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Tweens and their *in-betweens*: giving voice to young people when exploring emerging information practices associated with smart devices

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Abstract

Introduction. Rising access to and use of mobile devices by children and young people makes it critical to study real-life contexts of their emerging information practices. In sharing lessons learnt from an Australian project actively involving children as partners in research exploring their mobile phone usage, this paper discusses why adopting value-sensitive participatory approaches can help meet some of the challenges faced when trying to understand (and regulate) the mediated engagements of young people.

Method. As part of the project 1,389 young people from Years 6 and 9 were surveyed from within schools in one state. Following the survey, focus groups were conducted with survey participants. A research advisory group was also chosen from this population.

Findings. As smart devices continue to find their way into the classrooms and curriculum, the school library will have to adapt and respond to the intertwining practices of social and academic, information and communication in order to stay relevant. *Risk and intertwining* are presented as two prevailing concepts that might inform future investigations into the information practices of young people in the dynamic contexts of their mobile mediated ecologies.

Conclusions. The participatory research methods used in the project can provide rich contextual understanding of the everyday, everywhere presence of mobile technologies in young lives needed to devise effective strategies for dealing with mobile or smart phone use in and out of the classroom and supports efforts to give young people a greater voice in the decisions affecting their engagements mobile technologies.

CHANGE FONT

Handheld, mobile devices like smart phones, blackberries and tablets make the intertwining of information, communication and entertainment possible, to the extent that it can be difficult to identify discrete information practices enabled by them. They have become tools that enable people to make different use of the *no-when time* and *no where space* Caronia (2005) speaks of in her work. As such, we can consider these mobile tools *in-between* devices, which rather than replacing the computer or the phone enable us to make use of in-between time and space.

This growing hybridity of our communication and information practices makes it even more critical information researchers adequately take account of the real-life context of the communities we wish to study and support through our research. One group where this need is particularly acute is children and young people because of their rising access to and use of smart phones and other mobile devices that enable access to the Internet beyond the walls of the home or classroom and the managing eyes of parents, teachers and other adult carers. The concern is that '*we have less knowledge of children's own experiences or perceptions, or of the ways in which online activities are contextualized within their everyday lives*' (Livingstone and Haddon 2008: 317). Furthermore, policies put in place by governments and schools about the use of these technologies by children tend to be a consequence of responding to '*the politics of parenthood, with its concerns about risks and its rationales of care, rather than responding to the expressed needs of children and young people themselves*' (Spry 2007: 297).

Mindful of these concerns in relation to mobile phone use, the Australian Mobile Me project sought to actively involve children as partners in our research exploring their mobile phone usage. In sharing lessons learnt from that project, this paper will argue that adopting value-sensitive

participatory approaches can help meet some of the challenges that designers and policy makers face when trying to understand (and regulate) the mediated engagements of young people in a variety of settings. Doing so also affords greater respect for young people in relation to the decisions those adult carers seek to make on their behalf.

Introduction: mobility and the in-between spaces of youth

Information and communication technologies are an inescapable feature of the landscape of childhood in the 21st century. Studies in Australia ([ABS 2011](#); [Green et al. 2011](#)), the UK ([Livingstone and Haddon 2008](#)) and US ([Rainie et al. 2011](#)) have shown that devices allowing access to social network sites, for example, play an important role in the lives of young people. There is also growing evidence that children are gaining greater access to devices like smart phones, ipods and ipads. A Nielsen survey released in November 2011 reported that for the second year running, the Apple iPad was the most desired consumer electronic on the Christmas wish list of children ages 6-12, with a total of 44% of the children surveyed expressing interest in the product (as compared to 31% of the children surveyed in 2010). The other two popular devices were the iPod Touch (30%) and iPhone (27%), with computers and other tablet brands each appealing to a quarter of younger consumers ([Nielsen 2011](#)). Having such items on their Christmas wish list does not necessarily translate directly into actual ownership, but it does point to a future where smart devices are likely to find their way into the hands of ever younger users in the developed world.

As ICTs become ubiquitous in homes, schools, and the spaces in between, children are plugged-in and online with greater frequency and at a younger age ([Harwood and Asal 2007](#)). They are using technologies designed expressly for children, as well as adult technologies which children appropriate for academic tasks, entertainment, and communication. Parents, educators, and researchers have raised concerns about how children interact with these technologies, the safety and privacy of such technologies for children, and the difficulties of providing age-appropriate play and learning opportunities for connected youth (e.g., [Donald and Spry 2007](#); [British Library 2008](#); [ISTTF 2008](#)).

The mobile has become integral to the everyday existence of young people and their transition from child to adult members of society ([Ling 2004](#), esp. Chapter 5; [Ling and Helmersen 2000](#), [Caronia 2005](#)). It has moved from mere *technological object* to become an intimate aspect of the personal sphere: 'a key "social object" present in every aspect of a user's life' ([Srivastava 2005](#): 111).

In the transitional non-place of adolescence ([Donald and Spry 2007](#)), mobile phones have created their own interstitial space as young people move between family and peer group and between public and private. Adolescents are navigating a space between dependent child and independent adult that sees them negotiating hierarchies and relationships that shape and are shaped by their experience of that space. Working out the differences between their public and private selves involves negotiating freedoms and restrictions as they move between school/work and home, between the classroom and the schoolyard, between study/work and leisure, between the living room and the bedroom.

These mobile technologies facilitate a young person's self-esteem, connection with their peer and support networks and often — in affluent, Western societies — are part of a display of social status. At the same time, the youth of these technology users means they are often subjected to community concerns about health, safety, privacy, exposure to inappropriate content and economic exploitation.

To examine these issues more thoroughly, this paper will present two analytical themes (*intertwining* and *risk*) arising from the Australian *MobileMe* project and discuss the implications for further research about the information practices of young people. In sharing some of the philosophical underpinnings supporting our participatory approach, this paper argues that such initiatives not only move us toward a richer, contextual understanding of the way such devices shape the information practices of young people, but also contribute to making them more active participants in the policy and design decisions surrounding their use of mobile phones and smart devices. In making children's voices — their wishes, desires and imaginative applications — more present in the design, development and application of mobile phone technologies intended for use by children and young people, we will also help adult carers and policy makers find ways to better manage the risk landscapes of contemporary childhood and adolescence.

Mobile Me Project Background

Concerns about potential and actual uses that mobile phones can offer young people have prompted policy responses from various levels of society: government, business interests, educators, and even within families. Some of these responses are continuations of earlier changes to the mediated social landscapes, while others are more specifically related to the functions and uses of the mobile phone ([Spry 2007](#)). The Australian *MobileMe* project was motivated by an interest in exploring these actual and potential roles of children and young people in such policy matters. The inquiry began by asking how they are affecting, and affected by, the development and popularity of mobile information communications technologies. The project was also interested in learning how media policy and regulatory environments adapted to the changes in their lives that have been brought about through their adoption of mobile technologies and applications. Thus, this project sought to foreground the young mobile users in the research and into debates about their mobile use. As researchers, we were interested in meeting the challenge of trying to keep track of the uses of mobile media by young people when those uses develop and change at an accelerated rate. We were interested in hearing their voices so that we could better understand the mobile media worlds they inhabit.

In partnership with the New South Wales (NSW) Commission for Children and Young People, we asked children and young people across the state how mobile phones fit into their lives. We wanted to understand the impact mobiles have on children and young people's relationships, consumer habits and the importance of mobile ownership in their lives. We explored how young people use mobile phones and how owning a mobile phone affects their relationships with family and friends, their economic maturity, and their general well-being. To help develop the questions and themes for the research, in the pilot stages of the project children and young people aged 8-17 years shared how they use mobiles and helped us understand some of the key issues for them.

As part of the project 1,389 young people from 66 rural and metropolitan schools across the state of NSW were surveyed. Because we were particularly interested in the transition between primary and high school, this group of students was comprised of 759 students in the final year of primary school (Year 6) and 630 high school students (in Year 9). Our survey used a multistage cluster design, where schools were first sampled to be representative of government public schools across the state, and then students from Years 6 and 9 were sampled from within schools. Following the survey, focus groups were conducted with survey participants from both groups of students. In this way we were able to ask more detailed questions about some of the themes that emerged in the survey results.

Another key component of this project involved the establishment of a Research Advisory Group (RAG) comprised of children and young people who had participated in the survey. The group was established so that young people potentially impacted by our project could advise the project researchers on improvements we could make to the research process, help with interpreting the data and writing up the findings, and assist in developing a statement of findings to feed back to schools. RAG events took place over the life of the project.

We found that mobile phones support young people by helping them to be independent, organise their daily lives, support their relationships with family and friends, provide entertainment, and help them feel safer. Mobiles support their well-being by supporting their agency in activities as they are unfolding in their everyday life. They help young people as well as their parents deal with the dynamics of modern family life in Australia.

There is evidence of sampling bias in our study towards young people who owned mobiles. Nevertheless the results of the survey and the focus groups do give a sense of the rich variation of present mobile phone practices as well as the challenges young people are likely to face in the immediate future. Closer integration of mobiles with the Internet and the increasing prevalence of application-rich smart phones in use within this population will pose new and greater challenges to the positive control that mobile phone ownership afforded them.

The remaining sections of this paper discuss two key analytical themes arising out of work on this project that have implications for information research about smart device use of young people.

Mobile devices: intertwinging communication and information practices

In our survey, we asked children and young people to recall their mobile use the day before and how they used their phone in the previous week. Many (nearly 20 per cent) simply couldn't recall. Looking at the responses of those who could, however, we see great variety as the following extracts from three of our respondents illustrate:

Yesterday I was doing a speech that is due this week and I had to find out something so I rang my friend and asked him. After that I played some games on the internet and finally at 8:00pm I watch a movie and on the commercials I played games on my phone

I took pictures yesterday. I was listening to music I tried to Bluetooth my friend a picture and she tried to Bluetooth me a music file. I texted people. I checked the time on my phone

Txt parents pick up times. Call friends about homework. Call friends about party. Call soccer coach about positions. Call Boss about work times. Check account balance

These responses are reminiscent of the *intertwingling* Nelson and Morville describe. Intertwingularity is a term attributed to Ted Nelson who in 1987 wrote: 'Intertwingularity is not generally acknowledged — people keep pretending they can make things deeply hierarchical, categorizable and sequential when they can't. Everything is deeply intertwined' (Nelson, as cited by [Morville 2005](#)) 64

Morville builds on Nelson's construct in his account of hypertext: 'We move fluidly between different pages, documents, sites, authors, formats, and topics. In this nonlinear world, the contrasts can be dramatic. We routinely travel vast semantic distances in the space of a second' ([Morville 2005](#)): 64). He goes on to explain that such dramatic transitions are found in places beyond the Web like mobile phones that 'relentlessly punctuate the flow of daily life' (p 64). Writing in a period when the merging of ubiquitous computing and the Internet was still a relatively new notion, Morville observes that networked hypermedia technologies becoming so pervasive leads to a fast and dramatic blurring of familiar boundaries (business and pleasure, reality and fiction, public and private) but that the transition is one we've grown to accept and in some instances embrace. In the three examples above study, play and social contact are fused together in these accounts of the young people's daily engagement with the world via their mobile phones.

For Morville, the metamorphosis of the common mobile phone to a smart device with its growing list of in-built features (like camera, media player, GPS, calendar, contacts and Web browser) has turned it into an *everyware* technology that enables increasing mobility and flexibility. He describes the smartphone as a tool to be used in addition to rather than in place of the desktop or laptop computer:

But many of us will find that much of our work is best performed in a safe, familiar office environment with an ergonomic keyboard, a mouse, and a big flat panel monitor. In other words, smartphones will not replace desktops and laptops, but their use will expand into a growing number of growing niches. We may use them everywhere but not for everything ([Morville 2005](#): 69).

Morville's account supports the assertion made in the opening section of this paper about smartphones as in-between devices.

With mobiles particularly, new opportunities for mobility now extend well beyond modes of communication, touching all areas of the everyday practice and sociality of youth. The *always on communication* features of media devices are used to build friendships, relationships and keep

connected with peers (see [Donald and Spry 2007](#) for examples specific to the Australian Mobile Me project). The statements from our young participants (as illustrated above) suggest that always-on affordance makes the phone a convenient device for moving between accessing the Internet and staying connected with friends and family. The focus group discussions with them amplified the observation that while many of them were using their mobile to access the Internet, they worked with that phone and their home computer as collective tools. Such practices are consistent with Kling's (1999) socio-technical discourse about the additive (as opposed to substitutive) characteristics of the technologies that punctuate our lives.

Issues concerning mobiles have been transformed into issues about mobility and on-the-go access to our information and communication networks (human and mechanised). The notion of time and place is taking on particular meaning in relation to the mobile phone use of young people, with the growing realization that these communication technologies are part of a transformation of sites previously devoid of meaning into sites of social activity. Ito *et al.* (2008:13) identify *hanging out* as one of three genres of participation with new media that figure prominently in the lives of young people (*geeking out* and *messing around* are the other two) but note that parents and educators fail to recognise the potential benefits of this type of participation. They found that efforts on the part of adults to create restrictions and regulations simply led teenagers to develop *work-arounds*: 'ways to subvert institutional, social, and technical barriers to hanging out' (p 13). Caronia (2005:97) describes ways that her young informants made use of *no-where places* (that exist only to be crossed in order to get to a more meaningful *where*) and *no-when times* (stand-by moments not associated with a specific activity or location where a person is simply waiting for someone to arrive or something to happen). In this way, mobiles give new sense to previously underappreciated or unrecognised spaces.

With the increasing availability of in-built cameras, media players, Internet browsers and location-based-applications, mobile phones are conduits to a dynamic media landscape in which information practices become increasingly virtual (see for ex: [ABS 2011](#): 33-35 and [Green et al. 2011](#)).

We must recognise that the mobile phone is much more than a communication device because of its capacity to change the way children and young people engage with one another and the wider world. Ito *et al.* (2008: 15) cite the exchanging of 'relatively lightweight' text messages via mobiles as an example of ways that these devices have become integral parts of the sociality of young people. Satchell and Singh (2005: 1) describe how it shapes cultural flows of young people.

Bowler (2010) draws attention to the social aspects of the information seeking of the young people involved in her study, drawing on connections to earlier research (e.g.: [Dresang, 1999](#), [Poston-Anderson and Edwards, 1993](#), [Edwards and Poston-Anderson, 1996](#), [Julien 2004](#) and [Williamson et al. 2007](#)) that explored the social and collaborative ways young people locate and work with information. Studies like these report that adolescents are more likely to turn to people within their personal networks as an information seeking method than going directly to a documentary source. The flow of information to these adolescents, we can argue, is controlled through their personal communication networks.

A further link can be made between the role that the mobile plays in keeping young people connected to their personal social network and their metacognition. Of her own study, Bowler (2010: discussion section) concludes:

there is a social aspect to information seeking that filters through even to the metacognitive level of thinking. Kuhlthau's ISP model of the information search process identifies three parallel dimensions — cognitive, affective and behavioral. The use of communication as a metacognitive strategy during the information search process suggests that there is a fourth dimension that is based in the social and cultural worlds of information seekers.

Bowler found that the 'natural inclination of young people to turn to knowledgeable others in their lives for information' (2010: discussion section) is present not just in the context of engaging with everyday life questions but in service to a school-based information-seeking task. Her informants used people as information sources to lighten the cognitive load and help them move forward in their search process. Looking at the comments made by our young research partners in the *MobileMe* project and other international studies of mobile phone use in this age bracket, it appears that mobile devices may be providing a critical linking function to these human information sources.

Interestingly, the recent Wikipedia blackout seems to offer further illustration of the use of communication as a metacognitive strategy for students' information seeking and the role played by mobile media in that process. One report about the student reaction to that blackout in January 2012 explained how worried university students working on research papers made panicked postings on Twitter asking for help in light of the disappearance of their habitual access point to Web-based information ([Smith 2012](#)). Even though the students in Smith's account are 18-22 years of age, this anecdote does provide an interesting illustration of intertwining of communication and information practice. Furthermore, it also bookends well with the range of studies reporting that adolescents (that is, under-18s) are increasingly using their mobiles to access the Internet ([ABS 2011](#) & [Green et al. 2011](#)) to provide a glimpse of the future.

Studying and supporting virtual information practices

The sociality of the mobile phone and this intertwining of communication, information and entertainment in the lives of young people present us with some intriguing challenges as information researchers. Industry projections reported by mobile phone manufacturer Ericsson suggest that by 2015, 80% of all people (young and old) accessing the Internet will do so via a mobile device of some kind ([Ericsson 2010](#)). As smart devices become more ubiquitous and embedded in the everyday practice of young people, there is going to be even more need for rich contextual participatory methods to identify and understand the increasingly virtual information practices of young people.

The value young people place on maintaining social connections and the interconnected character of their information and communicative

practices discussed here also alert us to the challenges faced by practitioners trying to support the information practices of young people. As Todd (2008: 25) observes in his exploration about the implications of Web2.0 for school libraries: 'web-based social networks —their structures and dynamics — appear to be an important driver of young people's information use. These are significant developments; their growth and implications for school libraries cannot be considered lightly' (Todd 2008: 25). Noting the strong social component attached to metacognitive knowledge during the information search process of her young informants, Bowler suggests that there is a need to broaden the set of information seeking skills that are taught at school:

The natural way in which they turned to the people around them for help suggests that social processes during information seeking, even information seeking for the purposes of completing school assignments, should play an important role in the design of library and information systems and services for young people. More specifically, utilizing the social component of metacognitive knowledge to its maximum benefit is perhaps an important lesson that needs to be taught to young people (2010: Conclusion section).

Linking Todd's and Bowler's comments to the studies showing the role mobiles are playing in accessing personal and online social networks, it seems reasonable to suggest that enabling managed use of mobile devices in schools may be a more productive strategy for the classroom as well as the school library rather than eliminating mobile phone use in schools altogether.

Horizon reports in recent years (see for example: [Johnson et al. 2008& 2011](#)) show how essential mobiles are becoming for teaching and learning. The K-12 edition of the 2011 Horizon report marks mobile technologies as one of the two key trends for education to take note of now and the near future in schools because Internet-capable mobile devices will soon outnumber computers and the next generation of students 'will inevitably be armed with smarter mobiles at younger ages' ([Johnson et al. 2011](#): 14). Consistent with other studies about the media ecologies of children and young people our findings in the *MobileMe* project suggest that the intertwining of their mobile phone and Internet use is already in place outside the classroom. The impact on the learning environments of children and young people in primary and secondary school is not far behind. In Australia for example, the state of Victoria school system is working with Apple to run a trial of iPads for learning ([Department of Education and Early Childhood Development 2012](#)). (For other examples of schools trialling iPads and other mobile devices for curriculum see [ipadeducators.ning.com](#).)

As these devices find their way into the classrooms and curriculum, the school library will have to adapt and respond to the intertwining practices of social and academic, information and communication in order to stay relevant. Based on our experience in the *MobileMe* project, devising effective strategies and solutions in any school will mean drawing on rich, contextual research that empowers the students' themselves to shed light on their mobile/smart phone use in and out of the classroom.

Managing the risk landscapes of mobile mediated youth

Another critical insight from our project relates to the discourse of risk often associated with the mobile phone and Internet practices of children and young people. Concerns expressed by parents and other adult carers about the access young people have to technologies like mobile phones and the Internet have often led to highly charged, emotive responses aimed at reducing the risks associated with such technologies ([Flanagan 2007](#); [Goggin 2006](#)). However, others like Todd see in this landscape an opportunity to 're-imagine the information-to-knowledge landscape for young people and chart meaningful approaches to instruction and information services' (Todd 2008: 32). Working with the young people as part of this project reinforced our belief that participatory methods help give young people the risk-taker's advantage that many studies have shown is needed for their health and well-being.

In the 21st century, the challenges surrounding the way we should handle the risk landscape of childhood increasingly involves attending to the role played by technology and designed environments. Children's access to mobile phones, the Internet and social networking sites, for instance, are often managed and monitored. Notions of *duty of care* pervade such decisions by parents and other adults in authority who have a legitimate and authentic desire to protect children, especially the very young from the dangers perceived to be associated with such technologies. Such concern about the risks of phone use is aptly analysed by Goggin (2006) in his discussion of the moral panics surrounding mobile phones:

It is no coincidence then that the cell phone, one of the most oft-cited contemporary indices of modernity, should be accompanied by a number of panics. That one of the most widespread and potentially damaging of these regards its threat to the body, and the body's well-being, also represents one of the greatest fears of modernity — the frailty and mortality of the body. The discourse of risk was key to how the potential crisis over health hazards was managed, and continues to be ([Goggin 2006](#): 114).

When dealing with untested technologies, our responses towards technology often prove a particularly emotive area for discussion. Work on the *MobileMe* project suggests, however, that actively engaging young people in studies about their use of such technologies can contribute to positive and productive discussions about such concerns.

Can we protect our children whilst allowing them the appropriate degree of risk-taking sufficient for their personal growth and learning? Responses to such questions are shaped by the view of childhood each policy-maker, parent or carer has constructed and by the individual perceptions of *duty of care* and the actions necessary to *protect* children. Childhood is often seen as a *protected space* although Golden (2005) points to an unresolved tension between two conflicting sets of protective practices: one of protecting the vulnerable (child) and the other of protected risk-taking. Sometimes it can be a struggle to reconcile the desire to protect children with awareness of childhood as a time when children must learn the lessons that will prepare them for life's many challenges.

Parents, teachers and other adults involved with children in their everyday lives play an active part in guiding children but research reported by Christensen and Mikkelsen (2008) demonstrates that children already possess individual and collective capacities for assessing risks in their everyday games and relationships with other children. Exposure to risks, making mistakes and finding solutions play important roles in the collective learning of children and their capacity to assess and handle risk, chance and uncertainty in their everyday practice. Christensen and Mikkelsen contend we need to explore the meaning of risk to children and the way that they develop their personal agency with regards to taking and handling the various risks they encounter in their daily lives.

In a media-rich environment, the risks to which children are exposed will differ from those of the playgrounds that researchers like Christensen and Mikkelsen (2008) studied. In addition to physical well being and playground safety, the contemporary context involves risks associated with the Internet, mobiles and emerging applications, cyber bullying, health issues surrounding mobile phone and computer use (Ito et al. 2008; ISTTF 2008). Nevertheless, in technologically-rich cultures, giving children a risk-taker's advantage must involve communication and information devices like mobile phones and the Internet.

Information and communication technologies and wireless technologies have afforded children and young people degrees of communicative freedom unlike that of earlier generations (Ito et al. 2008) and in this constellation of media technologies, the mobile phone has a critical role for sociality and creativity in contexts of work and play (e.g.: Ito et al. 2008; Ling 2004; Satchell and Singh 2005; Srivastava 2005).

The concerns surrounding new and emerging technologies like the Internet, mobile phones, and social networking sites can lead to highly charged, emotive responses that reduce exposure to the risks associated with such technologies. Flanagan's (2007) essay about children and the risk of online contact with strangers provides a vignette of the darkest fears of many parents and adult carers:

With the Internet, children are marching out into the world every second of every day. They're sitting in their bedrooms — wearing their retainers, topped up with multivitamins, radiating the good care and safekeeping that is their lot in life in American at the beginning of the new century — and they're posting photographs of themselves, typing private sentiments, unthinkingly laying down a trail of bread crumbs leading straight to their dance recitals and Six Flags trips and Justin Timberlake concerts, places where anyone with an interest in retainer-wearing 13-year-olds is free to follow them (Flanagan 2007: 118).

Concerns about child safety are not new, but in cultures where everyday life is increasingly infused with technology, dealing with risk in the landscape of childhood has become particularly important. No matter how much physical protection we might provide for children, scenarios like the one provided by Flanagan highlight a vulnerability that is a consequence of the ubiquity of technologies like the Internet, social networking tools and mobile phones.

As online connectivity becomes the default rather than the exception and smart devices become ever more compact, access to social networking sites and other 'unprotected' zones on the Internet will become even easier for young people to hide from their parents and teachers. However, while there are risks, there is also a tendency for the mainstream media to amplify fears about children's use of such technologies. One study went so far as to suggest this amplification leads to a danger that society will not be able to address the factors that actually contribute to known risks and consequently young users could be inadvertently harmed in unexpected ways (ISTTF 2008: 5).

While it is important to minimize risks, there is also a danger that the responses of adults and carers to new and emerging technologies essentially remove opportunities for children to develop the *risk taker's advantage* that research like Christensen and Mikkelsen (2008) would suggest children can only acquire through experience. Responses to such fears may close off the positive and productive opportunities online tools and spaces provide to youth for socialising, learning and participating in public life. The ISTTF draw parallels between contemporary fears about the use of social network sites by young people and concerns arising in the 1980s about unmediated public spaces, where policy responses led to children losing many rights to roam free in such spaces (ISTTF 2008: Appendix C, p. 5).

If we are to construct knowledge about young people and their use of mobile technologies that responds to their interests as well as the concerns of adults, we must engage more actively with young people to hear from them how and what they experience in relation to these continually evolving technologies. As parents and carers, exposing our children to measured risk is a confronting notion that involves giving up some of the locus of control in terms of protecting children. Giving them a voice in their future can offer them an opportunity to be more responsible for their own bodies and minds. As researchers, one way to try to move things in this direction involves engaging children in conversations about risks in relation to the artefacts of modern life such as the mobile phone and other smart devices. By focusing on a more participatory approach to these issues, the concerns of all parties (child as well as adult) become part of the conversation very early on in any decision or design consideration.

Advocacy and resilience: implications for information research and practice

Drawing on experience within a project exploring the mobile phone practices of young people, the previous two sections presented *risk* and *intertwining* as two prevailing concepts that might inform future investigations into the information practices of young people in the dynamic contexts of their mobile mediated ecologies.

The participatory approach taken to our inquiry about the mobile phone use of young people provided rich insights about intertwined practices of their everyday lives. As mobile phones become transformed into even smarter devices, a more systemic understanding of the implications of the everyday, everywhere presence of mobile technologies in these young lives is required. Our experience suggests this insight can support the 'visionary, creative and learning centred leadership' that Todd (2008:32) suggests school librarians can and should provide. Notably, Todd (p 31) calls on schools and school libraries to re-examine their Internet use policies so that a better balance can be struck

between the safe-use policies educators and parents value and the opportunities for contextualised learning that a technology-infused landscape offers. In this way, a participatory research design has both political as well as methodological merit.

Design informed by a participatory philosophy involves partnership between designers and users, either as a practical or a political project (Nathan *et al.* 2008). Experience in the *MobileMe* project suggests that working with young people as design partners is practical as well as political. It is practical because designing with and for the conditions of ubiquity and convergence that are characteristic of smart phone use today has to involve young people in the design process. They are active users of these technologies and increasingly recognised as innovative adopters. Giving young people a voice in these design processes is, however, also a political act because in so many contexts they are under-empowered in decision-making processes. In many ways children are even more vulnerable to being stripped of a voice in these matters given that, as discussed in the previous section of this paper, concerns about potential risks dominate discussions about their use of such technologies by adult decision makers.

The growing use of mobile phones by children and young people has prompted concern about safe use of such technologies which has consequently spilled over into policy concerns about appropriate uses of mobiles and handhelds in schools. These reactions focus our attention on children in the role of victimized consumer and privilege the perspective of a single stakeholder, the parent. As Druin (2002) puts it, the all-learning child sits in stark contrast to the all-knowing adult. Consequently, children and young people can become disempowered in decisions about how they use technologies, as well as how technologies are designed to meet their needs and activities. This desire to protect young technology consumers runs contrary to the increasingly participatory techniques intended to give greater voice to all users in the design and development of the very technologies they are using. It also runs contrary to research suggesting that young people develop the resilience they need for their mental health and well-being through meaningful interactions in the spaces between risk and protection (Oliver *et al.* 2006).

Druin notes that there are so few opportunities for children and young people to control their world, but '[t]he reality of computer tools supporting children to exert more control of their experience suggests new possibilities for learning, identity development, and social awareness' (2008: 43-4). The participatory principles at the heart of our project suggest that it is possible to give more attention to the expressed needs of young people without increasing the anxieties (sometimes well grounded) of parents and adults in positions of care (see Anderson 2010, for further discussion).

In the process of engaging with our young project participants, we learned that it is not only possible to hear their voices, but to give those young people a greater voice in the design and policy decisions affecting their engagements with the mobile technologies. The research advisory group (RAG) mentioned earlier played an important role in our efforts to bring young people in as research partners in the *MobileMe* project. During the life of our project we held meetings with the group about the research. Because we wanted to get their informed feedback, these meetings incorporated training in research skills, including analysis and interpretation of survey data. A surprising consequence of the project was the new-found sense of empowerment that the students in our advisory group demonstrated in closing stages of the project. Many indicated that, as a direct consequence of their work in our project they began engaging more actively (proactively even) in issues that concerned them at their schools. This outcome was beyond our expectations for the group, but is further proof of the valuable role that participatory research can play in advocating for change on behalf of the communities we wish to serve through our research and our practice.

Reflecting on principles underpinning the *MobileMe* project, the impacts of mobile phones on young people's lives and the institutional responses to these impacts suggests 'that the place and voices of children, hitherto less seen and heard than talked about or to, ought to be closely and keenly considered and valued in the formal debate about mobile phone use' (Spry 2007: 296). Whether we are information researchers investigating the lifeworlds of young people, librarians looking for better ways to engage with students in their information seeking processes or parents concerned about the contemporary media environments their children inhabit, we should all be advocating for greater attention to the expressed needs of children and young people and support efforts to give them a greater voice in the decisions affecting their engagements with the mobile technologies that are becoming so much a part of their lives.

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