

1-1-2016

## Powerful and playful literacy learning with digital technologies

Lisa K. Kervin

*University of Wollongong*, lkervin@uow.edu.au

Follow this and additional works at: <https://ro.uow.edu.au/sspapers>



Part of the [Education Commons](#), and the [Social and Behavioral Sciences Commons](#)

---

### Recommended Citation

Kervin, Lisa K., "Powerful and playful literacy learning with digital technologies" (2016). *Faculty of Social Sciences - Papers*. 2879.

<https://ro.uow.edu.au/sspapers/2879>

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: [research-pubs@uow.edu.au](mailto:research-pubs@uow.edu.au)

---

## Powerful and playful literacy learning with digital technologies

### Abstract

The increased availability of tablet technologies in many homes and early childhood educational settings has transformed play-time and the subsequent opportunities that emerge for literacy learning. What children do with the digital applications (apps) on these technologies demands our attention, particularly as we consider the ever-increasing market of apps marketed to enhance the basic literacy skills. While there are varying degrees of quality amongst available apps, some apps have potential to foster children's play and language development in unexpected and interesting ways. As educators, we need to acknowledge the role 'digital play' can play in our pedagogical interactions and the possibilities these offer for literacy learning. To do this, we need to examine ways that children engage with technology as they learn to read, write, listen, and communicate. This paper argues children's digital play offers teachers new opportunities to support, inform, reform, or transform the literacy with experiences we encourage children to participate.

### Keywords

literacy, playful, technologies, powerful, digital, learning

### Disciplines

Education | Social and Behavioral Sciences

### Publication Details

Kervin, L. (2016). Powerful and playful literacy learning with digital technologies. *Australian Journal of Language and Literacy*, 39 (1), 64-73.

# Powerful and playful literacy learning with digital technologies

**Lisa Kervin**

University of Wollongong

## ABSTRACT

*The increased availability of tablet technologies in many homes and early childhood educational settings has transformed play-time and the subsequent opportunities that emerge for literacy learning. What children do with the digital applications (apps) on these technologies demands our attention, particularly as we consider the ever-increasing market of apps marketed to enhance the basic literacy skills. While there are varying degrees of quality amongst available apps, some apps have potential to foster children's play and language development in unexpected and interesting ways. As educators, we need to acknowledge the role 'digital play' can play in our pedagogical interactions and the possibilities these offer for literacy learning. To do this, we need to examine ways that children engage with technology as they learn to read, write, listen, and communicate. This paper argues children's digital play offers teachers new opportunities to support, inform, reform, or transform the literacy with experiences we encourage children to participate.*

The theme of the 2014 ALEA/AATE conference – aNTicipating new territories – is appropriate as we contemplate the changes to childhood activities as we know them, and consider the potential technology brings to children's play and language and literacy development. In doing so, we are challenged to think about building strong minds, places and futures – this is imperative as we consider the enormous contribution technology has made to what it means to be literate and the ways in which children engage with their surroundings through play.

Vygotsky wrote, 'The child moves forward essentially through play activity', further stating, 'In play the child is always behaving beyond his age, above his usual everyday behaviour; in play he is, as it were, a head above himself' (Vygotsky, 1978, p. 74).

Play is time-honoured in early childhood education. Indeed, discussion of play and its advantages features heavily in texts focused on the early years of a child's life. While there is no one definition for play, play is acknowledged as a major developmental influence for children with the understanding that play may advance children's cognitive and socio-emotional development (Verenikina, Herrington, Peterson & Mantei, 2010) and language and literacy development (Edwards, 2013; Heath, 1983). The benefits of play are acknowledged

through the positioning of play as a 'right of the child' (article 3 in the United Nations Conventions of the Rights of the Child, UNICEF, 2009).

Play has been characterised as a spontaneous, self-initiated and self-regulated activity for young children, which is relatively risk free and not necessarily goal-oriented (Verenikina & Kervin, 2011; Verenikina, Harris & Lysaght, 2003). Play is intrinsically motivated as children demonstrate an internal desire and interest to engage in play. Children actively seek opportunities for play, as they create their play scenarios and take control, making play 'the very serious business of childhood' (Grieshaber, 2008, p. 30). As children play, they take control of their actions, which are meaningful in the context of their play.

There is need to examine what actually transpires for young children in play contexts. While play is acknowledged as 'a leading context for the child's acquisition of communication and collaborative skills' (Siraj-Blatchford, 2009, p. 80), it is this notion of the *context for play* that provides an avenue to explore the ways that young children engage with language and literacy for a range of purposes. There are potential links between the opportunity to engage with play contexts and the development of other cognitive or social skills (Edwards, 2013; Lillard, Lerner, Hopkins,

Dore, Smith and Palmquist, 2013) begging the question, ‘*What aspects of play might promote language and literacy development?*’ Play contains many of the ingredients necessary for optimal language development (even though there may be no single element of play that does the majority of the work).

Play fosters language and literacy skills. Language is the currency of social interaction and school achievement. Marsh and Hallett (2008) remind us of the importance of play for the development of language and literacy through ‘the opportunities presented for creative use and practice; social interactions for real purposes; and, identifying and solving problems in the lives of young children’ (p. 15). Imaginative play encourages language development as children negotiate roles, set up structures, and interact in their respective roles (Garvey, 1990). Adults support language development by engaging with, and commenting on, children’s play to provide a language-rich environment that naturally reinforces concepts and builds on the play context. It is these play contexts that provide opportunities for children to practice using language but to also learn language from each other.

Vygotsky (1978) asserted that children learn through socially meaningful interactions and that language is both social and an important facilitator of learning. The Early Years Learning Framework (2009) explains literacy through our ability to express feelings, exchange thoughts, and connect with others through gestures, sounds and language. The definition of literacy promoted by ACARA (2015) agrees with the social nature of literacy and describes the importance of the student being literate to enable their use of language for ‘learning and communicating in and out of school’. Children’s experiences are organised and shaped by society, but rather than merely absorbing these experiences, children negotiate and transform them based on what they learn from personal, cultural or school contexts. They learn to talk through social interactions and to read and write through interactions with literate children and adults (Dyson, 1993; Harste, 1990). Play is a powerful way for children to represent their understandings of experiences and contexts.

Over the past decade, there has been an increasing body of research into digital interactions (mostly games) and play across a range of age groups, however, very little research ‘focuses specifically on digital games and young children’ (Lieberman, Fisk & Biely, 2009, p. 300). This is significant when we consider the developmental importance of play in the lives of young children. Salonijs-Pasternak and Gelfond (2005) argue that digital play is, perhaps, ‘the first qualitatively different form of play that has been introduced in at

least several hundred years,’ and, ‘it merits an especially careful examination of its role in the lives of children’ (p. 6).

The need to focus on children’s digital play has come to the forefront with young children’s fast increasing access to digital tablet technologies (such as iPads). The integration of digital technologies into reading, writing, and communicating experiences is already a priority for many educators (see for example, Hutchison & Reinking, 2011; Saine, 2012), yet there is still need to examine the role of such experiences within the complex interplay between children’s play activities, educator knowledge and opportunities within learning environments. Tablet technologies are useful, portable and more affordable than other forms of technology (Leoni, 2010). Children’s access to mobile media devices (such as tablet technologies) is dramatically higher now than it was two years ago. Among families with children aged 8 and under, there has been a five-fold increase in ownership of tablet devices – from 8% of families in 2011 to 40% in 2013. At the same time, 79% of Australian children with 5–8-year-olds had access to the Internet. The average amount of time children spend using tablet devices has tripled. In 2011 it was reported that children used these devices for 5 minutes each day, in 2013 this was reported to have increased to 15 minutes each day. Expanded access to devices and the Internet and greater range of app experiences have been cited as reasons for this. (ABS, 2012; Common Sense Media, 2013).

Staggering numbers of apps, self-contained programs or pieces of software, are available for tablet devices. Available apps grow exponentially each month as new products and revised versions enter the market. At the time of writing, the iTunes apps store featured 240 ‘popular’ educational games, with more than half of those targeted at children aged eight and below (<https://itunes.apple.com/au/genre/ios-education/id6017?mt=8>). Parents and educators access educational apps with the intention of engaging children with technology and in the process supporting them with their learning (Chiong & Shuler, 2010).

While we know the importance of play in the early years, we need to ask, why is it then that when it comes to using technology (such as apps on an iPad) to support literacy learning that we move into drill and practise type experiences? The emerging phenomenon of ‘digital play’ largely depends on (and is often restricted by) the actual design of the software (in the case of iPads, the apps). Why is it that apps focused on the constrained skills of language, following drill and practise type design models, dominate the educational market for young children? While literacy was once defined as the

ability to read and write, a set of neutral and objective skills independent of social context or ideology that one was to obtain, we now understand it to be so much more. Literacy extends beyond the acquisition of reading and writing skills and entails the ability to use these skills in a socially appropriate context. Literacy is also evolving to include the skills required to function in a technological society. With this in mind, the apps that we choose to support young children's language learning need to be considered within an expanded definition of literacy in all its complexity and our knowledge of the power and characteristics of play.

### Research design

It is not the intention of this paper to offer critique of apps that exist within the field of education, and more specifically language and literacy and in early childhood. Rather, the paper aims to draw upon captured instances of children choosing to use apps to show how they have playfully engaged with apps and in the process have demonstrated language and literacy learning. These examples have come from observation and interview data. The paper recognises that out-of-school digital literacy practices have relevance to children and young people's lifeworlds (Comber & Hill, 2000; Comber & Kamler, 2004; Livingston, 2002).

As such, the following research questions are examined:

- How do young children use applications on an iPad?
- How can play with applications provide opportunities for language and literacy development?

I draw upon case study research that includes a convenient sample of six families who have one or more children at pre-school age who were invited, and consented, to participate in the study. Children and families selected were readily available and convenient, in that: the family contained at least one preschooler (ie a child aged 3–5 years), they were geographically within an hour to the researcher's institution; and they were willing to participate in the research project. All parents were in their mid-thirties to early forties, and families ranged in size from one to four siblings. The siblings (ranging from newborn to 10 years) were also included in data collection. Demographics of the participating families are summarised in Table 1.

I acknowledge these participants may not be representative of the entire population of young people who are using tablet technologies. It is my intention to use these participants and the research design as an entry point into examining digital play and literacy learning with future intention to take this research into a broader context with a greater emphasis on what 'digitally mediated play' is, and how educators and families

**Table 1. Participant demographics\***

Parents' names	Parents' ages	Children's names	Children's ages /gender
Jane and Andrew Edwards	38, 36	Ronan	3 (male)
Lilian and Ben Brown	42, 43	Richard Kenneth Reese	8 (male) 7 (male) 5 (male)
Julie and George Houghton	41, 40	Zack Frances	7 (male) 5 (female)
Jarrold and Lucy McKenzie	36, 35	Adrian Oliver Luke	5 (male) 3 (male) newborn (male)
Sean and Deanna Torrens	36, 35	Natalie Bianca Laura	7 (female) 6 (female) 3 (female)
Carla and Matthew Williamson	38, 35	Elvira Anita Iris Gary	10 (female) 8 (female) 3 (female) newborn (male)

\* Pseudonyms are used

can effectively and appropriately support this phenomenon as the children move across contexts as literacy learners.

The methods of data collection included observation of the children using applications on tablets (captured by observation and video-recording by both researcher and families) and semi-structured interviews with the parents that were audio-recorded. The interviews were analysed for emerging themes using thematic analysis (Braun & Clarke, 2006). The analysis of video recordings was based on the traditional techniques of child's play observation: the children's speech samples and behavioural episodes were noted, in particular those that indicated their engagement in play (e.g., undertaking the roles of others, variations in labelling situations and objects, interactions with peers and adults about situations of pretend) and evidence of language and literacy learning.

Through these data collection methods, it is understood that the parent(s), the educator(s), peer(s) and the learner mediate digital play and literacy learning in their context. Engaging in this context activates a child's linguistic and socio-cultural toolkit. This, in connection with rich learning contexts provides opportunity for dynamic participation structures and the

strategic use of meditational tools (Gutierrez, 2002).

Using data collected from these six families, five instances of digital play for language and literacy learning are identified and explicated in this paper.

1. Identifying and interacting with Networks through YouTube
2. Exploring artifacts with Digital photographs and iMovie
3. Setting own goals using Pocket Pond
4. Creating and negotiating scenarios with Minecraft
5. Telling Stories using PuppetPals

In each instance of digital play, discussion will be offered about the material artifacts (Fenwick, Edwards & Sawchuk, 2011) that emerged through moments of language learning and development. In doing so, there is acknowledgement that these instances of learning were mediated (by a parent, sibling or peer) and are characterised by 'dynamics of real action' (p. 63) as the relationship between the play activity and the task led the way to realisation. Such an approach acknowledges that the mind is not just an internal phenomenon but an externalised one that is dependent on mediations by external symbols and material artifacts. Each instance of digital play will be connected with developmental phases for play and in the process identify some of the major features of the pedagogic progression for language and literacy learning. While I am connecting these instances to examples from particular children, I'm not suggesting these are age specific and would prefer you to think about the possibilities these examples offer for children at different ages and language ability levels.

### *Identifying and interacting with Networks: YouTube*

Social networks and social supports are seen to be critical in the lives of all people. For children, it is important that they develop understanding of the key players in their social world, the interrelationships between and among these people, and to the connections between these people and the larger societal structure (Belle, 1989). While the social needs of children have been at the forefront of thinking (particularly the relationship between mother and child and more recently father and child), there is need to look too at the more distal connections (including siblings, peers and friends) and a range of contexts to more fully understand the notion of children's social networks and support providers.

Technology has certainly changed the opportunities for social networks for many adults (for example, through social networking spaces such as FaceBook and Twitter). There is need though to more fully

investigate what networks can look like for children in the complex digital environment. Marsh (2010) has been groundbreaking in her exploration of virtual connections children make through virtual worlds (such as ClubPenguin), but more needs to be done in this area of constant change. New social media (such as YouTube) has expanded opportunities for social participation through the thousands of user-generated movies are uploaded daily and millions are shared and viewed daily.

Ronan, a three year old boy who lived in the suburbs of Sydney, enjoyed playing with his train set. Having been invited into his home to watch his play, I was mesmerised by the time he took to set up and orchestrate some complex train manoeuvres. As I watched him play, he talked with me about the trains and he also talked with me about what his friends liked to do with their train sets. Later, when talking with his parents I shared my observations about Ronan and his comments about his friends. At the mention of his friends, his dad began to laugh. Ronan's dad shared with me how when they had first got the train set he was a little unsure about how to put it together. He 'googled' the name of the train set and was able to access a range of YouTube videos that showed what other enthusiasts had done. Ronan viewed these clips with his father. In the time that followed, Ronan asked to rewatch those clips. Seeing how much Ronan enjoyed viewing these, his dad subscribed to Really Simple Syndication (RSS) feeds so they were alerted when that person had added a new clip. It turned out the 'friends' that Ronan had talked with me about were indeed his virtual network that he had connected with through a shared artifact and interest.

While there is significant caution around the quality of online materials, young people and networking through digital technologies (for example O'Keeffe & Clarke-Pearson, 2011), Ronan's example shows a positive connection established through a shared artifact and the talk that surrounds this. Through YouTube, Ronan was able to transcend physical boundaries to connect with people that may very well have been impossible in more traditional networks. The increasingly interwoven role of social media in our everyday lives has also entered the lives of many children, making it increasingly complicated to disentangle 'offline' from 'online' friendships and networks (Meek, 2012) as demonstrated by Ronan.

### *Exploring artifacts: Digital photographs and iMovie*

Vygotsky (1978) argued that in the child's real life, action always dominates over meaning. The substitution of a

real object for a symbol may occur spontaneously in play but it is a crucial practice for development. Sharing play symbols and signs in pretend play with partners is an important part of development.

Children’s interactions with technology and apps have the potential to mirror their interactions with other play materials and include sensorimotor and practice play, make-believe play, and games with rules. Artifacts can serve as symbols for real objects. The relationship between a prop and the object it represents resembles the relationship of a word to its referent. Because both play and linguistic communication share a representational character, play provides children with opportunities to practise forming symbolic relationships. Effective technology use connects on-screen with off-screen activities with an emphasis on co-viewing and co-participation between children and significant others. Digital photographs can help children to save and document their experiences, and with the support of Apps such as iMovie, they can revisit and share their real-life experiences through images, stories and sounds.

Three year old Oliver worked with his brother and mother to enact information he had learned while at his prior-to-school setting. Oliver had had discussions with an educator about how the lemongrass that was growing in the centre’s garden could be used, including making lemongrass tea. At the end of the day, Oliver brought some lemongrass home with him. After sharing his new knowledge of lemongrass tea with his family, Oliver and his brother (Adrian) and mother (Lucy) worked together to do this and enacted a process quite like that of Language Experience (Stauffer, 1970). At each point of the tea-making process a digital photograph was taken. At the end of the experience, Oliver used the photographs to recall the steps taken and recorded an oral annotation to go with each. Table 2 presents an overview of Oliver’s creation.

It generally has been acknowledged that the availability of certain play objects and props will, to some extent, determine the kinds of play in which children engage. For example, Neuman and Roskos (1990) examined the effects of literacy-enriched play opportunities on children’s literacy demonstration and showed that play in the place where literacy acts and artifacts are made available and readily accessible to children is dominated by literacy learning opportunities. Pahl and Rowsell (2010) describe how the sharing of artifacts invites participation in other spaces. It is interesting to note that in this example the artifact came from school and was examined in the home setting. Children’s opportunities for literacy can be enriched through play by providing sufficient, functional, relevant

**Table 2. Oliver making lemongrass tea**

Image	Annotation from 3-year-old Oliver
	<p>I brang some um lemon grass home from my preschool and showed my family how to make tea</p>
	<p>And I cutted it and I asked my brother [name] to help me cut it in</p>
	<p>And that’s all the lemon grass in the tea pot cutted up</p>
	<p>Mummy was pouring in the boiling boiling boiling hot water</p>
	<p>And now its ... and me and [brother] had a little little peek</p>
	<p>And then we drank it.</p>

literacy-promoting play objects and props. Digital technologies (in this case digital photographs and the iMovie app on the iPad) provided opportunity to document the play which in turn created an artifact (the iMovie) to share and reflect upon the play experience.

### *Setting own goals: Pocket Pond*

Imaginative play encourages problem solving and open ended experiences. Johnson and Christie (2009) identified the power of software that provided 'micro worlds' where children had choices to make and explore, and opportunities to follow their curiosity, which resulted in action. Digital experiences that foster these qualities lead to creative play, curiosity and a desire to ask questions in a quest for new information.

Pocket Pond simulates a pond for koi fish (for visual overview see iFish Pond HD, 2010). As soon as the app is launched the user hears soothing sounds akin to a natural water environment. As the user interacts with the iPad screen (by touching and swiping the screen) the water reacts. The fish can be fed by tapping the screen and the user can add and size lily pads, dragonflies and additional fish to the ecosystem. Thunderstorms can be simulated and the user is able to engage with some fishing activity. There is opportunity to network to and visit ponds created by friends. The game has no strict aim, rules or objectives apart from building and changing a pond for koi fish to live in.

Five-year-old Frances was particularly engaged with the Pocket Pond app. Her mother (Julie) described how Frances regularly interacted with the app over weeks as she played with the water, established and moved lily pads around and introduced and looked after an assortment of fish. One afternoon as Frances was playing in their back garden, Julie noticed that she had collected an unused fish tank from under the house and was carefully arranging other objects (including dirt, rocks and greenery from the garden) inside the tank. Julie recalled talking to Frances about this, to which she was informed that Frances was creating her own 'pond' in the garden. Their conversation continued to include the details of the environment Frances was creating, supported by understandings of the experience she had gained while in Pocket Pond (for example, what fish liked to eat, how many was an optimal number for the pond, responses to different weather patterns and design features to support this).

Frances showed that her digital play was a stimulus to 'real' play as she enacted open-ended context through play and creative problem solving. This provides an example of how young children increasingly merge online and offline play as they take their digitally informed experience into their reality (Edwards, 2013;

Marsh, 2010). Her response to the digital play was self-motivated and demonstrated some important learning gains she had made about this ecosystem. The language that she used to describe her actions was grounded in field knowledge of the app and the technical language she had picked up within this. There was a clear understanding of cause and effect in her play and discussion of this.

### *Creating and negotiating scenarios: Minecraft*

During imaginative play, children take on a range of roles and use many cognitive processes. These include making plans and finding ways to carry these out to transform activities from their real objective and objects from their real counterparts to imagined scenarios (Farver, 1992). Children take the initiative and make choices and decisions about the activities in which they will engage, which in turn, foster learning. Whenever children communicate during play, they do so from their own personal context – from their understanding of themselves constructed from their participation in the play. Cazden (2003) tells us that children's problem solving improves in collaboration, as the partners scaffold each other to move into new possibilities.

Verbal communication is focused on children's ability to use speech to communicate meaning (Smilansky, 1968) and also the collaborative skills that are developed as the children reciprocally negotiate roles. While there might be some modelling from adults or peers, children attempt to communicate and integrate their everyday conventional or reconstructed knowledge of the social world with that of their play partners (Farver, 1992; Garvey, 1990). This then begs the question, what does roleplaying look like when digital mediums enter the scenario? What are the opportunities for role play and verbal communication?

Natalie, a seven-year-old girl invited her friend Zack (also seven years old) to her house for a Lego playdate. Natalie's mother (Deanna) shares that the children were set up with the Lego in a room in the house where they could spread out, undisturbed from other siblings. Later, when she went to check on them she found Zack playing with the Lego and Natalie playing Minecraft on the iPad. Expressing her disappointment that they didn't seem to be playing together, Zack clarified the situation by explaining that while he was building with Lego, Natalie was creating that structure using Minecraft and later they would compare and contrast the two representations to look for similarities and differences. And then they would switch. This role play enabled them to explore a similar task from two different contexts.

Minecraft is a game app that allows players to build constructions out of textured cubes in a 3D procedurally generated world. This example shows how play can look different when digital mediums are included. There is reciprocity in sharing peer relations, manipulating artifacts and being an (object) other to oneself and increasingly acknowledging other perspectives. Each presents valuable opportunities for learning for each participant. Within the complex structure created by these children, they were each able to correct each other if they made errors in the 'game'.

The children demonstrated their understanding of the scenarios they set for each other through their actions and their use of vocabulary and set phrases associated with the 'game' they used. Through these interactions, they were able to draw upon their own experiences with the Minecraft app to introduce and consolidate the language of the game as they brought meaning to their physical and digital play artifacts. As such, these peers become a resource for new learning as their experiences and expertise enabled them to enrich the play experience for each other.

### *Telling Stories: PuppetPals*

The stories children choose to tell can cross sites and modalities – they can come about through drawings, models, paintings, gestures and film. Stories are captured moments of meaning making as children share details of their lives, tell their own and other's stories, and recontextualise the experiences they have had (Pahl & Rowsell, 2010). Through storytelling children organise their experiences and express what they know about themselves, other people and their roles within the contexts they interact with (Bruner 1986, Schank 1990). Storytelling for young children begins with conversation and a strong conversational partner to construct stories, often with the manipulation of an object that the story is made up around. As children get older they recount stories on their own as they begin to explore memories or future dreams as they talk about their worlds and contexts as they understand them.

The PuppetPals application is designed to engage the child in the art of puppetry – selecting characters, backdrops (or create their own) and creating scenarios to be acted out. This process can be conceptualised differently by different children – there is no expectation as to how long the play should be, nor is there any specific motivational feedback built into the application. The ability to record, playback and archive puppet shows could be seen as a motivator. The application provides opportunity for the user to engage in imaginative play as they move between backdrops (up to 3) with the characters, as they develop their stories. The application

lends itself to the creation of narratives, through which the characters can experience complication/s that the narrator may work to create and resolve.

While the elements of the puppet show (selecting backgrounds and characters) are quite controlled, the user is able to explore these through their manipulation and oral annotations. The user has control over the selection, timing and pace as they manipulate the characters and backgrounds to fit with the story they develop. While one user best controls this manipulation, there is scope for collaborative decision making around the characters, backdrops and skill development.

Five year old Adrian was given a homework task to complete a check-list (given to him by his teacher) about the living creatures that he could find at his house. Adrian responded to this task by using the Puppet Pals app to create a three minute and twenty six second presentation about creatures in his backyard which he entitled '[name] backyard safari'. Table 3 captures the script he created and still shots from the presentation to profile the key movements within the visual component.

The presentation Adrian created demonstrates his awareness of information needed to respond to the task. His deviation away from completing the checklist he was provided, demonstrates his ability to transform the task in quite a playful way using technology to support this. His story is a representation of how he recontextualises his home context and he moves between informative and narrative structures as he gives information while also connecting it to his personal experiences. Adrian has created a product with a likeness to a house and garden television program demonstrating his awareness of and experience with popular culture, and his ability to include narrative structures other than his own in his story (Shuman, 2007).

### *Digital play to foster literacy learning*

Digital play (in the case of this paper, using apps on an iPad), has the potential to enrich play and offer opportunity for language and literacy learning. Apps – and children's playful interactions with these – can help to enact expanded definitions of literacy as children use their developing repertoire of language resources for meaningful purposes. Digital play with carefully selected apps, can provide active, hands-on, engaging and empowering learning opportunities. Apps can facilitate versatility in children's literacy experiences by providing opportunities for reading and writing, and to listen and communicate, through a range of scenarios and activities. As such, it can be argued that purposeful and meaningful literacy learning can be enriched through digital play when it is nested within authentic contexts and characteristics of play are activated.

**Table 3. Adrian's backyard safari**

	This is Adrian. I'm going to tell you some creatures that live down on the ground in my backyard. Some of the cutest, creepiest, scariest animals in my backyard.		Hi it's me again. Now I'm talking about things that live in the air. Now you're going to see some things.
	We've got bluey over here. He's a blue tongue lizard. He's very shy. So, make sure you don't run at him.		Now you've got this bird. This is a Rosella. It's a bad boy and it's cheeky. I think this is its cousin, a Rainbow Lorikeet. They're both cheeky because they eat up all our plants. So we'll leave them over here. So we can keep them over there so it's like they're eating the our plants.
	And now here we've got a cricket. Now we often find them in our cubby house so we'll put him over here.		So we've got this cockatoo the black ones and the white one. They're very rare – these black ones and the white ones are very noisy. So we have to close the door when they come past. I think they come past at half past five.
	And we've got a frog. Now we find them when we're mowing the lawn in the wet grass. And they're usually on the grass, that's where we find them.		So, now we've just got the butterfly. Now I've got a butterfly net and I try to catch some but these are really hard to catch.
	Now I've got a huntsman. Here's a huntsman. Let's put him over here cause they live under the house. And a cricket. We've got Christmas beetles. Let's put them over where the spider lives.		And bye bye and thank you for listening about my afternoon in my back yard. I hope you were interested.
	Also we've got caterpillars eating all our cauliflowers. They're very cheeky. And they always every single day and night we always find them. Watch out for them in your garden!		
	These are everything that live in my back yard on the ground.		

Apps have the power to provide challenging yet authentic experiences, sophisticated and abstract artifacts for the child to use and manipulate, all with scaffolded support to achieve success. What is interesting in this paper, is that none of the apps I have profiled in these five examples have been specifically designed to focus on language and literacy learning and development. Instead, the examples show how children playfully seek self-initiated, self-regulated opportunities

that are supported within the contexts they are operating within. This is a reminder that literacy extends beyond the acquisition of reading and writing skills. Engagement with technology through digital play provides opportunity for children to activate literacy processes in socially appropriate contexts.

As educators we routinely differentiate between home, prior to school, school and community contexts. We need to think about the digital environment as yet

another context that can mediate across settings – imagine if the apps we used in the classroom were the apps they used at home and vice versa! Many artifacts move across contexts for children – a homework task, the objects children engage with, the story structures they use – the use of apps to capture and mediate such experiences provides powerful literacy experiences. Fostering literacy learning, then, depends heavily on willingness to firstly acknowledge, then facilitate contexts for interacting and learning where the child is able to take control.

Digital play should be playful and support creativity, encourage exploration and activate real-world connections. Mobile, multi-touch screens of tablet technologies have changed the way the youngest children interact with images, sounds and ideas (Buckleitner, 2011). Shared joint attention, language rich interactions with lots of opportunities for responsive and attentive interactions between the child and significant others, are imperative. Young children need opportunities to engage with these technologies where they control the app, direct the outcome of the experience, explore the tools within the app, and make real life connection. Such opportunities can be highly beneficial to children's literacy development and provides a supportive context for language learning. What is critical though, is considered and judicious choice and use around the apps children use. All screen interactions are not created equal. Digital technology has expanded in scope beyond linear, non-interactive media to include interactive options. The selection of apps in recognition of this, can provide powerful play and language learning opportunities for children. The five examples discussed in this paper show what children can do and initiate themselves in the name of play with the support of others (both adults and peers) and opportunity, as they mediate their own literacy learning contexts. As educators we need to make informed choices that maximise learning opportunities for children.

Play is important for literacy learning because when children are in control of an interaction, they are engaged. Children speak about, and listen to, and engage with, what they are interested in. If they are interested, they don't need to shift their attention. A child is more likely to engage with literacy processes and learn language features when they are playing within their area of interest. For play to be powerful, the child needs to lead it. An app that moves children through a script, asking them to perform actions within that script, does not count as play. Think about the myriad of vocabulary building, spelling, phonics apps that exist. How playful are these? What opportunities for language and literacy learning are offered?

Digital play sets a child up to engage with literacy processes because the child is deeply involved in the play situation. With understanding of developmental phases and key characteristics for play, we are able to identify some of the major features of the pedagogic progression for language and literacy learning through digital play. A good app can inspire, encourage and extend children's literacy and language development. How children spend their time with the app is critical. Passive use of technology and any app is an inappropriate replacement for active play, engagement with other children, and interactions with adults. Examination of children's digital play presents new opportunities for us as educators to support, inform, reform, or transform the literacy experiences we encourage children to participate with.

### Acknowledgement

I would like to acknowledge Irina Verenikina and her expertise in play and Jessica Mantei and her expertise in literacy. I collaborate with both colleagues regularly and their expertise continually shapes my understandings. I would also like to acknowledge support from the Australian Research Council under Discovery Grant DP140100328 (Conceptualising digital play: The role of tablet technologies in the development of imaginative play of young children).

### References

- Australian Bureau of Statistics (2012). Children's Participation in Cultural and Leisure Activities: Internet and Mobile Phones. Retrieved from <http://www.abs.gov.au/ausstats/abs@nsf/Latestproducts/4901.0>
- Australian Curriculum, Assessment and Reporting Authority (2015). F-10 Curriculum: General Capabilities, Literacy. Retrieved from <http://www.australiancurriculum.edu.au/generalcapabilities/literacy/introduction/introduction>
- Belle, D. (Ed.). (1989). *Children's social networks and social supports* (Vol. 136). New York: John Wiley & Sons.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77–101.
- Bruner, E.M. (Ed.). (1986). *The anthropology of experience*. Chicago: University of Illinois Press.
- Buckleitner, W. (2011). The children's e-book revisited. *Children's Technology Review*, 19(1), 6–10.
- Cazden, C.B. (2003). Sustaining indigenous languages in cyberspace (pp 53–57) In J. Reyhner, O. Trujillo, R.L. Carrasco & L. Lockhard (Eds.). *Nurturing Native Languages*, Flagstaff: Northern Arizona University.
- Chiong, C., & Shuler, C. (2010). Learning: Is there an app for that. In *Investigations of young children's usage and learning with mobile devices and apps*. New York: The Joan Ganz Cooney Center at Sesame Workshop.
- Comber, B., & Hill, S. (2000). Socio-economic disadvantage, literacy and social justice: Learning from longitudinal case study research. *The Australian Educational Researcher*, 27(3), 79–97.
- Comber, B., & Kamler, B. (2004). Getting out of deficit: Pedagogies of reconnection. *Teaching education*, 15(3), 293–310.

- Common Sense Media (2013). Zero to Eight: Children's Media Use. Retrieved from <https://www.commonsensemedia.org/research/zero-to-eight-childrens-media-use-2013>
- Department of Education, Employment and Workplace Relations. (2009). Belonging, being & becoming: The early years learning framework for Australia. Retrieved from <http://foi.deewr.gov.au/node/2632>
- Dyson, A.H. (1993). *Social worlds of children: Learning to write in an urban primary school*. New York: Teachers College Press.
- Edwards, S. (2013). Digital play in the early years: a contextual response to the problem of integrating technologies and play-based pedagogies in the early childhood curriculum. *European Early Childhood Education Research Journal*, 21(2), 199–212.
- Farver, J.A.M. (1992). Communicating shared meaning in social pretend play. *Early Childhood Research Quarterly*, 7(4), 501–516.
- Fenwick, T., Edwards, R., & Sawchuk, P. (2011). *Emerging approaches to educational research: Tracing the socio-material*. London: Routledge.
- Garvey, C. (1990). *Play* (Vol. 27). Cambridge, MA: Harvard University Press.
- Grieshaber, S. (2008). Interrupting stereotypes: Teaching and the education of young children. *Early Education and Development*, 19(3), 505–518.
- Gutiérrez, K. (2002). Studying cultural practices in urban learning communities. *Human Development*, 45(4), 312–321.
- Harste, J.C. (1990). Inquiry-based instruction. *Primary Voices*, K–6, 1(1), 3–8.
- Harste, J.C. (2003). What do we mean by literacy now. *Voices from the Middle*, 10(3), 8–12.
- Hart, B., & Risley, T.R. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore, MD: Paul H Brookes Publishing.
- Heath, S.B. (1983). *Ways with words: Language, life and work in communities and classrooms*. Cambridge, UK: Cambridge University Press.
- Hutchison, A., & Reinking, D. (2011). Teachers' perceptions of integrating information and communication technologies into literacy instruction: A National Survey in the U.S. *Reading Research Quarterly*, 46(4), 308–329.
- Johnson, J.E., & Christie, J.F. (2009). Play and digital media. *Computers in the Schools*, 26(4), 284–289.
- Leoni, E. (2010). Apple's announcement of the new iPad: How will it affect education? Retrieved from <http://www.edutopia.org/apple-ipad-education?page=1>
- Lieberman, D.A., Fisk, M.C., & Biely, E. (2009). Digital games for young children ages three to six: From research to design. *Computers in the Schools*, 26(4), 299–313.
- Lillard, A.S., Lerner, M.D., Hopkins, E.J., Dore, R.A., Smith, E.D., & Palmquist, C.M. (2013). The impact of pretend play on children's development: A review of the evidence. *Psychological Bulletin*, 139(1), 1.
- Livingstone, S. (2002). *Young people and new media: Childhood and the changing media environment*. Thousand Oaks, CA: Sage.
- Marsh, J. (2010). Young children's play in online virtual worlds. *Journal of Early Childhood Research*, 8(1), 23–39.
- Marsh, J., & Hallet, E. (Eds.). (2008). *Desirable literacies: Approaches to language and literacy in the early years*. Thousand Oaks, CA: Sage.
- Meek, D. (2012). YouTube and social movements: A phenomenological analysis of participation, events and cyberspace. *Antipode*, 44(4), 1429–1448.
- Neuman, S.B., & Roskos, K. (1990). Play, print, and purpose: Enriching play environments for literacy development. *The Reading Teacher*, 44, 214–221.
- O'Keeffe, G.S., & Clarke-Pearson, K. (2011). The impact of social media on children, adolescents, and families. *Pediatrics*, 127(4), 800–804.
- Pahl, K. & Rowsell, J. (2010). *Artifactual Literacies: Every Object Tells a Story*. New York: Teachers College Press.
- Saine, P. (2012). iPods, iPads, and the SMARTBoard: Transforming literacy instruction and student learning. *New England Reading Association Journal*, 47(2), 74.
- Salonius-Pasternak, D.E., & Gelfond, H.S. (2005). The next level of research on electronic play: Potential benefits and contextual influences for children and adolescents. *Human Technology: An Interdisciplinary Journal on Humans in ICT Environments*, 1(1), 5–22.
- Schank, R.C. (1990). Tell me a story: A new look at real and artificial memory. New York: Charles Scribner's Sons.
- Shuman, A. (2007). Entitlement and empathy in personal narrative. In M. Bamberg (Ed.), *Narrative: State of the art* (pp. 175–184). Amsterdam: John Benjamins.
- Smilansky, S. (1968). The effects of sociodramatic play on disadvantaged preschool children. New York: John Wiley and Sons, Inc.
- Siraj-Blatchford, I. (2009). Conceptualising progression in the pedagogy of play and sustained shared thinking in early childhood education: A Vygotskian perspective. *Educational and Child Psychology*, 26(2), 77–89.
- Stauffer, R.G. (1970). *The Language-Experience Approach to the Teaching of Reading*. New York: Harper & Row, Publishers Inc.
- UNICEF (2009). New York: UNICEF; 2009. The State of the world's children. Retrieved from, <http://www.unicef.org/sowc/>
- Verenikina, I., Harris, P. & Lysaght, P. (2003). Child's Play: Computer Games, Theories of Play and Children's Development. In Wright, J., McDougall, A., Murnane, J. & Lowe, J. (Eds.). *Young Children and Learning Technologies*. (99–106). Retrieved from, [crpit.com/confpapers/CRPITV-34Verenikina.pdf](http://crpit.com/confpapers/CRPITV-34Verenikina.pdf)
- Verenikina, I., Herrington, J., Peterson, R., & Mantei, J. (2010). Computers and play in early childhood: Affordances and limitations. *Journal of Interactive Learning Research*, 21(1), 139–159.
- Verenikina, I. & Kervin, L. (2011). 'iPads, Digital Play and Pre-schoolers,' *He Kupu*, 2, (5) Retrieved from <http://www.hekupu.ac.nz/index.php?type=journal&issue=15&journal=262>
- Vygotsky, L.S. (1978). *Mind and society: The development of higher mental processes*. Cambridge MA, London: Harvard University Press.

---

**Lisa Kervin** is an Associate Professor in Language and Literacy in the Faculty of Social Sciences at the University of Wollongong. Lisa is an experienced primary school teacher (particularly in the early years of school) and has held literacy consultancy roles. At UOW, Lisa is an active member of the Early Start Research Institute. Lisa's current research interests are focused on young children and how they engage with literate practices.