				
6. Teacher to record on Keynote and change backgrounds if necessary.				
7. Upon finishing the acting, students watch the narrative. Director gives feedback to the teacher as to where to cut and what to edit (within reason)				
8. Teacher edits recording in iMovie.				
9. Students watch the final film and respond.				

DIGITAL PLAY IN THE EARLY YEARS









Figure 24: Screenshots of excerpts from an example of the production of the green screen narrative – *Arthur and the Three Ninjas*

Arthur (on the right) is in the city and gets in a fight with one of the three Ninjas (in white).



Arthur and two of the Nínjas go to jail, go to sleep and dream of escaping.

They build a massive, big hole and escape.

Arthur and the two Nínjas trap the third Nínja and send hím to jaíl.

Courtney provided further opportunities to use technology to create their narrative stories, demonstrating ways that she recontextualised her own learnings at ACMI for the purpose of her own classroom. She reported in her reflections that she felt more confident 'in playing around with technology' to include in her own teaching practices. For example, she provided opportunities for the children used Book Creator (https://bookcreator.com/) to illustrate and imbed oral narrations of their stories. Figure25 presents an example of a child's fairytale narrative from print to digital form. The story of *Hugo and the Three Bull Sharks*

Written narrative

Figure 25: Example of a child's fairytale narrative, *Hugo and the Three Bull Sharks*, from print to digital form



follows a similar narrative structure to *Goldilocks and the Three Bears*. In summary, Hugo has a swim in the ocean and comes across a dark cave. In the cave Hugo found three bull shark teeth. He then found some seaweed and ate it all up. He was tired and went to find a bedroom. He found three submarines – the first was too hard and the second was too soft and the last one was just right. The three bull sharks come home and asked him if he wanted to stay. Hugo said yes and lived happily ever after.

The following images present excerpts from both the written and digital forms of *Hugo and the Three Bull Sharks*.

Digital narrative



DIGITAL PLAY IN THE EARLY YEARS

At the end of Term 4, Courtney reflected on her own learnings from the ACMI *Fairytales and Fantasy* workshop and the translation of these learning into the classroom. She commented:

Term 4 digital play centred around our ACMI visit for a fairy tale green screen experience. I had very minimal knowledge of green screens, filming, editing and movie making prior to this term. It was very much a 'I don't need to know, so I won't attempt' attitude to begin with. However, after seeing the green screen in action, having many conversations with Martin about green screen technology and reaching out to ACMI staff I found some confidence in being able to bring back the learning from ACMI and apply it in the classroom.

My own technology skills advanced as I played around with filming with the children, editing scenes and producing 'movies'. Finishing up in term 4, I now have editing skills, keynote skills and 'producing' skills.

I watched children take agency over their own narratives and direct others and enjoy the process of creating a story and acting it out. Children showed interest and enjoyment in acting in their own and their peers' narratives.

While Courtney's reflections show examples of her own learnings from the ACMI workshop around the use of the green screen, it is not clear how other aspects of the intended purpose of the *Fairytales and Fantasy* workshop explicitly related to her pedagogical practices. Clearly further research is warranted to understand the relationship between the intended purposes of the activities at ACMI and how teachers translate these into curriculum objectives or novel pedagogical practices.

From ACMI to classrooms at St James: Teacher practices and children's work

Exploration class: Beings

This section presents the ways in which the Exploration class teacher, Martin, implemented some of the new learnings after attending the *Beings* exhibition at ACMI. In addition, this section also presents examples of Martin's teaching program and children's work.

Martin and his Exploration class visited ACMI prior to the commencement of Term 4. Based around these experiences and aligned to the term theme, he developed a Unit Plan on Robots to be implemented throughout the 10 weeks of Term 4. The learning tasks developed as part of this Unit Plan were linked to the Victorian Curriculum, including **English** – Reading and Viewing, Writing, and Speaking and Listening; **Digital Technologies** – Digital Systems, Data and Information, and Creating Digital Solutions; **General Capabilities** – Critical and Creative Thinking, Personal and Social, and Ethical Capability; and **The Arts** – Drama and Media Arts.

During the *Beings* exhibition at the end of Term 3, each child was invited to create their own Being using the coloured transparent shapes provided at tables (see Figure 26). Martin took photographs of each Being to be incorporated into their narratives when the children returned to school at the commencement of Term 4.



Figure 26: Colourful transparent shapes at tables at the ACMI *Beings* exhibition

The first two weeks of Term 4 commenced with revisiting the children's individual Beings and looking at the resources on the ACMI website. In particular, Martin accessed the ACMI Beings learning resource and focussed on 'Imagine the Future' as a way to link to their term unit on Robots. He reminded the children of the strange robotic shapes that appeared when they interacted with the artwork, *Future You* (see Figure 27) and used some of the question prompts from the ACMI resources to help children to "think of your being and imagine the world they come from. What does it look, sound, feel and smell like" to support the development of their narrative.



Figure 27: A St James' child interacting with the *Future You* artwork (2019) at the ACMI *Beings* exhibition

While it was evident that Martin drew on some of his new learnings and the resources from ACMI as a stimulus for his planning, he also used his own teaching practices to further scaffold the children's writing by discussing the elements of narrative through a modelled story plan. Specifically, the plan was set up with the main characters and setting of the story – Martha, who lived in a safe and green town who met Saphire the Being. The narrative continued with the introduction of a problem, which involved two characters, Martha and Saphire, entering a future land where they meet a robot. Figure 28 presents two modelled story plans Martin used to support children to develop their own narrative using a combination of diagrams, linguistic prompts, sequences of story, plot, problems and resolutions– the first is one for early writers who may require more concrete prompts such as diagrams and minimal linguistic phrases, while the second includes more complex linguistic prompts and additional problems to be resolved.



Figure 28: Two modelled story plans used to support children to develop their own narrative



Beginning 🕲 🚭 🍻	Middle	End
Once upon a time. Northa. guard her ubdroom Window san shining river glistening safe wave feeling of home.	Because of that Bla She thought of times when she Rit unsure tour, showing and sharing.	Until finally - "Are you sure?" - holding hands - travelling Into unknown - turnel vibrations, glawing rocks - Vibrated more - Coming to a green door
Every day She swang her feet • out of led • Off to work of the 28 Magelling centre • project on polymoting using lees	Because of that 64 "Grrriceed! Anis noise came from Saphile. - Computeing now with then how /why? had things Changed.	- This door Unlike any door over seen before #Once through connot return.
But, one day As she walked • a distant unfamiliar figure. • hiraductions • seemed confused	Because of that Martina thought of how to help? to the hotma Trovel n kart how? P Cool (undernoorth) behave "the genancies (solar provide)	And ever since them." Light flooded - the future was bright - Remember the past to learn. Norking IN partnership.

DIGITAL CHILD

Children were then invited to develop their own story plans. These story plans provided the children with the structure of the narrative (Beginning, Middle and End). Martin again combined aspects of the ACMI experience to stimulate children's developing narratives by encouraging the children to use their photo of their Being along with the story plan template to develop their narrative. Figure 29 presents the process from the construction of their own

Being at the *Beings* exhibition to their story plan and written narrative for a Year 1 student, aged seven years. The story used the linguistic prompts "Once upon a time" and "Every day" to support his narrative. The narrative also showed evidence of a simple problem (i.e. the Being got tired of working at McDonald's) and a resolution (i.e. so the Being went to work at KFC).



Figure 29: The process from the construction of a child's own Being to their story plan and written narrative



0	LL	The	FOOd	IN	MC	DONA	1019	Was	OUT	
							1.000			1

The BP	INg V	Vas 4	a.D. T	-LONT	ne	Bela	19
<u>\$3.9-</u>							
905 a	idea	The	Being	We	NE	To	KEC

Beginning 🕲 🌑 🎿	Middle	End
Once upon a time	Because of that	Until finally
There was a cent KINED Berry Berry	The Ben was Huter to Mc Do Nalas	
Every day	Because of that	
and Every day The Bern Werto MCDONLES MCROWLAS	MC DONADS DOT TIERD OF # WWW MOTKING	
But, one day	Because of that	And ever since then
alt The Food in Mc DONGERS Was of	The BEN Was sod and TREAN THE BE JOT ANI Idyea. The BENT TRUSH THE BED WETTO	The Bern Wer to KEC.

nce upon a time	Because of that	Until finally
These was a cent KINED Bennin Being	The Ben was Hueges the Ben wer to Mc Donalds	
very day	Because of that	
INd Every day The Bern Werto MCDONLES MCDONLES	MC DONIES JOT TIETE	
t, one day	Because of that	And ever since then
ILL The Food in NC'DONLOG Was of	The BEN Was sod and Toten The B Jot and Idyea. The Ben The Sera Wetto	The Bern Werts KEC.

......

DIGITAL PLAY IN THE EARLY YEARS

Figure 30 presents another example of the progression from Being to story plan to written narrative for a child in Year 2. Again, this narrative uses some of the prompts from the modelled story plan with a clear beginning, middle and end, as well as a clear problem and resolution. Her story also includes an understanding of character with the use of character voice. She also marks the story's conclusion using the phrase 'the end'. However, while it is evident that the use of the Being in the children's narratives is prompted by the ACMI *Beings* experience, it is not evident how this experience further attributes to the children's understandings of narrative structure.



Figure 30: Example of the progression from Being to story plan to written narrative for a child in Year 2





Narrative typed by the child

One day a girl called Mandy went to ACMI with her class.they all got to make beings.every day Mandy imagined how fun it would be with a little friend. But as she daydreamed her teacher would smack her desk and would yell keep working, But one ordinary day Mandy's being pushed through foggy boggy air into the classroom the tracher tied to shoo it away but it turned invisible and stole a permanent marker and wrote it's name on the white board. The teacher tried to rub it off but it wouldn't come off. "Will it come off? Asked Mandy. Mandy finsihed school for the day she could not wait till she got home to play with her little friend. They played in the pool and got to a green door and opened it and a black hole sucked them into the future. They heard a tumbling rumbling noise and randomly changed ther formation. they flew into ACMI they went puff and became ACMI workers. t he end

	Greenteet				
Beginning 🎱 🌑 🎿	Middle	End			
Once upon a time	Because of that	Until finally			
Unce UPO, a Traca for colled WATE LE OL With no	praid Wit	and the provide they could leave the of the Salid they clale ve and Whe provide they left they were intouth rice Potle a note that			
Every day	Because of that	Mto OCMI WOLL			
Mull Mone howfi. 1 suit me - Ture Fork	We tockie Coth loot	The seals			
But, one day	Because of that	And ever since then			
S Come Surg	Green fould	thouse han hy			

At the same time that the children worked on their story plans and written narratives, Martin used the class story board to develop their future city where their Beings would meet a robot. In small groups the children built their story board using a combination of structured and unstructured objects (see Figure 31) including art materials, toys and blocks. They used this story board to act out their stories, create further problems and resolutions, and develop social skills while working with their peers in small groups.

Martin also used similar prompts from the *Beings* resources to develop their robot characters living in the future land – "think of your robot and imagine the world they come from. What does it look, sound, feel and smell like?" He also revisited the processes involved in how the artists involved in the ACMI *Beings* exhibition developed some of the artworks, including the detailed drawings of body parts to create movement. Children designed and built robots using Lego, wooden blocks, and drawings. Like the Beings, children were also invited to think about how these robots would move isolating particular body parts such as legs, arms and head. Figure 32 presents two examples of children's robot designs. The example on the left shows how the child separated the body parts into different sections to use in their animation. The second presents the robot "Buildtron = fastest builder ever!" in an advertisement highlighting the special features and rationale for buying such a robot.

Drawing on further learnings from the *Beings* exhibition, Martin worked with the children to animate their robots using PuppetMaster (<u>https://www.shmonster.com/</u>). Children chose their background depicting their Future Land. Some students used written prompts to produce artificial intelligence (AI) to generate images of the future. They then played with their robot's movement and sounds to imbed into the animation.

They recorded their short film, adding voice-overs, background and robot movements. The following two examples present two children's robot animations. Figure 33 presents the animation of the Year 1 child's "cute kind of being", while Figure 34 presents the animation of a Year 2 child's the "Robot Bill Buildtron = fastest builder ever".



Figure 31: Storyboard of the Future City

DIGITAL PLAY IN THE EARLY YEARS





Figure 32: Robot designs for two children in Exploration class

Figure 33: Exploration child's animation of their robot

This animation commenced with the robot in their Future Land.



Figure 34: Exploration child's Robot Bill animation

This animation involved Bill the robot moving about his Future Land using each body part including lips while talking.



The child then experimented with moving the bodyparts of the head and body to show looking in the hole in his Future Land.



He introduced the character of a hat, moved his robot to a higher position in the land then aimed fire to get rid of the hat. In this screenshot, all four limbs have moved direction while the head is looking towards the hat.



At the end of Term 4, Martin reflected on his own learnings from attending the ACMI *Beings* exhibition and the translation of these learning into the classroom. He commented:

The Beings exhibition allowed students to interact with digital technology using their whole bodies, something unique to many of them. These students comfortably interacted with the Beings artworks without feeling insecure, trying to push and move their bodies individually and with friends to try and 'trick the technology', to do something surprising.

Conversations with the students showed they understood the technology well and enjoyed the experience. This level of engagement and curiosity was something I wanted to bring back to the classroom.

Each student's transparent Being became a figure in their narratives, developing their own personalities and become major characters in each child's story. Having a personally made Being also increased their desire to tell their story.

The theme of Future You also allowed students to think about the future world, encouraging students to create solutions to problems they face, be it homework, learning a skill, or cleaning up oceans.

Bringing Beings (the artworks) into the classroom challenged me to experiment with technology in new ways, searching for motion capture apps that could be used in the classroom. It also forced me to take risks with technology by allow the students to experiment with and explore applications that I had only briefly used myself. This allowed me to see that students can find their own solutions with technology. While some students preferred the motion capture of the PuppetMaster app to move their puppet robots, others found it messy and preferred to use the touch screen to control their robots.

A day playing with Beings at ACMI, led to a range of learning experiences that students readily engaged with in the classroom.

Conclusion

The purpose of this research was to understand children's experiences with digital technologies in a semi-formal learning space, ACMI, and how these learnings were translated into classrooms in the early years of schooling – Foundation (Discovery class), and Year 1 and 2 (Exploration class).

Responses from the focus group interviews with the children and teachers highlighted the children's positive feelings of enjoyment and excitement experienced at ACMI. In particular, the Discovery children were excited that they were able to dress up in costumes to film a fairytale scene and to explore the effects of green screen technology in the Fairytales and Fantasy workshop. However, the children also expressed feelings of anxiety, nervousness and disinterest at having to remember their scripts to act in front of an audience and having to wait for their turns to film their fairytales. The Exploration children valued the opportunities for engaging with a range of interactive and non-interactive digital artworks at the Beings exhibition that had enabled them to explore how technologies worked in those artworks. Many of the teachers' and children's experience with technologies at ACMI were translated back to the classroom evident in the children's work samples and teacher planning documents. However, it is difficult to attribute all these practices as being an outcome from the experiences provided at ACMI given that the teachers already incorporate use many of these practices in their classrooms. Clearly further research is warranted to understand the explicit impact of the experiences at ACMI on the pedagogical practices of teachers.



References

- Bird, J., & Edwards, S. (2015). Children learning to use technologies through play: A digital play framework. *British Journal of Educational Technology*, 46(6), 1149–1160. <u>https://doi.org/10.1111/bjet.12191</u>
- Chaudron, S., Di Gioia, R., & Gemo, M. (2018). Young children (0–8) and digital technology, a qualitative study across Europe (Vol. 29070). *EUR*. <u>https://doi.org/10.2760/294383</u>
- Chu, C., Paatsch, L., Kervin, L., & Edwards, S. (2024). Digital play in the early years: A systematic review. *International Journal of Child–Computer Interaction*, 40, 1–14.
- Danby, S., Evaldsson, A., Melander, H., & Aarsand, P. (2018). Situated collaboration and problem solving in young children's digital gameplay. *British Journal of Educational Technology*, 49(5), 959–972. <u>https://doi.org/10.1111/bjet.12636</u>
- Edwards, S. (2021). Digital play and technical code: What new knowledge formations are possible? *Learning, Media and Technology*, 46(3), 306–319. <u>https://doi.org/10.1080/17439884.2021.1890612</u>
- Hackett, A., Holmes, R., & MacRae, C. (Eds.). (2020). Working with young children in museums: Weaving theory and practice. Routledge.
- Nair, L. B., Gibbert, M., & Hoorani, B. H. (2023). Combining case study designs for theory building: A new sourcebook for rigorous social science researchers. Cambridge University Press.
- Nolan, A., Edwards, S., Salamon, A., Straker, L., Grieshaber, S., Skouteris, H., et al. (2022). Young children's agency with digital technologies. *Children* & Society, 36, 541–563. <u>https://doi.org/10.1111/</u> <u>chso.12512</u>
- Sefton-Green, J. (2004). *Literature review in informal learning with technology outside school*. NESTA FutureLab Series. Report 7. hal-00190222
- Yin, R. (2018). Case study research and applications: Design and methods (6th Ed.). Sage.







