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Living in the iworld: Two literacy researchers reflect on the changing texts and literacy practices of childhood

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ABSTRACT: In this article we document observations of our own young children's usage of technology in their "out-of-school" worlds. How might these technologies and practices be changing the understandings and usage of texts and literacies of the children who enter into classroom spaces? What transformative possibilities might these home technology practices announce for teaching and learning within classroom environments? In both Canadian and Australian curriculum documents, as well as in OECD reports, the need to develop innovative approaches to educational practices and the inclusion of digital technologies is acknowledged as necessary in facing 21st century challenges. We provide examples linking to media news stories in both countries, addressing the use of touch-screen technologies in schooling and examine how these presentations are very different from the practices we have observed in our homes, where the children have relative openness and freedoms with their device usage. Within the article we demonstrate, using media links and images, the ways in which our own children have begun to navigate digital devices and texts and to create new sorts of narratives that open possibilities for literacies in multiple ways, as "creators", "designers", and experts. We argue that, once translated into classroom practice, technological tools tend to be "domesticated" by practices that resist the transformative affordances of these tools, and may even provide barriers to student engagement and practice. Finally, we conclude the article by making some practical suggestions for creating opportunities for transformative technology use in education.

KEYWORDS: New literacies, multimodality, mobile devices, young children, home literacy.

STEPPING INTO THE IWORLD

In a Canadian household, a six-year-old is working with an iPad and an 8-year-old uses a laptop, as they engage in activities that at first glance seem separate but are in fact linked search activities connected to shared interests. "Mum, is this how you spell 'Monster High'?" says the older girl, as she searches for the right link http://www.monsterhigh.com/ while the younger one looks up videos posted on Youtube, copying the text her sister has entered: http://www.youtube.com/watch?v=nGawAhRjtoA. "Monster High" is an American "tween" cartoon program (with a corresponding selection of toys and consumables) that the children discovered while watching the Nick (Nickelodean) channel on satellite television in an Australian hotel. Like many of the "new" programs they discovered in Australia (most of which are not Australian in origin), it isn't yet

available on our Canadian cable TV, but they know that Google and YouTube will lead them to most of their new interests as well as to other related information and sites. While both are early readers, both of them regard themselves as competent users of "i" technologies, and also view such technologies as essential within their daily lives.

Across the globe in Australia, a 5-year-old girl and her 3-year-old brother are having in a 21st Century tea party. The children and their stuffed toys are playing a Tea Party game on the iPad – which has a radio playing for background music – and they are serving digital cakes and tea. The game only plays with three, so the remaining toys are set up with their physical tea-set. The transformation of objects inside the dramatic play seamlessly shifts from the virtual to the physical, the cups of tea being served, drunk and spilled in the virtual iPad space extending over into the pouring of "cups of tea" served from the teapot into the plastic tea set on the other side of the picnic blanket. The boundaries between "physical" and "virtual" blur, with all play objects – the iPad, stuffed toys, plastic te- set – crossing into the realm of imagination and the narrative structures of dramatic playing inside a virtual world.

Figure 1. Toca Tea Party for the iPad

As literacy researchers who also lead equally complex lives as parents of pre-school to elementary-school-aged children, we have been fascinated by the "out-of-school" influences and engagements our children have with developing forms of digital technologies, or as Marsh (2006) terms "mediascapes". Now that we are embarking on a larger project working with interactive digital technologies in school settings[1], the informal observations we have made via our own children offer insights from the "micro" perspective in looking forward to the "macro" possibilities for classroom work with children and technologies and our work with teachers.

[1] Laidlaw, Linda and O'Mara, Joanne (2011-2013), Literacy Learning in Playful Spaces: Using multi-modal strategies to develop literacy with young learners. Social Sciences and Humanities Research Council) Insight DevelopmentGrant (Canada)

As iPads, iPods and other tablet-style, touch-screen technologies, such as gaming devices like Nintendo DS/DSi, have entered into digital spaces, texts and the lives of children, we note media fascination that is often centred on the allure of "new devices" and less so on how these new technologies might change the nature of texts, curricular engagements and the relationships among students in classrooms. How might out-of-school usage of these technologies be changing the understandings of texts and literac(ies) of the children who enter into classroom spaces? As Burnett (2009) notes, there has been very little research that examines new literacies within the context of primary classrooms, and her review of 38 empirical studies found no studies "attempting to link home and school technology use" (p. 30). Marsh's 2004 study – well before the emergence of interactive touch screen technologies – suggests that children's "emergent literacy" increasingly encompasses a variety of multimodal engagements and that such "techno-literacy" practices should be recognised and valued in relation to "the development of children as competent users and producers of media texts and artefacts acknowledged in curriculum frameworks…" (p. 62).

A brief survey of recent media stories presents a focus on the funds that school boards or organisations have contributed or will require for such "new technologies", a sense of excitement about the "new-ness" of these devices and how children (and teachers) are eager to use them, but very little analysis of how such technologies might be used to change approaches to curriculum (see for example, Kirk, 2011; Little, 2011; Steffenhagan, 2011). Indeed, often when learning activities involving such devices are mentioned, we see little evidence that they are being used with young learners in ways that move very far beyond the "drill and skill" programs that students may already use during "computer time" in the classroom or in their school computer labs. The main differences presented seem to be an emphasis on touch-screens rather than the use of a mouse or a track pad, "apps" adapted for tablet-style devices, and the use of such devices as "individual" tools to supplement what might be presented on interactive whiteboards in classrooms. The arguments presented for funding such "i" devices suggest that they are being selected because they are the "latest thing", children find them engaging, and they are already being used in children's lives outside of school. We also note that the "devices of choice" of educational systems are the iPad/tablet-type devices and not the gaming systems, despite an increasing amount of research into the value of computer games in the classroom.

DOMESTICATION: IN THE HOME OR IN THE SCHOOL?

In the general media presentation of these "new devices", we have seen very little analysis of how "home practices", where the children often have relative openness and freedoms with their device usage, might be different from subsequent school activities. Connections among children, among ideas and different media forms tend not to be addressed in the media articles; their accompanying photographs often present children interacting with screens rather than with one another, with the teacher providing surveillance from a distance. In this article, we document observations of our own young children's usage of technology in their "out-of-school" worlds. We argue that in the home the children have relative freedom of usage and open-ness of approaches to using the devices, in contrast with the ways in which the devices are domesticated in the practices of schooling. We ask how might these technologies and

practices be changing the understandings and usage of texts and literacies of the children who enter into classroom spaces? What transformative possibilities might these home technology practices announce for teaching and learning within classroom environments?

It is our contention that before such technologies can be used in ways that move beyond the reproduction of entrenched pedagogical practices such as industrial-era transmission approaches, educators need to be able to envision and imagine new possibilities in creating different opportunities for engagements that more fully exploit the affordances of new technological tools. They might turn to their students to learn through observing young peoples' competencies with these technologies and then working these into their pedagogical practices with their students as collaborators. Our observations of our own young children, individually, in family groups, and in their collective engagements in two weeks spent together during a sabbatical leave, suggest that such tools are being explored and incorporated into the lives of children in interesting and complex ways. Through such engagements we have observed our children deeply involved in meaning-making and in extending, exploring and expressing their own sense of self-identity as active participants in evolving technologies, and as "creators", "designers" and "experts", rather than merely as passive responders. What we are also beginning to realise is that young children are creating new ways to work with digital texts and tools and that, in what seems to be similar to how language develops through what Deacon (1997) suggests as the "bottleneck" of children's minds, children are developing new possibilities for digital texts.

Figure 2. Stuffies: from the seven-year-old's photographs

THE DIGITAL MILIEU OF CHILDHOOD: CHANGING TIMES, CHANGING TEXTS

As academics who are both active, digital technology-users and who both engage in our academic work in the spaces of home, we acknowledge that our children have received a significant amount of "at the elbows" exposure to digital tools and texts. Additionally, our Australian family has a computer programmer Dad, and the children hear conversations about technology usage, in addition to a high level of incorporation into domestic daily life (such as the shopping list stored in "the cloud" and updated "on the go"). While we realise that devices are expensive and not all families have access to them, we nevertheless see our children's playmates and other children and parents in our communities, increasingly engaging with digital technologies. For instance: in the doctor's office we see fussy toddlers being handed a parent's iPhone to calm them; at school a kindergarten child is handed an iPod with a preloaded children's movie to keep her occupied while her mother meets with the teacher; at Saturday morning circus classes in Australia, families sit around tables reading online newspapers, playing games and watching video using the free wireless broadband provided by the savvy circus school; grandchildren converse with far-off grandparents via Skype; siblings "Facetime" each other from different parts of the house, using their iPods as digital "walkie-talkies". Such interactions, we observe, have also entered into the language and worlds of children's play when they were together on the sabbatical visit. For example:

> Our children were playing at the dollhouses and the 3-year-old realised that a tiny pretend laptop was missing. After everyone looked around for a bit, he returned to play and sat the mother doll at the computer desk. "She's going to Google to find out where the little computer is."

While we recognise that pretend play-objects reflect what our children see in our own households – by including toy computer desks and laptops and so on in the collection of imaginative play materials, we have seen that where certain objects do not exist, our children tend to seek out or create alternatives. As the dollhouse accessories at Jo's house in Australia did not include an iPad or a cell-phone, the children set about finding objects to represent them, using the old-fashioned set of bathroom scales from the dollhouse as an iPad. The Canadian visitors (in a store with a display of children's jewellery) exclaimed, "Oh Mum, look at that! It's an iPhone charm! We should buy that for A. so he can have it for his little boy in the house!" Magazine advertisement photos are cut out by Linda's children to stand in as play objects, used as accessories or tools for dolls and other characters within imaginative play. We reflect that the dramatic play materials of our own childhoods included literacy, communication and media tools – pretend radios, telephones, writing materials. Our children also desire the presence of their everyday objects of new tools and technology within the materials of their play. When the technology they use supersedes that modelled in their second-hand dollhouse, they simply improvise.

We also have both noted how the changing digital context is resulting in an evolving lexicon for our children. While they, like many adults, use "Google" as a verb, Jo's three-year-old son is developing an "i" vocabulary, where electrical and charging cords used for various computers and other devices are named "iCords" – to

distinguish them from other "plugs", and the i-pad case is called the "iCase". He has even made an iPhone for his small teddy bear, so that the teddy can have conversations with the other toys. Clearly Apple's smart "i-Centric" branding pattern is working and he sees that he is living in an iWorld!

Figure 3. The doll-house Mum Googles to find the dollhouse boy's computer....

We also note shifts in how our children engage with "viewing" experiences. In Linda's household, while there is a television and cable TV, her daughters see "viewing" experiences as necessarily involving selection, and they prefer to search directly for what they are interested in viewing on YouTube or other online options via an iPad, laptop or smartphone. After their return from Australia, the fact that the interesting "new" programs and videos Linda's children watched in Australia were not available on Canadian cable television posed little challenge as they simply searched for them (and found them) online. Jo's children do not have a television in their household, and so all of their viewing is done via "selection" of downloaded or online programs, with both the 3 and 5-year-olds being very adept at this. While this sort of choice-making might seem a relatively small difference, there is a significant shift from a relatively passive process of viewing, such as choosing from several children's programs that might be available on television at any given time, to children becoming more active in selecting programs, searching for those that reflect ongoing interests, and organising and "managing" the programs they wish to view through "favourites" links and so on. All four children quickly slide the electronic files to view and re-view selections from the videos.

Additionally, both families watch content that they have made themselves, or videos and photos that have been taken of them, and content that has been made or uploaded

by other children – Linda's children were seeking out uploaded alternative video versions of SuperMario made by other children. The children in both families often watch photos of themselves when they were younger, reflecting on and re-imagining those worlds of their earlier childhood. These children have not only changed "viewing" habits, but also have a strong sense of themselves as being producers of material, and of other children as also being producers. We have witnessed other small children similarly making videos and taking photos and YouTube has a large amount of content featuring pre-school-aged children and primary-school-aged children, much of it made by the children themselves. These children are entering school with a far stronger sense of their own capacities as "directors" of information, moving even further away from more traditional student roles as passive or compliant "receivers" of knowledge than schools are used to.

Our observations of our children's literacy practices with such digital texts are consistent with several of Jo's previous studies (Beavis & O'Mara, 2010; O'Mara & Richards, in press), which found that students prefer playing video games they have created themselves rather than commercially made products, and that as "producers" of digital texts, students extend and develop both traditional and new literacy styles.

Movie: "Pete the Cat" reading:
Self-recorded by the seven-year-old on her iPod Touch
Click on link to play movie

While personal interests often take a lead in their digital engagements, the children have also used the devices to "play school" as well as to revisit topics or texts initially presented at school – creating various texts in ways that would be recognised as traditional school literacy practices. Linda's children read books by their favourite authors and video record their reading and commentary on the iPhone or iPod and have also made readings that are accompanied by photographs that they have taken of the illustrations. Creating these texts usually involves rehearsal and practice – both of the text reading and the digital "operations" (that is, making sure that the image is captured well, that sound is good, and so on). Both girls use an application called "StoryKit" to create their own multimodal stories. Initially they used photos, created digital drawings and narrated via audio, but as they have developed more conventional writing skills, they have included digital text. They have also used StoryKit and camera functions to create digital copies of their own favourite books. They are continuing to refine their abilities to use search tools, using a variety of apps: Google search engines, maps, search features on YouTube. Because there are few time pressures on their i-device uses at home, they are learning through many "trial and error" attempts how language matters in searching for information or locating favourite videos.

We characterise school usage as "domesticated" in an ironic contrast to the freedoms the children experience at home. There are important aspects of these freedoms that we believe encourage innovation:

- generally free uninterrupted periods of time for exploration, discovery and creation – this, to us, seems key to encouraging innovative uses;

- the children are following their own interests and passions and developing the skills they need to design and create what they want – they are driving their learning and their text production;
- assessment is only in the form of the feedback from the devices, siblings or playmates, and in seeing the results of their creations;
- any "rules" for usage are based on very practical concerns where the aim is very clear – taking turns with a sibling, taking care with the device so as not to break it, putting it away when done – all practices that tend to be very similar to practices around use of toys and other materials in the home, and thus these do not stand out as "special" rules for a "special device". The children see their technology tools as rather "ordinary" materials that are a part of their daily context;
- the devices are only vary rarely mediated by an adult – most of the uses and activities are child motivated;
- sharing their favourite digital texts and activities and observing new practices that other children are using (for example, Linda's children were both quite intrigued by apps and videos that Jo's younger children shared with them) – developing their own sense of "expertise" and also acknowledging that of others.

In addition, while many "educational" apps exist, these tend to be closed activities and do not hold the children's interest in the sustained way that more open-ended or "blank-slate"[2] writing, art and image-capturing design apps do. We find that our children will play the "drill and skill" activities initially but very quickly find them "boring", very similar to their response to such activities as they've experienced them on worksheets at school. They are sophisticated users with sophisticated criteria for what comprises a "good app".

AT THE ELBOWS OF OUR CHILDREN: THE IWORLD DISPOSITION TO TEXT

As we have observed, our children have been born into new dispositions toward and relationships with texts. When Jo's five-year-old was 2, she was looking for a mouse on her grandmother's television as she expected to be able to interact with the screen. Linda's children automatically touch any backlit advertising display, expecting interactivity. Our children have had a very different upbringing in terms of their relationships with screen and texts to those of previous generations and have very different dispositions to texts than we adults do. In our examination of this, we turn to Kress (2005), who talks about old and new dispositions to text. He describes the traditional disposition to text as monomodal (linguistic) and the mode of approach is linguistic. Traditional text is stable, it is composed by the producer and interpreted by the reader. Text has a sequential, linear order. It is underpinned by authority and authorship and is a site of knowledge. In contrast, the new disposition Text is multimodal/semiotic and the mode of approach is semiotic. Text is now radically unstable. Text is designed by producer and redesigned by reader. Text has spatial ordering. Its value is in its potential usefulness and Text is site of information.

[2] See O'Mara and Richards, 2012.

When we think of our children as having new dispositions to text – or even characterise them as having emerging dispositions not yet described – and then think of ourselves as midway perhaps along the continuum between new and old (Jo prefers reading on the iPad, but is still obsessed by authorship in some aspects of her life – yet when it comes to her hobbies of quilting is happy to think of texts as a site of information where content not authorship is important – Linda relies on electronic search tools more than libraries, but still requires a paper agenda to organise her life) and think of teachers in our schools as mostly being like us (some more stuck in old dispositions and only a very few as having new dispositions toward texts), the struggle of developing pedagogical practices, that use the affordances of these touch-screen technologies and value the skills and knowledges of these savvy young users, becomes apparent. We would argue, too, that, even though the current educational rhetoric in both countries is all about 21st century pedagogies, the school curriculum in both our state/provinces values older dispositions to texts, and that some of the ways in which teacher friends describe English curriculum as coming unstuck are about this clash of worldviews, dispositions and what is valued in school.

Certainly, contemporary students exist in a rapidly changing world that demands ever-increasing abilities to adapt to and utilise new technological tools and innovations (Marsh, 2005; Knobel & Lankshear, 2010; Laidlaw, 2010; Lankshear & Knobel, 2003; Merchant, 2007). We acknowledge that the need to develop innovative pedagogical approaches and shift educational practice to better address 21st century realities has been recognised as pressing by many – from the level of individual schools, school districts and state departments to that of larger organisations such as the Organisation for Economic Cooperation and Development. As recent OECD (2010) reports have suggested, developing innovative approaches to shift educational practice to better address 21st century challenges is important for effective social engagement, participatory democracy, equitable communities and sound economies. It is likely, however, that the writers of these report have old dispositions towards texts. Certainly the OECD testing regime of PISA – including the ways in which digital skills are tested – is entrenched in the value of old textual practices.

So when "new technologies" are introduced into the spaces of classrooms, teachers may not shift pedagogical practice to fully exploit learning opportunities and the potentials offered through new cognitive tools, instead, working, as Lankshear and Knobel (2003) suggest, with "old wine in new bottles" (p. 67). But these teachers are still expected to be storing their wine in the same bottle racks, and in the same old wine cellars. So, until what is valued by schooling changes, we cannot expect that much other can happen with technology than it become "schoolified" into electronic worksheets that provide merely new appearance, rather than shifting the nature of pedagogical activity (Honan, 2010) and offering new opportunities for interaction and more complex engagements. As Luke (2007) suggests, children need to be educated as "global cosmopolitan citizens" who are growing up processing multiple digital information sources at once, in their time outside of school, and as a result are developing abilities that may be less familiar to the adults around them. Further, as Luke and Luke (2001) suggest, education systems have tended to "delay and sublimate the emergence of new educational paradigms" around new forms of textual and literacy practice, instead, focusing on "crises of print literacy" (p. 96) rather than embracing new technological approaches and challenges.

Though providing perhaps a more engaging form of knowledge transmission, digital media may not be used to involve students in any significantly different manner. Often teachers are afraid of the openness and "unfamiliar territory" of the new technology, so restrict what can and can't be done, creating a closed approach and system. Sometimes there are worries that technology will be broken, so restrictions are placed around usage. However, in the home environment, both Jo and Linda's children take total responsibility for the charging of the family iPad, checking the battery level and plugging it in when they can see that the battery is going flat. Using embedded cameras in such tools to take photographs or video of the world around them, our children create texts and narrative structures that are deeply connected to their own interests and their own lives and that present purposeful uses of literacy aimed at real audiences. The affordances of touch screen devices offer new possibilities for children, providing opportunities for students to create, modify and use their own multimodal texts in multiple ways, and to share in collective endeavours. As we observed informally, what children are frequently doing with digital and touch-screen technologies as young learners outside of schooling environments demonstrates the potential and expanding possibilities that can emerge when children are offered tools and encouraged to create and control their own digital texts.

We believe that classroom use of interactive digital devices could perhaps be "undomesticated" and perhaps incorporate some of the "innovative freedoms" that our children experience with such tools in the home. As Linda was remarking to an early primary teacher colleague about the seeming resistance to "new technologies" at the early childhood level of instruction, her colleague suggested that perhaps it was not the technologies that were as problematic as the methods that were being used to implement them, in classrooms where exploration and children's freedom to investigate were highly valued. We are hopeful that perhaps innovative early childhood educators might take up "new tools" and use them in "new ways."

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