Title: Media play: New (and old) pedagogies with young children.

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Abstract
Modern technologies mean that the principles of quality arts education are the same (as they ever were) and different. Discussion in this paper is based on a small research project that used art as pedagogy, art as research method and, for the young children participants, celebrated art for art's sake. The project was designed with two aims. Firstly, we were interested in how young children engage with media as a strand of the arts. This also informed some of our thinking around the debates over Information and Communication Technology (ICT as a process for the production of a media text. Secondly, we were interested in the extent to which digital media could enable young children to make their learning visible.

Introduction

The influence of technology in the lives of most people in the twenty-first century means that many of today's children create, learn, work, play and communicate very differently from their parents and teachers. A student of the guitar can send out a question via the internet and a friend, perhaps on the other side of the world, can load up a short clip through *youtube*, demonstrating a technique, riff or tip. The teacher is no longer the single or most up-to-date expert, if indeed they ever were. But information is not knowledge, and in this paper we propose that the role of the teacher remains important. With every generation comes change — there were those who once lamented the introduction of the ballpoint pen in schools. Moral panics have always been played out over the 'young and youth', since the time of Plato. Some principles of good teaching never change, and others must adapt to new times.

This paper is a partial account of a small research project which involved a group of seven children, aged 4 years to 9 years, who visited the Gallery of Modern Art (GoMA) in Brisbane, Australia, accompanied by their mothers and the two researchers. Our preliminary analysis in this paper describes some of what we observed when young children apply, practise and transfer digital skills, and use digital media for learning and communication. These young children engaged with tools of technology to create media texts about their visit. The research project was designed with two aims. Firstly we were interested in how young children engage with media as an artform. Here, Information and Communication Technology (ICT) is considered a process for the *production* of a media text. Secondly, we were interested in the learning that occurred and the extent to which digital media could enable young children to make their learning visible.

In order to conduct such an inquiry we drew on parts of Irwin's a/r/tography as a methodological framework based on "rhizomatic relations" (Irwin, *et al*., 2006) between art as pedagogy, art for art's sake, and the artistic processes of inquiry, to shape our methodology. Longstanding early childhood philosophies and pedagogical knowledges emphasise the importance of play in children's ways of being and learning. The starting point for this study was what Prowse (2010) calls *media play.* She coined this term to refer to the:

> opportunity to access time, space, and resources that enable young children to experiment, take risks and play with the tools of technology, and to develop media as a language, as an effective form of communication.

Like other forms of play familiar to early childhood educators, media play may or may not result in an end product — in this case, the production of a media text. It may or may not demonstrate knowledge of another discipline. In this small study of *media play* we observed young children engaged with

active hands-on learning in their efforts to make meaning, and communicate their knowledge and understanding about their visit to the local art gallery. The following discussion touches on some of what we learned about: the children's understanding and use of arts vocabularies (both visual and media); their use of the tools of technology; their capacities for creating representations of their experiences. In addition, we note the significance of the social assets and the accumulated cultural knowledge that young children bring with them to the classroom and to their learning - the social and cultural capital (Bourdieu, 1986).

Background
Early childhood teachers are directed to support and teach young children through engaging them in active, busy, hands-on learning. A well worn mantra in early childhood education is that children "learn through play" (see Grieshaber and McArdle, 2010). Early childhood teachers consider the whole child, plan a child-centred curriculum, and connect learning with the child's interests. The children are positioned as what Rogoff (1990) terms "apprentices in thinking" who develop the skills to engage with "culturally defined problems with the available cultural tools" (p.2). But who are these children now, and what are their interests and their cultural tools?

There is no question that many young people are engaging in a social world connected by digital technologies and media texts (see for example Buckingham, 2003; Couldry, 2003). Most young children are surrounded by media messages and are daily consumers of media texts. With the technology invasion, researchers have been attaching a variety of labels to the new generation of Information, Technology and Communication (ICT) users. The children who sit in our early childhood classrooms are variously referred to as: *Digital Natives* (Prensky, 2005), the *Technically Savvy Generation* (Ike *et a.l*, 2008), *Generation Y* (Charp, 2003) or *Millennials*, (Howe and Strauss, 2000). The common denominator of these labels is that the children are engaged in a wide range of digitised literacy practices from birth (Marsh, 2006).

New technologies have changed our lives but many would say that schools have stayed relatively unchanged in their approaches to teaching and learning. Children of the 'Millennial Generation' (Howe and Strauss, 2000) are living in homes full of media options. A recent large ethnographic research project (Lyman *et al*., 2008) conducted in USA found that children and young people spend more time engaging with media than time spent in any institution, including schools. Meanwhile, in most classrooms, 'chalk and talk' pedagogies may have been replaced but young 'click and drag' children are still primarily expected to show what they know through the use of pencil and paper.

It would be a mistake to construct new universal truths about 'digital natives' and presume that all children are 'computer savvy' from an early age. Even if we qualify by referring to children of specific nationalities, cultures or classes, this is still risky. In our small study involving a small group of children from fairly similar backgrounds, geographies and family cultures, we still saw that some young children are engaged with digital tools of technology outside the school setting while others are not necessarily so. Nevertheless, the new media culture and media economy means that we are surrounded by visual messages, many of them more powerful means of communication than any other source of information (New London Group, 1996). To succeed in this new world, young children must learn to not only decipher and understand these messages discerningly, but also understand that the images are constructed. They themselves, as active citizens, can construct these texts.

One of the first modern texts that provided a rationale for media education (Masterman, 1980) defined media as "one of society's key set of institutions, industries, and cultural practices" (p.28). But there is an important distinction to be made between using or consuming technology, and acquiring the knowledge to be literate with technology — being able to read, interpret and produce texts. In this paper, we use the term ICT to refer to the tools used to create digital texts. We use the term media to refer to a strand of the arts, a means of expression and communication, and the texts that are read and produced through the use of ICTs.

There are those who dismiss notions of the arts and ICTs in the hands of young children as simply gimmick, and of little importance, and even risk, to young children's learning and development (see for example, Armstrong & Casement, 2001). But when young children come to school for the first time there is a major shift from their world of meanings, made in countless ways, to the much more one-dimensional world of written language (Kress and Van Leeuwen, 1997). Singular emphasis on print based literacy in schools ignores the many 'languages' children use to communicate, from birth

(Malaguzzi, 1998). Young children's capacities in all five strands of the arts (music, dance, drama, visual arts and media) can enable them to make visible what they think and know, unconstrained by their level of skills with writing, reading and even speaking. But contrary to popular mis-readings of immersion and developmental theories of learning young children do not 'naturally' develop these communication techniques and skills (McArdle, 2003). The development requires instruction, in some form.

Media education in the early years requires both maintaining the power of play as a site for learning and teaching, and a reconceptualisation of learning and pedagogies (Kalantzis and Cope, 2008). Children's own existing capabilities or interests are important, as well as their processes. We designed this inquiry into media in the early years around Prowse's notion of *media play*. And we used a visit to the art gallery as the means to generate rich data for analysis and further reflection. In this paper we focus on three of the seven children — Allegra (aged 5 years), and Jackson and Arthur (aged 7 years). We were surprised by what we learned, and our reflections and analysis lead us to some provocations about quality arts education in the early years.

The Study

In this partial account of the study we share our preliminary analysis of some examples of media play, observed on the same day, in the same setting, by three young children. These three children brought with them different knowledges and experiences in both ICT and the visual arts. Through our interactions, through listening to and observing the children involved in media play, we were interested in exploring two key questions:

What do young children do when they are engaged with media production?
What learning occurs and how?

We were curious about what happens when young children are encouraged to produce media texts, and they are given the opportunity, space, time, access, resources and support to play with ICTs, digital technologies and new technologies. We acted as teacher-researchers and used some aspects of artography (Irwin, *et al*., 2006) through the use of art and ethnographic methodologies and tools of technology that enabled our investigations into children's media play. The study was conducted in three stages, each of which involved a space and a context for the children to learn through play. In the Summer vacation period we invited a group of seven young children, aged between four years and nine years, to visit the art gallery with us. We explained that we wanted them to help us with our research and that we would provide each of them with a digital camera to record their visit. Pedagogically, we knew it was important to provide a purpose for the task, and this came from the children having a sense of audience. We showed the children photographs of a pre-school class of children in Hong Kong, with whom we have previously worked. We explained that those children would be interested in learning about our gallery and the artworks displayed there. The children in Hong Kong might then send films about a gallery in their city.

Stage One: We first met with the children and their parents at the media lab at the university. If the children were to capture images of art works and the gallery we first wanted to provide some knowledge of the artworks, and some skills instruction on the use of the digital cameras. Firstly, the arts teacher-researcher showed the children images of two contemporary artworks they would see at the gallery. She talked with the children about the artworks, the artists, and introduced some arts vocabulary — line, colour, shape and form. Secondly, each of the children was issued with their own digital camera. They earned a 'camera licence' when they demonstrated a number of skills, such as wrapping the camera strap around their wrist for safety and care. The second teacher-researcher introduced media/arts vocabulary and the children were instructed in six basic shot types: long shot, mid, a close up, extreme close up, high angle down, and low angle up. They were given time to practice each shot in the gardens around the university. We quickly learned that the children had a range of skills and confidence with digital photography. Some of the young children were 'experts', with experience at capturing a range of shot types. Two children had their own digital cameras at home. Others had only been exposed to digital cameras under the watchful eye of their parents.

Stage Two: When we arrived at GoMA, the children moved excitedly between artworks and discussed shot types. We observed the children comparing images, some of which documented the physicality of the gallery visit. These included long shots of the entrance to GoMA and mid shots of the children and adults in our party as we travelled around the gallery. All the children, including Luca, aged 4 years, appeared to enjoy the gallery experience. They skipped, hopped and sometimes ran from

place to place over three levels of the gallery. All of the children talked with each other about the artworks, and laughed and played with each other as they busily set about taking shots with their cameras.

Stage Three: Back at the media lab the children ate lunch while we downloaded their images onto the computers. In other circumstances, young children are quite capable of managing the download themselves. However, like other arts processes (e.g. preparation of paper surfaces for painting, mixing of paints, playing musical instruments), it is not always necessary for children to be involved with every stage. Downloading can be time consuming, and delays can interrupt creative 'flow'. When they had finished their lunch the children were each allocated computers, with their pictures downloaded for them. The icon for editing was on the desktop, and the process was explained. The children soon became engaged with editing their 'films'. Prowse's previous extensive experience as a classroom teacher leads her to work only with still images with young children, for two reasons: firstly, editing moving images is much more difficult and time consuming for young children. Secondly, children quickly become frustrated and disappointed with what they can achieve with a 'movie' — it is less likely to approximate the quality of the movies they watch. On the other hand, they can achieve highly satisfying results with still images. For our small study, the children's task then was to make a 'film', by selecting shots, editing and sequencing them, and preparing them for sharing with the children in Hong Kong.

Some children had previous experience using the editing software and they helped each other get started. Other children sought information from adults and then chose to work alone, investigating how the software worked. At different stages some children were shown how to add transitions and how to record their own voices to add to the media text. Throughout the editing session all of the children were observed at various times, walking to different computers to view what the other children were doing, and commenting on each others' work.

In our considered reflections we propose that all seven children added to their existing skills and knowledges. They all engaged in a quality learning experience that they found enjoyable, stimulating, challenging and exhausting. But significantly, what the children actually learned appeared to vary. Before our final discussion of what we learned through this research, we pause here to describe in more detail two different examples of what the learning looked like, through two different approaches to teaching and learning, and two different outcomes.

Jackson and Arthur – the click and drag boys

When he first walked into the media lab Arthur (aged 7 years) went immediately to one of the computers, touched the keyboard, and then said: "Oh, need a password for the internet — what's the log on?" Jackson (aged 7 years) arrived at almost the same time. Jackson and Arthur had not met before. Through a quick conversation about the computers they could see in the media lab they came to discuss an online game they were both familiar with. Jackson announced that he could show Arthur where to find 'cheats' for this game on a website. They were instant friends.

As active users of ICT and digital technologies these two boys had no reservations about double clicking on desktop icons and links, opening programs, or searching for internet sites. They transferred knowledge of previous engagements with computers and the internet to connect with new and unfamiliar programs or websites. These two young ICT users demonstrated they were confident in their risk taking when engaging with ICTs. They had not used these computers before (we were using Macs, at home they had PCs). Nor had they accessed the internet via the university settings before. They knew they would not break the computers by trying something new. And this all happened before our planned session had begun!

The position of expert or learner remained fluid and interactive throughout the day Jackson and Arthur spent together. When given their cameras the two boys continued a discussion they had started while waiting for the other children to arrive. They went on to tour the gallery together, capturing and sharing different shots. Their shots were very similar and often included 'posed' images of each other. They did not choose to delete any images from the camera as they went. They alerted each other to works they thought the other would be interested in. They shared and reviewed their images in the digital camera and often retook images to match one taken by the other. When they came across a large gold sculpture of a naked woman the two boys giggled and pointed before quickly capturing images of the statue.

On our return to the media lab, Arthur and Jackson immediately asked if they could load their images into the same computer so that they could create their movie together. Noah, an older child (aged 9) loaded Jackson's shots into the Mac. Jackson and Arthur watched Noah closely, then insisted on loading Arthur's shots from the second camera. They talked to support each other with this undertaking and they succeeded! They discovered the icon for the editing and began to import their images into the software. They immediately began clicking and dragging around the screen. They quickly grasped the transitions and tried a number of variations. They soon discovered through play that there were different sound effects they could add to the media text.

Finally, the most intriguing observation we made in the entire study was an event involving both Arthur and Jackson. In the course of their explorations of adding transitions and voice-overs, the boys created something that they found incredibly amusing. Try as we may, and we have viewed the video footage of this incident many times, we cannot understand what they found so amusing. The boys placed two images side by side, one of the chocolate machine at the gallery and one of the large modern eye-like sculpture that Luca had found so amazing. In part of their collaborative film they inserted a transition between these two shots, and recorded their own voices saying "This is a fooooood machine". They played this short sequence over and over (at least ten times), and each time they both collapsed in peels of laughter. This hilarity captured the interest of the other children, each of whom eventually made their way over to the boys' screen to see what was happening. The adults also moved closer to the action. But all walked away none the wiser, and we never did fully understand "the joke".

We might be tempted to draw some conclusions about optimal approaches for teaching and learning, based on our observations of Arthur and Jackson's behaviours. For instance, the visual arts, ICT and media appeared to chiefly work as a means through which the boys learned about each other. The arts appeared to facilitate their interpersonal communication and immediate understanding of each other. But, in the same context and at the same time, we observed different behaviours in Allegra, and our reflections lead us to more complex understandings about arts education.

Allegra — Artsmart

Allegra (aged 5 years) arrived at the media lab a short while after Arthur. She joined Arthur and Jackson at their computer and observed the game being played, but did not join in. Other studies (see Yelland, 2005) have highlighted gendered behaviours in young children's computer behaviours and this could certainly be a factor in how the children's experiences that day played out. While we accept that gender was most likely a factor, we consider other influences important to our analysis in this study. Allegra stayed on the edge of the boys' boisterous play for a while, but then moved away to the table of cameras. She collected her camera bag and started looking through it.

She listened intently during the initial briefing session, joining in the discussion about the artworks and artists. She attended closely to the skill development session on shot types and earning the 'camera licence'. As reported by her mother, Allegra had no previous experience with manipulating a digital camera independently, nor of working on a computer. She was able to use the various functions of the digital camera very quickly, with very little input from adults. She set about capturing each of the different shot types demonstrated by the teacher-researcher.

At the gallery, in comparison to the two boys, Allegra reviewed her images more closely and deleted images on the camera she was not pleased with. She frequently ventured off on her own. Allegra's shots captured many images of the same artwork from different camera angles. At times, we observed Allegra speaking with her mother about the artworks, speaking to the other children about them, and also speaking with the artist/researcher about various artworks. For the most part, Allegra worked independently, diligently capturing images with her camera. She would rejoin the other children to discuss their images and hers, or to view the artworks identified in the morning discussion. Throughout the day, Allegra remained focused on the task of producing the film for the children in Hong Kong. Observations suggest she placed importance on carrying out the assignment.

Allegra used her digital camera to capture images that expressed her unique style. Many of her shots were aesthetically pleasing, carefully and thoughtfully composed, and with subjects that were clearly about aspects of the visual arts. She used a variety of shot compositions to display different elements of a sculpture she was already familiar with. She used close-ups to capture different brush strokes.

She made a sequence that began with a long shot of one artwork, followed by a close up of the detail. Her final text also included long shots that showed the placement of works in the gallery.

When her shots were being downloaded to her computer, Allegra sat next to her mother and did not make any attempts to help with loading the images. Her mother told us: "She hasn't used computers much at home". She sat back playing with her hair, rather than taking control of the mouse. At the end of each step in the editing process, Allegra stopped and waited for more direction. At one point, the teacher-researchers were both busy with other children and Noah sat next to Allegra and talked to her about her editing. Allegra then began to engage with the editing process. She rearranged the order of some images, and added and deleted effects and transitions. Allegra was very thoughtful and focused in her shot arrangement. This process took longer, and she did not have time to experiment with adding her voice or sound effects to the media text.

In comparison with the other children's images, Allegra took more risks with the types of shots she was capturing. For example, one shot she took was cleverly taken through a hole in a large leaf. Her careful attention to detail and unhurried pace meant that her final film was aesthetically pleasing, with artful transitions, careful compositions, and some degree of narrative about the gallery and some of the artworks.

The events described above are only partial recounts of the many points of interest we see in our repeated viewings of the video tapes of the day. Our accounts of Jackson, Arthur and Allegra are partial, but might nevertheless support some fairly obvious conclusions. For instance, the evidence suggests that Jackson and Arthur already have acquired substantial ICT skills mastery and would require increasingly challenging tasks to ensure their ongoing development and learning in this area. At the same time, it is quite possible that they do not have the same level of mastery nor interest in the visual arts. How to engage their interests in this area requires some thought. Allegra, on the other hand, could build on her considerable interest, expertise and understandings of the visual arts, and might benefit from more time and skill development with ICTs.

Playing with teaching

In this last section of the paper, our thinking takes us beyond neat 'solutions to problems'. Here we address two key points: (i) traditions of early childhood curriculum and pedagogies, and (ii) the nature of learning and teaching in the digital age. We propose that teaching in new times is both different and the same (as it ever was).

Curriculum in a digital culture:

Media play may offer young children the opportunity to create rich representations of their knowledge or understanding when verbal or written reports might not accurately reflect their knowledge (Nelson, 1997). But play does not mean a *laissez faire* approach to teaching. Just as young children who produce artworks that resemble modernist paintings are not accomplished artists, so too, young children who can click and drag still have much to learn about the use and structures and potential of media as language.

In some sense, we observed the young children in our study learning in the same way early childhood educators have long insisted learning occurs. The children were excited by the project, on task, busy, happy, playful and keen to produce a text comparable to those they view in their everyday lives. At the same time, we saw difference. The children accepted the challenge to produce a *media text*, and related their existing knowledge of media into their products. Child-centred curriculum begins with the child, and if the child is 'digitally savvy', then the inclusion of technology into early childhood classrooms seems necessary.

Media production and play requires students to be competent users of computers and internet operations (Pahl, 2006). Until fairly recently, the capacity to manipulate software with any depth or thought was specialized and difficult to access. Computer programs that only deal, for instance, with the rote learning of times tables and spelling through game-like applications may have been acceptable to offer previously. But the children in our study were engaged in media production that involved a range of literacy and ICT practices. Being part of a digital culture brings new forms of cultural capital. The support with editing software required by Jackson and Arthur was different from Allegra's needs. To have begun with an expectation that all the children learn about editing in a staged, step-by-step process might not have resulted in the collaboration we saw, and the many

moments where we observed the children engaged in busy activity, transferring their previous knowledges, and sharing this with others.

Our first provocation is this: if curriculum for quality education and care for young children is child-centred, play-based, holistic and emerges from the children's interests, then media must feature in the program. While children's personal experiences with ICT may vary, and some children may fit the label of so-called digital kids and others may not, most children's life-worlds are shaped to some degree by media. To leave this out of early childhood settings is to deny access to an important 'language' for communication. Media play in the early years can also provide the means for teaching critical analysis of media texts, including mass produced media texts and popular culture.

The nature of teaching and learning in a digital culture:

Earlier in this paper, we recounted Jackson and Arthur's amusement with their sequenced shots and we still, to this day, cannot understand what was so funny. On the day, we were curious but soon decided that it was not necessarily our business to have a full explanation. We have reflected on this a lot, and our thinking has led us to questions about the nature of teaching and learning, the role of the teacher, who is learning what, and why and what are we teaching?

This paper has provided a partial account of the establishment of a collaborative learning environment and differentiated skill instruction. In this space, children and adults adopted different roles based on their growing expertise, past experiences and abilities. The change in learning tool (ICT) appears to have led to a shift in the processes of learning and teaching. Through this process of media production, it seems we saw evidence of what Tapscott (1998) refers to as the shift from broadcast learning to interactive learning. Others refer to how knowledge is organised for new times and identify characteristics of new citizens, and the skills required for students to function effectively in society (Kalantzis and Cope, 2008). These new skills required in the digital economy bring implications for the role of the teacher. Teachers are prompted to conceptualise *new learning* in order to consider *what* their students need to *know* and *do* (Yelland, *et al,* 2008)*.* The teacher or adult expert within this study was not positioned as the key figure in the giving or sharing of all knowledge and skill development around ICT and/or media production.

Media play with these young children involved shifts in power, relationships, and teaching roles. The children in this study demonstrated varying degrees of ICT skills. Some children came to be viewed by their peers as mentors, as experts, and as co-constructors of knowledge. Not all the children in the study had been privileged at home with equal opportunities to engage with ICT. Some of the children had very advanced skills while others had very elementary or no ICT skills. But when the children have overtaken the teacher with knowledge and skills with ICT, this does not relegate the teacher to the side, with no role to play.

The interchanging roles of the adults and children as experts and learners during this study was necessary and fundamental to the participatory culture (Jenkins, *et al*, 2006) that developed within the group. When the teacher is prepared to make space for the children's existing knowledges, then it becomes possible for the teacher and the students together to identify the areas of knowledge or skill development that are needed. This challenges the role of the teacher or adult as the sole source of knowledge and skills. The task for this project was set by the two teacher-researchers and yet there was negotiation between the children about how and what they would represent in their media text. Both the children and adults discovered and learnt what was needed to produce media texts. There were some elements and functions of the technology that the adults were less familiar with, and that the children had a greater working knowledge of. The students build on their knowledge and skills.

The learning through media, and about media as language, was not the same for all children. Ability to operate a digital camera is no guarantee of mastery of the medium. For some children, like Arthur and Jackson, who had already acquired many ICT skills, their learning was connected to their knowledge of how computers work and how images could be downloaded and manipulated with text and narrative. The arts and media worked as powerful cultural and social conduits for them. For Allegra, whose ICT skills were elementary, learning was connected with a more advanced discipline knowledge — in this case, the visual arts. Her new learning came with her ability to use a digital camera to capture visual arts concepts. Then with assistance, she was able to transfer these concepts into a software system that allowed her to share her visual arts knowledge through the language of media.

Conclusion

Young children who are coming to early childhood contexts with a repertoire of digital skills and dispositions require the provision of relevant, quality educational experiences (Zevenbergen and Logan, 2008). In our research project the provision of the digital environment, and the teaching of skills and techniques for media production, meant that young children had the means to explore and reflect their knowledge and position within a contemporary media culture (Buckingham, 2003). The media texts they produced can be read by others as their personal representations of their experiences. Their films demonstrated their ICT skills and discipline knowledge in the visual arts.

We propose that new pedagogy with new technologies is the same as good pedagogy in earlier times, and different. It is the same when it comes to the importance of time, space, resources and relationships in supporting children as they learn through play. It is different when it comes to our understandings about the content of child-centred experiences and the processes of teaching and learning - differences which we propose have come about due to the nature of ICTs and digital media.

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