The implications of young children's digital-consumerist play for changing the kindergarten curriculum

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Cultural-historical theory makes claims about the place of play in children's development and its relationship to epoch-typical forms of development. This paper reports from a study that is attempting to understand the changing developmental context for young children in digital-consumerist cultures and the consequences of this for kindergarten curriculum. Five children from kindergartens in Melbourne, Australia, were videotaped engaging with a series of artefacts on a continuum from traditional/generic through to digital-consumerist. The children were found to engage with the artefacts in ways that are largely consistent with existing perspectives on play. However, problem-solving predominated with the traditional toys, whilst children's pre-existing knowledge was much more apparent in consumerist and digital-consumerist play. The paper concludes that teachers need to incorporate changing understandings about the potential of digital-consumerist artefacts to enhance play in early childhood education into their curriculum decision-making, thereby contributing to changes in the culture of kindergartens and in children's general cultural formation.

Keywords: Play, digital technologies, consumption, cultural-historical theory.

Introduction

A central claim of cultural-historical theorising about children's development is that different points in time create different generational contexts for development (Davydov, 1982). In contemporary advanced economies, this changing developmental context is represented by the rise of digital media and enhanced models of consumption (Rideout, Foehr & Roberts, 2010; Marshall, 2010). Many children are now born into social and cultural contexts where they typically engage with digital technologies. These technologies interface with multiple media platforms that support the consumption of items associated with popular culture, such as games, television shows and associated products (Calvert, 2008). Traditionally, children's engagement in cultural contexts has been examined with the aim of understanding how their play orientates them to their cultural worlds and provides opportunities for practicing adult orientated roles and skills (Japiassu, 2008). However, the development of digitised contexts has shifted this focus so that children's play is increasingly understood as immediate and includes direct participation within digitised media alongside more traditional play practices, such as dramatic play and modelling adult behaviours (Edwards, 2011).

Teachers in early childhood education settings, including pre-schools, kindergartens, and child care centres, have a key role in constructing and maintaining contemporary contexts for development, and therefore in the production and re-production of cultural understandings (Dumais, 2006). In our present research, we are particularly interested in early childhood teachers' understanding of the concept of 'play' as a fundamental mediator of their decision-making about the early childhood curriculum. 'Play-based curriculum' remains the cornerstone of early childhood education in many Anglophone and European early childhood contexts, including Australia (Ailwood, 2010), and is often used as the foundation for curriculum planning and decision-making. Internationally, the field has a strong commitment to the use of play as a basis for curriculum provision and for supporting children's learning (Yelland, 2011). For example, cur-

riculum documents including those from New Zealand (Ministry of Education, 1996), Finland (Ministry of Social Affairs and Health (2004); Singapore (Ministry of Education, 2003), the United States of America (National Association for the Education of Young Children, 2009), England (Department for Education, 2012), and Australia (Department of Education, Employment and Workforce Relations, 2009) all reference the role of play in children's learning and promote the use of play as basis for curriculum. What teachers consider to be 'play' or 'not play' therefore guides their decisions about the materials and experiences they will make available to children in kindergarten, including drawn from children's contemporary contexts, such as digitised media and the consumption of trademarked toys.

An example of this type of decision-making was observed by one of the authors in an Australian kindergarten when a child brought along her Barbie™ doll. The child showed the doll to her teacher, who spent some minutes looking at the doll and talking to the child. The child was then asked to return the doll to her bag as the teacher did not necessarily consider the Barbie doll as an appropriate basis for 'play' within her understanding of early childhood curriculum. In our work we are interested in children's play across a continuum from traditional (i.e. generic, un-branded) toys for play, through the use of trademarked (i.e. branded, consumer) toys for play, to experiences on digital devices (i.e. apps based on digitally mediated and trademarked characters) (Edwards, forthcoming), and understanding how teachers' negotiate this continuum in their curriculum decision-making. In the case of Barbie, this continuum would include a traditional doll, a Barbie™ doll, and the Barbie™ I Can Be™ app for the iPhone™ or iPad™. In order to understand how teachers make decisions about the kindergarten curriculum, we need to understand how they make sense of children's experiences in contemporary digitised contexts and whether they see these as a legitimate basis for curriculum construction. Our aim is not to determine whether teachers are making 'correct' decisions about play; instead, we are trying to understand how they connect children's experience of their digital-consumerist world with how they construct and mediate the kindergarten curriculum. This challenge acknowledges the considerable power teachers have to determine the formation of culture, both within and beyond the kindergarten walls.

In this paper we report on the first phase of our research into this question. In this phase, we have begun by looking closely at how actually children engage with artefacts across the continuum of traditional to digital-consumerist artefacts. We begin by outlining the key theoretical assumptions informing our work, drawn from cultural-historical theory and the literature about childhood consumption in digitally mediated social contexts, before turning to the study's design and findings so far.

Cultural-historical theory and the study of digital-consumerist contexts for child development

This study draws on the work of Vygotsky (2004), Davydov (1982), and Kravtsova (2006), who have theorised the relationship between children's social and cultural experiences, development, and play. Davydov (1982) argued that different points in time create different generational contexts for children's development. Cultural-historical theory explains this by showing how the social and cultural tools of a community develop over time; then, as children grow into the use of the tools and subsequently transform these tools as adults, they contribute to the ongoing construction of the community itself. In contemporary 'advanced' economies such as Australia, the changing context for children's development is most clearly seen in the rise of digital media and enhanced models of consumption (Rutherford, Bittman & Biron, 2010). This means that young children are now born into social and cultural contexts in which digital technologies, and the consumption of digital media and popular culture through these technologies, are increasingly typical cultural behaviours (Plowman, Stevenson, Stephen & McPake, 2012).

The second important cultural-historical argument influencing this study concerns the relationship between typical cultural behaviours, development, and play. Japiassu (2008) argues that the acquisition of cultural behaviours and knowledge occurs through the interpretative process of play (p. 385). This aligns with Vygotksy's (2004) ideas about imagination being a psychological function that allows children to connect play and reality (p. 15). In other words, children draw on their experiences of the culture to inform their play. Play is important in the early years because, according to a cultural-historical perspective, it is directed towards children's development: as children become better at play, they expand their access to the opportunities for social interaction and engagement that are necessary to support their development (Duncan & Tarulli, 2003). This claim is described by Kravtsova (2006) as 'changing the child's social situation of development through the mastery of play as a leading activity' (p. 14). Kravtsova (2006) also argues that a child has mastered play when they are able to talk about what they are doing and that it is through this talk (usually with adults) that the social situation is expanded. This expanded social situation increases the child's access to the social and cultural tools of the community and, in turn, supports further development. A cultural-historical perspective therefore argues that play is directed towards development rather than being the *cause* of development. These two ideas from cultural-historical theory explain how change can occurs across generations: children use the social and cultural tools they acquire through mastery of play to create the context that informs the next generation (Edwards, 2010). Within a cultural-historical

perspective, tools are understood not just as physical artefacts, such as computers and other digital technologies, but also the psychological tools children learn to use and adapt, such as language, and culturally valued concepts represented through language and practice, such as 'play' (Aronsson, 2010; Plowman, McPake & Stephen, 2010). Understanding the speed with which social and cultural tools have changed in recent years — and what this means for the play experiences of today's children — is essential if teachers are to respond to these changes within the early childhood curriculum.

The rise of digital technologies is not the only feature of these changes. A second fundamental change has been the emergence of consumerism as a dominant economic model following the end of World War Two (Paterson, 2006). During this period, children were identified as an important growth market for the consumption of 'specialised' children's goods such as clothing, toys and food (Chudaroff, 2011). In the last two decades, these two strands of change have come together as childhood consumption has become *integrated* with the use of digital technologies (Cross, 2010). These technologies have provided platforms for sophisticated forms of marketing through television, DVD's, mobile devices and the internet. Children's television programs have been developed, cross-promoted, and marketed so that young children are able to watch particular shows, purchase products and toys associated with the programs, and participate in various digital activities connected with a character from the show (Edgar & Edgar, 2008). This has resulted in what some researchers suggest is an unprecedented developmental context for young children and their play (Goldstein, 2011; Kirkorian, Wartella & Anderson, 2008). Daniel Cook (2005), a pre-eminent scholar in the area of childhood sociology and consumption, argues that:

The world of consumption and marketplaces represents a key and absolutely necessary site for the study of childhood — as well as for social action — precisely because it disrupts even the most generous of conceptions of children and the locus of power. To keep consumption, popular culture and [digital] media culture separate and distant from children and childhood in our studies and undertakings is to reaffirm a vision of social life disconnected from lived experience (p. 158).

Such arguments raise important questions about the nature of young children's play in terms of their use of digital technologies and their interest in consumer-based toys such as Barbie™ dolls or Thomas the Tank Engine™ train sets. These questions raise, in turn, challenges for how teachers understand children's contemporary play, both within the kindergarten and in home contexts, and how they incorporate these understandings into their curriculum decision-making. We return to this point at the end of the paper. We turn now, however, to the design and findings of the first phase of the present study.

The study design

Five children (all boys) from three suburban kindergartens in south-east Melbourne, Australia, participated in the study. Two of the boys were aged five years, two were aged four years and one was three years old. Teachers from three kindergartens were invited to participate in the project through their local City Council. Each of the teachers then invited families from each centre to participate. Some families declined to participate, and data from two participants is not presented in this paper. These were a female child whose level of participation suggested she was not providing assent to participate and whose data was consequently deleted at the time of collection, and a male child whose engagement with the generic and consumer-based artefacts was too limited to warrant inclusion. Data collection was conducted with teacher and parent consent and included the consent of each of the children (Harcourt & Conroy, 2011).

Each child was invited to use either a farm set or a train set. They were then given a set of plastic farm toys or a wooden train set, according to their choice. One boy chose the farm set, whilst the others each chose the train set. The children were invited to show a researcher how they used the set, while a second researcher filmed the introduction. A series of pre-scripted questions were asked during the children's engagement with the artefacts. A third researcher also engaged with the children during the filming, and the researcher asking the scripted questions also participated in non-scripted conversations with the children. Three of the children were videoed individually, whilst two boys who were brothers were filmed together. Videoing occurred either in a room adjacent to the children's main kindergarten room or within the main room at a time when the kindergarten was closed to other children.

When the children indicated they had tired of using the generic artefact they were provided with a thematically related consumer artefact. For the child using the farm set, this was a Peppa Pig™ figure and some of her fellow characters from the Peppa Pig™ television program (currently the highest-grossing children's television program in the world; see Andrews, 2010). Children who selected the train set were given a set of Thomas the Tank Engine ™ trains and railway track. Again, the children were invited to show the researchers how they used the artefacts and their engagement was videorecorded as both researchers interacted with the children. When the children indicated they had finished using these artefacts, they were provided with the final artefact. This third artefact was in the form of thematically-related application software (i.e. an 'app') pre-loaded onto an iPad™. These included the Peppa Pig Happy Mrs Chicken™ app and the Thomas and Friends: Engine Activities™ app. If the children lost interest in the app after a few minutes, they were invited to explore other apps on the iPad™ to sustain their engagement with digital artefacts for at least 15 minutes. Three of the children used more than one app. Table 1.0 summarises the gender, age, and range of artefacts engaged with across the continuum, for each child.

Table 1

Gender, age and selected artefacts across the continuum engaged with by the participating children

Child	Gender	Age	Generic	Consumer	Digital
Ethan	Male	4	Farm set	Peppa Pig stuffed toy and Peppa's friends and brother stuffed toy	• Peppa Pig Happy Mrs Chicken
Tom	Male	4	Train set	Thomas the Tank Engine trains and track	• Thomas & Friends: Engine Activities
Jacob	Male	5	Train set	Thomas the Tank Engine trains and track	• Thomas & Friends: Engine Activities • Cranky's Story
Maxwell	Male	5	Train set	Thomas the Tank Engine trains and track	• Thomas & Friends: Engine Activities • Peppa Pig Happy Mrs Chicken • Cranky's Story
James	Male	3	Train set	Thomas the Tank Engine trains and track	• Thomas & Friends: Engine Activities • Peppa Pig Happy Mrs Chicken • Cranky's Story

Approach to data analysis

Our purpose in videotaping the children's engagement with each artefact was to generate data that would allow us to examine what characterised their play across the continuum from traditional to digital-consumerist artefacts. For this reason, analysis of their engagement focused on coding what they did with each artefact and the range of commentary they provided in response to the interviewer's questions and conversations. This reflects a cultural-historical orientation to children's play, in which play is understood to be socially mediated with adults via both language and action (Bodrova & Leong, 2006). The development of codes involved three steps, including: generating the code; reviewing, revising and inductively deriving additional codes in context of the data; and determining the reliability of coding (DeCuir-Gunby, Marshall, & McCulloch, 2011).

For step one, three of the researchers met to discuss and determine the deductively derived codes (Patton, 2002) based on initial review of the data and observations made in the field. The researchers challenged each other's perspectives and interpretations in order to create initial codes that were conceptually meaningful and relevant to the data. These included characteristics of play such as flexibility, interaction, and affect (Smith & Pellegrini, 2008; Vygtosky, 2004). During step two, these initial codes were modified and additional codes were inductively derived and revised (Thomas, 2006) by one researcher using transcriptions of the children's engagement with the artefacts. The modification of the deductively derived codes and identification of additional codes within the transcripts was conducted simultaneously against the videorecordings, to ensure accuracy of interpretation and inclusion of children's and interviewer's actions alongside the spoken (transcribed) language. This meant adding descriptions about the children's and researcher's physical activity to the transcripts (reported in this paper in italics in the brackets following transcribed speech). Step three involved a second researcher reading through the transcripts, using the established codes generated during step two, to further identify instances in the data that characterised the children's engagement with the artefacts. This resulted in two sets of coded data, which were then used to establish inter-observer reliability regarding what constituted each identified code.

Data identified by both researchers as characterising the children's engagement with the artefacts was then thematically grouped into two broad categories: 1) actions supporting children's direct engagement with the artefacts; and 2) behaviours associated with the children's use of the artefacts. The 'direct engagement' category included a range of characteristics that enabled the children's *interaction with the artefacts in ways that seemed to support meaning making*, such as reasoning, narrative, imagination and the expression of pre-existing knowledge. The second category included *characteristics that were orientated towards the expression of behaviours made possible because of the opportunity to use the artefact*, such as humour and effect (emotion). A frequency count was conducted to determine the number of episodes of each sub-characteristic that appeared in the transcripts and the descriptions of the children's physical activity (Cohen, Morrison & Manion, 2007). The sub-characteristics with the highest counts were then collated in relation to each artefact, to determine which descriptors of play applied to each artefact.

Findings

Table 2.0 provides the definitions for each sub-characteristic and the frequencies with which each was identified in relation to the three artefacts. The findings suggest that the children's play across the continuum was characterised by forms of engagement and behaviours that are largely consistent with existing perspectives on play. For example, imagination, problem- solving, and narrative are included in Vygotsky's description of the role of combinatorial activity in play (Vygotsky, 2004). Construction, mathematical knowledge, and exploration feature in constructivist accounts of the relationships between play and learning (DeVries, et al., 2002),

Table 2

Definitions and frequencies for each sub-category

CATEGORY 1: DIRECT ENGAGEMENT WITH ARTEFACTS				CATEGORY 2: BEHAVIOUS ASSOCIATED WITH USING ARTEFACTS			
Characteristic	**Generic**	**Consumer**	**Digital**	**Characteristic**	**Generic**	**Consumer**	**Digital**
Imagination: Reconstructing or reinterpreting existing situation	9	13	3	Affect: Displaying emotions or expressing feelings	4	4	17
Narrative: Providing an account of connected events; signification of storyline and least two narrative points that are sequential but not necessarily consecutive	6	15	17	Wondering: Demonstrating a curiosity to know something	0	3	6
Reasoning: Understanding, forming judgements using logic	4	19	16	Humour: Appreciating or expressing enjoyment	6	8	10
Problem-solving: Identifying a problem; seeking to over problem	10	5	9	Construction: Building something using at least two components or elements	6	3	12
Strategizing: Adopting a strategy (or more than one) to achieve a goal	0	0	20	Mathematical knowledge: Demonstrating an ability to recognise number, size, shape and space	4	1	19
Metacognition: Evaluating and monitoring engagement with artefact	0	0	14				
Exploration: Examining and nvestigating the unfamiliar	0	6	14				
Knowledge: Expressing pre-existing knowledge and familiarity	6	48	47				

whilst strategizing, reasoning, and wondering are considered typical aspects of children's play that are often also associated with learning (Isenberg & Quisenberry, 2002). Humour and affect are characteristics of play identified by Broadhead, Howard and Wood (2010) as emerging from participation in the play situation itself. In this respect, the nature of the children's play across the continuum suggested that existing perspectives about play can be drawn on to understand the nature of the children's engagements with each artefact.

However, these perspectives have been typically used to describe what was represented in our study as play with generic/traditional artefacts and have only recently been used by scholars to understand digital play (Verenkina & Kervin, 2011), with slightly less focus on consumer play (Ironico, 2012) Interestingly, the sub-characteristics with the highest counts appeared first in digital-consumerist play, followed by consumer play, with generic play having only 'problem-solving' as its highest ranked sub-characteristic. This suggests that nine of the sub-characteristics of play were associated with using the digital-consumerist artefacts and three with the consumer artefact.

Pre-existing knowledge was apparent in both consumer and digital-consumerist play at a higher rate than generic play. Transcript data of the children's actions and dialogue using these artefacts shows them engaged in discussion and self-talk regarding the characters, and reporting on their knowledge of typical storylines associated with the characters, their previous experiences using touchscreen technologies, and familiarity with the selected apps. This knowledge, discussion, and self-talk tended to be associated with opportunities for the children to engage with the artefacts in ways that promoted characteristics of play such as imagination, narrative and affect more frequently than play with generic artefacts, which appeared to prompt only problem-solving. In the next section we draw on the qualitative data for one of the participants (Jacob) to examine the nature of his play across the continuum to show how pre-existing knowledge connected with a greater range of characteristics in his consumer and digital-consumerist play than in generic play.

Table 3

Collation of highest frequencies for each sub-characteristic according to artefact

	Generic	**Consumer**	**Digital**
Sub characteristic	Problem-solving (10)	Knowledge (48) Reasoning (19) Imagination (13)	Strategizing (20) Mathematical knowledge (19) Narrative (17) Affect (17) Metacognition (14) Exploration (14) Construction (12) Humour (10) Wondering (6)

Generic, consumer and digital-consumerist play: the role of pre-existing knowledge

The findings summarised above suggest that generic play was characterised only by problem- solving, whereas consumer and digital-consumerist play included other characteristics such as affect, exploration, reasoning, and strategizing. This was the case for Jacob, whose use of the generic train set showed him engaging in problem-solving. Problem-solving is a highly valued disposition in early childhood education and is often used to justify the role and use of play in the early childhood curriculum (see Department for Education, 2012; Ministry of Education, 2003). In this study, the children's problem solving during generic play was focussed on difficulties they encountered when trying to build the train track or working out how to establish the fences for the farm set. For example, Jacob (aged 5) was recorded trying to work out how to make two ends of the track connect:

Jacob: Is there another way to get, is there a way to get this track on? (*Jacob realises that he has two track pieces with ends that do not fit together. He attempts to find a place for one of the pieces by breaking up two of his connected track pieces and placing the first piece between them — only to realise that he has the same problem of two ends that won't connect. Jacob tries again at another location along the track and finds he has the same problem*).

Jacob was also recorded problem-solving when he attempted to connect two halves of a bridge, and when he realised that his track had bumped up against a cabinet so that he lacked room to continue building:

Jacob: maybe if I did that ... (*Jacob realises he can place the half bridge with the other half to complete the bridge). There's no more room for this* (*Jacob realises there is a problem because there is not enough space on the floor as the track gets longer*)

After finalising his track and demonstrating how the engine pulled the carriages along the track, Jacob made an immediate connection to consumer play. Without prompting by the researchers, he began to discuss Thomas the Tank Engine™, telling the researchers that the 'other engines' have 'eye[s], numbers and names'. When invited to use the consumer artefact, Jacob participated in a highly detailed recount and discussion of Thomas the Tank Engine™. He provided information regarding: the name, colour, number, and personality of each engine; discussed how they lived on the Island of Sodor™; and was able to the explain the Fat Controller's™ role in caring for the engines. He described the relationships between the different engines and also talked about their typical activities. This discussion occurred as he manipulated the tracks and preceded a period of imaginative play, during which he re-enacted a typical Thomas the Tank Engine™ scenario, drawing on his knowledge of the characters:

Jacob: when it is bedtime, Thomas goes in (*Jacob slides the small wooden Thomas the Tank Engine™ into the shed*). Shh (*whispering*) It is bedtime. Now it is time to wake up

Interviewer 1: oh it is wake up time. Can we be loud again?

Jacob: Ding, ding, ding

Interview 1: This one seems to be asleep

Jacob: Yes.

Interviewer 1: And that one too?

Jacob: Thomas is ill today, so Henry has to take his train

Interviewer 3: poor Thomas is ill?

Jacob: Yes. He has to go the shed and we are staying (*Jacob pushes Thomas back into the shed to be made well and moves Henry on to the tracks. He pushes Henry quickly down the track and he slams into some carriages*) Boom! Thomas can get out and rescue (*Jacob slides Thomas out of the shed and pushes him down towards Henry and the carriages*)

Interviewer 2: Thomas to the rescue. What is that? What is Thomas doing?

Jacob: He is rescuing them with a hook (*Jacob tilts Thomas towards Henry and then lifts Henry back onto track*)

Jacob's existing knowledge of Thomas the Tank Engine™ meant he was able to do more with the engines than simply push them along the track in the way he did with the generic train. The generic artefact provided opportunities for problem-solving in relation to the construction of the actual track; the consumer artefact, however, carried a history of meaning and prior experience that Jacob was able to discuss and then draw on to inform his imaginative play. Vygotsky (2004) discusses this in terms of combinatorial activity, and argues that 'rich' and 'varied' experiences are drawn on by children to feed their play (pp. 14—15). Such play then becomes an expression of the cultural context in which this 'richness' and 'variety' were first experienced. For Jacob, this included talking about trademarked engines he had home, his viewing of different Thomas the Tank Engine™ episodes, the inclusion of the Thomas the Tank Engine™ trains in the kindergarten train set, and his familiarity with a Thomas the Tank Engine™ movie. Jacob differentiated between the generic and consumer artefacts and suggested it was better to play with Thomas because the 'normal' trains do not have eyes or mouths and so cannot talk. Jacob's experience of Thomas as a talking engine with greater potential for action meant that, for him, Thomas trains 'were better' and 'everyone likes Thomas'.

Jacob's familiarity with Thomas the Tank Engine™ was also evident in his use of the digital-consumerist artefact. When using the app he expressed further knowledge about the engines, showing he was able to name and talk about engines that appeared on the screen that had not been included in the consumer set. He also showed existing knowledge of the app, having previously used it on his mother's iPhone ™. This was illustrated in one exchange where Jacob persisted in completing a series of puzzles because, unknown to the interviewers, he knew that finishing the puzzles would result in a 'reward'. The reward was a short movie showing Thomas carrying crates of lemonade and crashing

into a field of pigs. Here Jacob continued with the task and pre-empted the movie, even though the interviewers (who did now know what was about to happen) continued to ask him questions about Thomas the Tank Engine™:

Jacob: 'Pop!' goes Thomas

Interviewer 2: Does Thomas feel sad sometimes?

Jacob: Sometimes (*dragging puzzles pieces into place using his finger*)

Interviewer 2: Because of what?

Jacob: Um, um, because he um, um, everything gets wrong (*continuing to drag puzzle pieces into place*)

Interviewer 2: I see

Jacob: ... sometimes... and now something is going to go wrong ... because the lemonade that is going to go into a field of pigs (*screen changes from puzzle and opens to an image of Thomas*)

Interviewer 1: the lemonade (laughs) which lemonade?

Jacob: that he's put (*moments later the screen shows Thomas carrying lemonade*)

Interviewer 2: Oh that is the lemonade

Interviewer 1: Wow that is the lemonade. So you knew beforehand?!

Jacob: Field of pigs (*moments later the screen shows Thomas crashing into a field of pigs*)

All: (*laughing*)

Jacob: it was going to go right into a field of pigs

Interviewer 1: You knew that. You are very clever. How did you know that from just watching that?

Interviewer 3: Is that same as the one on Mummy's phone?

Jacob: Yeah

Interviewer 3: Uh so you knew

Jacob: All of them are the same

Jacob's familiarity with the app meant that he was playing a game that initially did not include his interactions with the interviewers. He was deliberately working his way towards seeing Thomas crash into the field of pigs and the lemonade go 'pop'. Jacob exhibited obvious enjoyment in having achieved the goal and watching the crash. He asked for permission to repeat the puzzles so that he could view the crash again. As he replayed the puzzles and the crash, he talked about the humour he ascribed to the situation, saying he 'liked super funny things'. In this episode the play include strategizing (to reach the reward), humour (laughing at Thomas), and affect (liking super funny things). Jacob's existing knowledge of the app and of Thomas the Tank Engine™ appeared to afford a greater range of play characteristics than had been enabled by his engagement with the generic toy.

This possibility raises interesting questions for teachers' facilitation of play in the early childhood curriculum, particularly where generic approaches are valued over the inclusion of consumer and digital-consumerist play. If Jacob's experience is mainly with generic artefacts, he may continue to develop problem-solving skills and have opportunities to grow in areas such as narrative and imagination. However, if the generic artefacts were to be supplemented by consumer and/or digital-consumerist play, it is possible this could create greater opportunities for him to draw on existing knowledge and skills in ways that could contribute to the development of play characteristics that early childhood curriculum has historically valued, such as strategizing, humour, affect, and imagination.

Conclusion

Scholars in early childhood education have an established body of knowledge about play in the early years (Cheng & Johnson, 2010), about how teachers conceptualise play, and the influence of these conceptualisations on their curriculum decision-making. This work has drawn on a range of theoretical perspectives, including gender studies (Blaise, 2010), post-structuralism (Ailwood, 2010), and cultural-historical theory (Fleer, 2010). A conspicuous gap in this work is on understanding how teachers connect their conceptions of play and curriculum formation with children's contemporary play experiences. Previous research has shown that teachers' knowledge, beliefs, and values have a central role in mediating their decisions about what and how children will learn in early childhood education, and that curriculum implementation in early childhood education is a highly interpretive process (Nuttall, 2004). This has made the relationship between beliefs and decision-making a particular focus for research in early childhood teacher education (Giovacco-Johnson, 2011).

Early childhood education also has a strong commitment to understanding children's wider life-worlds, particularly their experiences in the home, and using these as a basis for curriculum in early childhood settings. As we argued earlier, these experiences increasingly involve children's engagement within a digital-consumerist context (Edwards, 2013). Given the centrality of 'learning-through-play' in teachers' construction of the early childhood curriculum (Wood, 2008), what teachers recognise as relevant to their processes of curriculum formation may be more likely to influence their decision-making than whether they know how to operate digital technologies *per se*. This suggests there is benefit in understanding the nature of children's play in terms of a continuum of experiences that includes both traditional and digital-consumerist artefacts.

Our early analysis of the nature of children's engagement with artefacts along this continuum suggests that different characteristics of play are experienced by children according their previous knowledge and/or experience of the artefact. The nature of children's engagement across the continuum indicates that characteristics commonly associated with play were evident for all of the artefacts, although only problem-solving appeared for play with traditional/generic artefacts. Children's existing knowledge and familiarity with consumer and digital-consumerist artefacts seems to be a significant informant to their play and provides a basis for the emergence of play-based characteristics that are

traditionally considered important in early childhood education, including reasoning (Isenberg & Quinsberry, 2002), narrative, imagination and affect (Smith & Pellegrini, 2008; Vygotsky, 2004) and humour (Broadhead, et al., 2010).

Cultural-historical theory argues that children's play is a response to the cultural contexts in which they are located (Davydov, 1982; Japiassu, 2008). Since children's contemporary contexts for development increasingly include a range of digital and consumerist experiences that localise children's play (Chudaroff, 2011; Goldstein, 2011), our findings suggest it will become increasingly important to develop new ways of understanding children's play, so that their experiences with consumer and digital-consumerist artefacts may be more readily recognised in the early childhood curriculum as valued forms of play that can contribute toward children's development and learning. Teachers could perhaps work more deliberately to either build children's knowledge and experiences of more generic artefacts, and/or include consumer and digital-consumerist artefacts within the curriculum, in order to ensure a learning context that more readily recognises the nature of children's contemporary play-based experiences outside of early childhood settings.

In the next phase of our research, we are inviting the teachers of Jacob and the other children participating in the study to interpret the data we have reported here, focusing on what they identify as play in relation to the children's engagements with generic, consumer and digital-consumerist artefacts. Our ultimate aim is to work with teachers to construct a curriculum where not only problem-solving, but imagination, reasoning, strategizing, affect and humour might also be part of children's rich contexts for development, and therefore for the formation and re-formation of cultures.

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Учет особенностей игр детей с новыми цифровыми (мультимедийными) объектами при разработке программ дошкольного образования

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Культурно-историческая концепция уделяет много внимания месту игры в детском развитии и ее связям с конкретными историческими формами развития. Данная статья рассказывает об исследовании, в рамках которого была предпринята попытка осмысления меняющихся контекстов детского развития в культурах цифрового потребления, а также последствий этих изменений для программ дошкольного образования. С этой целью были сделаны видеозаписи пятерых детей из детских садов г. Мельбурн (Австралия) в процессе их взаимодействия с различными предметами, от типичных и традиционных до объектов, имеющих непосредственное отношение к цифровому потреблению. Было выявлено, что способы взаимодействия с предметами у детей по большей части совпадали с существующими представлениями об игре. Тем не менее, во взаимодействии детей с традиционными игрушками преобладало решение проблем (problem-solving), в то время как игры, связанные с потреблением, в том числе цифровым, в гораздо большей степени способствовали проявлению имевшихся у детей знаний. В статье делается вывод о том, что перед учителями стоит задача учесть новое представление о роли артефактов, имеющих отношение к цифровому потреблению, в развитии игры в раннем возрасте при создании программ дошкольного образования — и тем самым сделать определенный вклад как в изменение детских садов как культурного феномена, так и в культурное развитие детей в целом.

Ключевые слова: игра, цифровые технологии, потребление, культурно-историческая концепция.