DEVELOPING VISUAL RESEARCH TOOLS TO 'DO PLANNING' WITH CHILDREN
10 lessons from a methodological review

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INTRODUCTION

There has been a resurgence of the 'visual' in social science in recent decades, in part because of the growing affordability and ease of use of a range of equipment (for example, disposable cameras, digital cameras and video on mobile phones and smaller and more user-friendly hand-held video cameras) and in part because of a renewed theoretical interest in visual ethnography (Cele 2006; Bryman 2008; Collier & Collier 2004; Rose 2007). The resurgence can be seen in planning practice, where the 'visual' has been applied to questions of community visioning and strategic plan making (Sarkissian & Bunjamin-Mau 2009), the meanings of social capital and local identity (Morrow 2001), identifying unsafe places in local environments (Mitchell et al 2007), children's independent mobility (Whitzman &Mizrachi 2009; Baslington 2000) and in the development of neighbourhood quality indicators (Dennis Jr 2006), to name a few examples.

How can planners best apply these visual methods to their own work? In talking to planners about the application of the 'visual' to the planning work they do, with a particular focus on work they do with children, there are two valuable areas of literature and practice to explore.

The first idea of interest is visual *methodologies.* These learnings can help planners better understand the 'why' (versus the 'what' or 'how') of using visual tools broadly. Why would you use visual tools and how could they add value and build knowledge? Why would a planner use them as an alternative to or as an addition to the more traditional and mainstream tools in the planners' toolbox? How can the data be analysed to make sense of the imagery produced? Why might visual tools be useful in working with particular groups of stakeholders, like children or teenagers?

The second idea of interest is visual *methods*. The literature here, based on practical issues of 'what and 'how' can help the planner in deciding whether the inquiry regarding a particular planning problem or issue might be best informed through using, say, a video storytelling project with young people or whether a photographic walking tour with children might be a better tool. Perhaps the project really calls for a more self-directed 'week with a camera' photo activity for children in the area or perhaps a visual survey of different types of environments. Finally, what does the planner need to know in order to facilitate these types of methods with children?

We explore both of these areas of the literature, the 'why' and the 'how'. To begin, we focus on visual methodologies, recognizing that what is an appropriate methodology and theoretical framework will change from project to project. Our focus in the discussion of visual methodology, then, will be on laying a broad foundation for helping planners in thinking critically, creatively and defensibly about the 'why' of applying any visual methods, particularly when working with children.

We will then turn our attention to the 'how' by way of illustrating some lessons from case study practice. These lessons have been learned as part of the process of developing two concurrent Australian Research Council projects: Children Active Travel Connectedness and Health ('CATCH') and Independent Mobility Active Travel Children's Health ('iMATCH'), or 'CATCH/iMATCH' as the joint project has come to be called by the researchers. This joint research project focuses on physical, social and policy determinants of the active travel and independent mobility of children in the later years of primary school, corresponding to ages 10-13.

Within the context of CATCH/iMATCH as a case study, the 'who' and 'where' that this paper focuses on are school aged children in Australia, though the discussions are arguably relevant to engaging people of all ages in many countries in planning deliberations as well. The 'when' of using visual tools, in this paper, will focus on lessons from practice that have occurred at scoping, data collection/consultation and analysis

phases of planning projects, but this is certainly not the extent of the use of visual methods in "doing" planning with children or the broader community.

THE 'WHY' OF DEVELOPING VISUAL TOOLS

Planners make decisions about local environments. Zeisel (2006) speaks of the centrality of image to design-oriented endeavours such as urban planning. As 'conjecture' is central to scientific progress, he contends that 'imaging' (mental pictures and visions of eventual solutions) is central to the design process. In addition, there are deeper roots for 'the visual' in social science broadly and in the ways in which imagery influences human perceptions, learning, language, childhood development and politics and political expression (Zeisel 2006).

In a more critical vein, not everyone has the same amount of power in planning local environments. Images, such as photographs, drawings, videos, and mapping exercises, can help individuals express their needs and preferences (Wang 1998; Wang et al 2000). Further, imagery represents a levelling and powerful 'universal language' that provides the basis for lobbying decision makers about ameliorations to children's worlds and experiences (Freeman & Mathison 2009).

Imaging done by children is often different to that of adults and there is a growing recognition amongst researchers that it is important to find ways to hear children's voice directly rather than through adult filters (Hart 1997; Driskell 2001; Marr & Malone 2007). In an obvious sense, the perception of the world from a child's eye is different because they are smaller and therefore have a different objective view of the world. If you, as an adult, get down on your knees right now you can experience this changed perception first hand, but it is rare that adults would take this perspective into account in their normal day-to-day practice.

Children also have a different objective view of the world because they, as a rule, have less experience of it and operate in a smaller geography. This smaller geography is often very rich for children, though, and many environmental psychologists will speak of the incredible detail with which a child will speak of a tiny area; the tree house or a corner of the park or the base of a tree (Hart 1997; Cooper Marcus 1978). Again, this scale of the world might be something adults can vaguely remember from their own childhood but would rarely, if ever, consciously bring to their practice. Thus children may have a richer perspective on their local environments, than adults less dependent on the immediate vicinity of their homes.

In a more complex or abstract sense, the imaging of children is different because they have a different cognitive sense of the world than adults do and therefore have a different sense of and meaning about place and space. Piaget's work in childhood development illustrated that it is not just social development that is constructed but that conceptions of space are also constructed and are fundamentally different, at certain ages, than adult conceptions of space/place (Piaget 1929).

Perceptions of space/place that younger children (aged 5 or 6) have are generally dominated by sensory perceptions and relationships to and with the environment; "the houses, trees and animals are all faces in the landscape", as Sobel (1998: 21) remarks. Piaget describes this as an 'animist' perception of the world and this mode of cognition about the world is illustrated by the story of a young boy in Piaget's research who was observed piling stones together. When asked why he was piling the stones, the boy responded that he didn't want them to be lonely.

By the age of 11 or 12, "the child has gained perspective, both figuratively and literally" (Sobel 1998: 21) and is creating images that convey different perspectives and is more objective. By this age, children are more confident and capable at analysing their environments and are able to more readily comment and assess environments as an observer removed from the scene. This is not to say that the objective observations made by older children will mirror those of adults, only that the cognitive processes involved are more aligned with adult processes by this age.

Children, then, have different experiences, perceptions and meanings attached to their cities, spaces and places than do adults and this will be represented in their imagery. Not only are children's experiences of reality different from adults' but they are different from each other and "studies of children's environments have increasingly recognized the variation in children's experiences in shaping their learning, social development and play" (Derr 2006: 108). A critical challenge for analysing meaning in imagery (or in planning more broadly, it could be argued) is in finding some useful "understanding of what these differences are and how it is possible to bridge them to create mutual understandings" (Cele 2006: 20). These differences show up in photos, maps or drawings done by children in two ways: the content of the images they create may be different; and the meaning of the images they create may be different.

Cele discusses these different approaches specific to children's imagery when she talks about the child's photographic eye versus the child's photograph. The image is a reproduction of a physical reality but the photographic eye is the subjective visual perception of that reality that is the basis for the image, the underlying or expressed meaning (Cele 2008: 151).

What, then, are the different ways in which a child's photograph and a child's photographic eye can teach us about the meaning of space/place for children, and 'how' can practitioners tap into those lessons in ways that suit children and inform planning processes?

THE 'HOW' OF DEVELOPING VISUAL TOOLS: FIVE 'HOW TO' LESSONS

While CATCH/iMATCH is not reporting findings until mid 2012, the processes of designing methodology/methods that include visual approaches and in setting a framework for analysis for those methods provides useful advice to other planning practitioners interesting in applying the 'visual' to their work with children. The following are some critical 'lessons' learned from practice and literature that the researchers have applied to the research design of CATCH/iMATCH.

Lesson One: Embedding an Understanding of 'Childhood' in Applied Practice

> It is not simply a question of choosing the right methods in seeking out the authentic voices of young children but is rather a matter of engaging with the underlying and pre-existing values and assumptions that researchers have about childhood and the influence they may exert within the research process.
>
> Connelley, as cited in Marr and Malone 2007: 4

A first lesson we would remark upon is that there is a "changing public awareness of the meaning of childhood" (Bartlett et al. 1999: 4. See also Christenson & James 2000; Freeman & Mathison 2009; Marr & Malone 2007) that doesn't often reflect in the practices we have in engaging with and researching children's experiences.

This 'changing awareness' has been marked by a theoretical shift from more 'naturalistic' positions about childhood to those that are 'social constructivist' positions, which argue that "children do not simply imitate or internalize the world around them. They strive to interpret or make sense of their culture and to participate in it. In attempting to make sense of the adult world, children come collectively to produce their own peer worlds and cultures" (Cosaro 2005 as quoted in Freeman & Mathison 2009: 3). Children's agency is being increasingly explored in planning-related theory and the 'agentic child' (versus the passive recipient of parent's or other adults' agency, based on instrumental and assumed need) is gaining purchase in theory, even if the translation of this to practice has been slow… or resisted (Marr & Malone 2007).

The first lesson, then, for us in CATCH/iMATCH was to take up Connelley's challenge to engage with our own values and assumptions about childhood and to 'catch up' with the contemporary research on childhood development, prior even to setting up a research design. We can't claim to be experts in childhood development as a result of this reflective exercise but in many respects it has been an empowering process that has given us more confidence about working effectively with children on planning issues.

Lesson Two: The Ethical Conundrums of Working with Children and Visual Media

Clearly, the ethics of working with children are potentially substantial and problematic and they are compounded when working with imagery that might identify children. The authorities responsible for ethics clearance processes at universities and in departments of education/school settings are very sensitive to these issues and take a protective stance on children and visual media applications in research.

The protective stance on children in research can present some complicated conundrums. At best, it can create cumbersome processes for de-identifying faces and removing one aspect of this research that children appear to enjoy: illustrating themselves and friends 'in space' using photographs and other media. At worst, the processes can serve to remove images of children *in* place/space altogether and can serve to hide important social aspects of childhood experience of their cities.

Image 1: Girls and the social use of space in imagery
(photo credit: Vertical Living Kids week with a camera participant, 2009)

As one example of the potential problems associated with this protective stance on ethics, "girls seemed more likely to take photographs of themselves socialising with other children at home or in particular formal children's play spaces" (Marr & Malone 2007: 21. Image 1 illustrates). Given this gendered aspect to children's image-making, removing photos with children in them may serve to skew results, obscure the gender preferences in how space is used and hide the preferences that girls seem to have for using independent mobility, active travel -- and play more generally -- in social ways.

The lesson we have taken from this conundrum is that it is important to preserve the integrity of images made by children that include people. It is important to negotiate other mechanisms for protecting privacy (for example through the use of permission forms and/or by de-identifying faces and other identifying features) rather than removing the photos with people in them altogether or instructing children not to include images of people at all in their photographs, pictures or video.

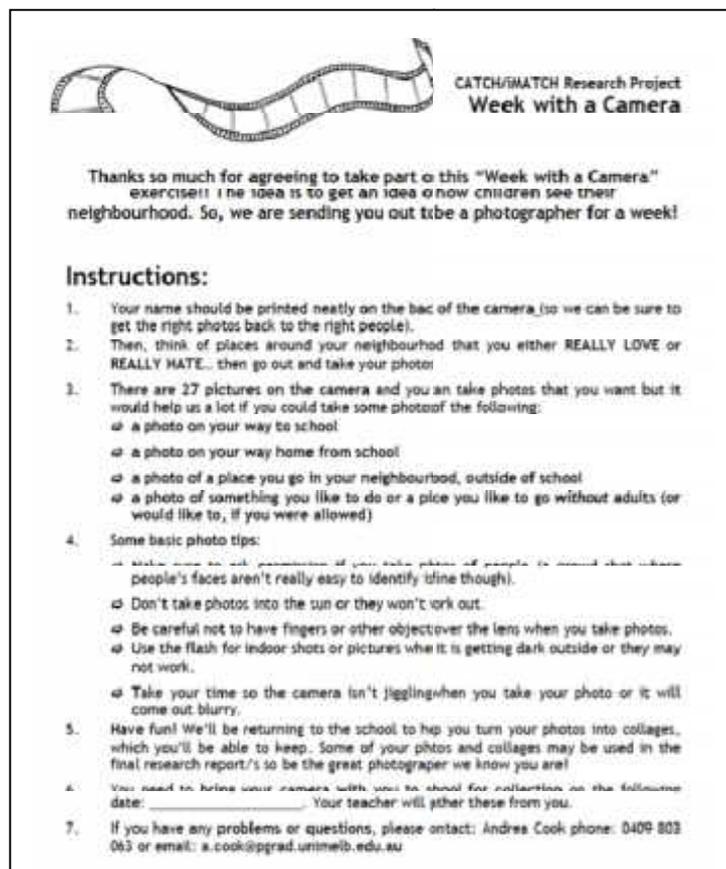**Lesson Three: Visual Methods Require Planning, Time and Facilitation**

Using visual methods is both time consuming and demanding in terms of the requirement for skilful facilitators (Cele 2006; Freeman & Mathison 2009). Because of this, it is not feasible to conduct this research on a large scale, with large sample sizes. Instead, this research approach works best with small groups, with experienced researchers with an understanding of the complexities of using visual methods with children. While inexperienced researchers may well produce some interesting results, the depth of understanding of these results may be low, and may well reflect more about the personal preferences for visual material of the researcher rather than a truer reflection of the perceptions of the children.

In order to facilitate robust visual methods, a challenge to designing research or consultation is to recognise the best point in the planning process to apply the activities. While the case study examples in this paper focus on the application of 'the visual' to the research and analysis phases of a planning cycle, examples exist where imagery is used in problem identification and in the negotiation of project goals with co-researchers in the community, including children (Marr and Malone 2007) through to the application of community-generated imagery to emerging GIS technologies (Santo et al. 2010; Dennis Jr 2006). Visual materials are also used effectively in documenting the planning process itself, for example as an *aide memoire* to the researcher and as a companion to fieldwork notes (Bryman 2008) or as a methodological teaching tool to show others how a process was undertaken (Attili & Sandercock 2007).

In terms of engaging children in the production of visual material or in responding to imagery of the city, Cele notes that children respond very positively to the use of a visual approach, in part because it is a chance for children to exercise power in processes they are generally denied in other methods (like surveys, for example) and in part because it is a chance for children to capture people and places of importance to them in a manner that is often easier for them to 'describe' than in text/oral form (Cele 2006: 155).

Recruiting children for visual methods, then, is often easier than engaging children in other more traditional modes of consultation or research.

It is still important, however, to provide appropriate instruction and advice to children involved in these sorts of methods. This includes plain language 'fact sheets' that children can take away with them (as is illustrated in Image 2), easy-to-use equipment (e.g. point and shoot cameras with built in flash, user friendly video equipment, etc.) and means by which they can process and prioritise the information they capture.

CATCH/iMATCH Research Project
Week with a Camera

Thanks so much for agreeing to take part o this "Week with a Camera" exercise!! The idea is to get an idea o how children see their neighbourhood. So, we are sending you out t:be a photographer for a week!

Instructions:

1. Your name should be printed neatly on the bac of the camera (so we can be sure to get the right photos back to the right people).
2. Then, think of places around your neighbourhod that you either REALLY LOVE or REALLY HATE... then go out and take your photo!
3. There are 27 pictures on the camera and you an take photos that you want but it would help us a lot if you could take some photoof the following:
   - a photo on your way to school
   - a photo on your way home from school
   - a photo of a place you go in your neighbourbod, outside of school
   - a photo of something you like to do or a pice you like to go without adults (or would like to, if you were allowed)
4. Some basic photo tips:
   - Make sure to ask permission if you take phtos of people (a crowd shot where people's faces aren't really easy to identify isfine though).
   - Don't take photos into the sun or they won't ork out.
   - Be careful not to have fingers or other objectover the lens when you take photos.
   - Use the flash for indoor shots or pictures whe it is getting dark outside or they may not work.
   - Take your time so the camera isn't jigglingwhen you take your photo or it will come out blurry.
5. Have fun! We'll be returning to the school to hep you turn your photos into collages, which you'll be able to keep. Some of your phtos and collages may be used in the final research report/s so be the great photograper we know you are!
6. You need to bring your camera with you to shool for collection on the following date: _____ Your teacher will gther these from you.
7. If you have any problems or questions, please ontact: Andrea Cook phone: 0409 803 063 or email: a.cook@pgrad.unimelb.edu.au

Image 2: Plain instructions for a 'week with a camera' activity
(credit: CATCH/iMATCH research protocol, 2011)

The use of facilitated activities (for example, a collage-making activity using the photos that children have taken) to follow a camera activity is often applied with the purposes of participant prioritising and annotation of images. The facilitation of this type of follow up activity is important, both for the participants (so they have guidance) and for the planner/researcher. Being present to document the dynamic and conversation as well as the actual prioritising and annotating of the activity, according to Cele, is "extremely valuable" (2006: 155).

The lesson here is that time (for example, time for children to be out taking photographs), planning (in constructing the tools and materials for activities and for planning the most appropriate timing and format of the visual methods) and facilitation (to ensure that prioritising and annotation occur) are all vital… but not necessarily onerous for planners who are already familiar with these aspects of managing research.

Lesson Four: An Image Doesn't Speak for Itself

> We recognize that the photographic image is 'true' in the sense (physical or electronic manipulation aside) that it holds a visual trace of a reality the camera was pointed at. But more fundamentally, all images, despite their relationship to the world, are socially and technically constructed.
>
> Harper 1998: 29

As Collier & Collier note, "the most beautiful and technically superb photograph is useless in visual research if it does not conform to the needs of systematized observation" (2004: 277). In other words, visual research, like any other, rests on foundations of quality research design and robust analysis.

The photograph doesn't speak for itself, and this is probably particularly true of a photograph taken by a child, as a child has a different cognition and experience of the physical and social world than an adult does. Take for example Image 3. On its own, it has limited information to convey to us. We see the aesthetic and elemental composition (there is a lot of concrete, some graffiti, fencing) and a solitary child.

How would researchers or planners analyse this photo based just on the photographic content and without any annotation from the child? Would this be an example of a positive or a negative environment? Chances are the adult observer would assess this as a negative environment for a child based on the hard elements in the photograph.

Image 3: What does this photograph say when it 'speaks for itself'?
(photo credit: Vertical Living Kids week with a camera participant, 2009)

We can see, from the analysis provided directly from the child via their annotation to the same photo in Image 4, that this would be incorrect, at least with respect to the motivation that the child had for taking the photo and whether the photo represented something she "loved" or "hated":
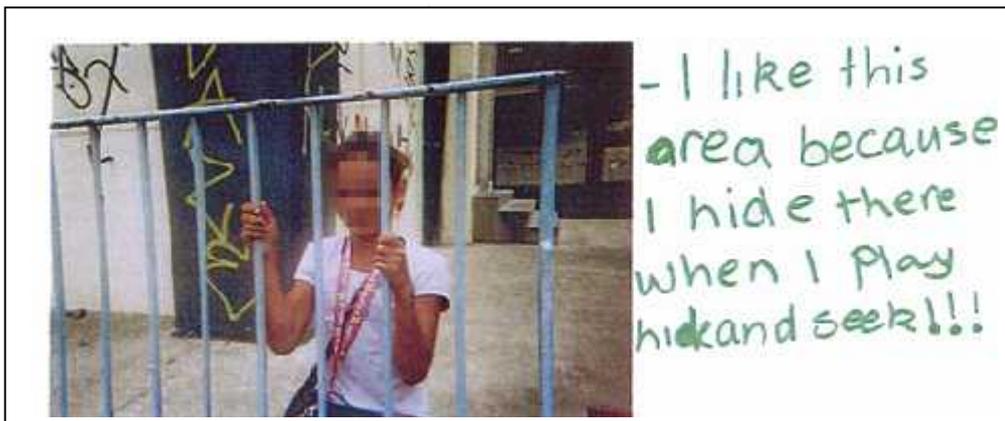
Image 4: The importance of not letting the photo 'speak for itself'
(photo credit: Vertical Living Kids week with a camera participant, 2009)

An analysis of the aesthetics of the area may still be accurate and this young girl might certainly prefer to have a more appealing place to hide in when playing hide and seek, but the child's priority (hiding and playing) would not be easily gleaned by the adult analyst without the annotation, and the photograph does provide a different research lesson as a result.

The lesson we take from these examples (and the above is only one example of a 'surprising' analysis offered by a child) is that the narrative annotation of any visual medium is critically important and instructive to the research, and that thought must be given to how to weave in opportunities for children to reflect on their own imagery and provide understandings that can be married with the images they produce. As Freeman and Mathison contend, "participants can use drawing and photography to capture meanings beyond words and without words, but words certainly help to situate the expressive meaning of the drawing within a specific framework and context" (2009: 127-8)

**Lesson Five: The Pretty Pictures Aren't Always the Most Valuable Ones**

Freeman & Vass (2010), in their cautionary tale about the use of mapmaking with children, contend that "a good quality map reveals not only a child's spatial awareness, but also their familiarity with conventional spatial representational techniques and their skill at employing these" (Freeman & Vass 2010: 69) and make a compelling case that mapmaking isn't always an accurate representation of a child's experience of place.

The caution is illustrated in the two mapping examples, by children of roughly the same age, in Image 5. The first is a quite well-drawn and 'pretty' example that looks like a map while the second is more basic, looking more like a drawing. Yet both, by virtue of facilitated narrative to annotate the mapping (particularly in the case of the second map), are able to tell us a good deal about how these children perceive their local area.
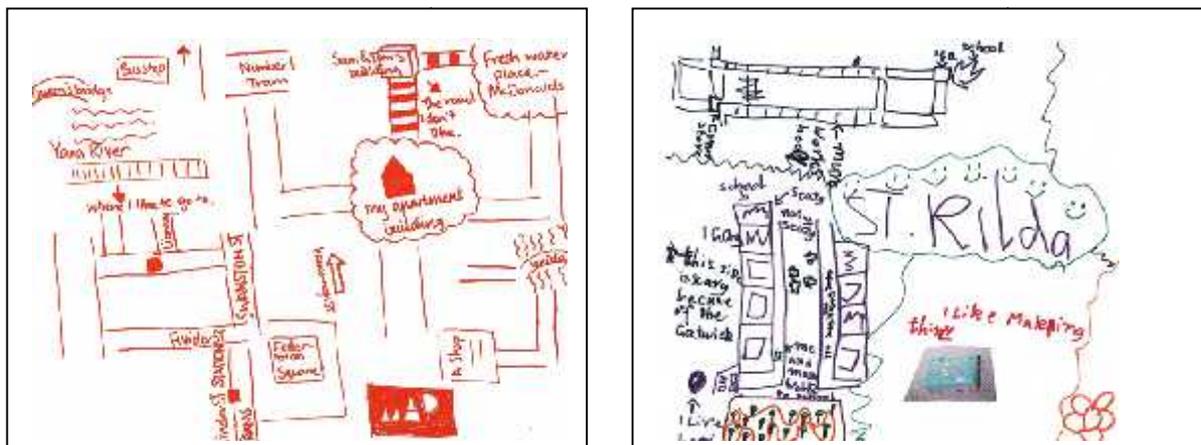
Image 5: Different child-produced map quality, each conveying useful information
(photo credit: Vertical Living Kids week with a camera participants, 2009)

This caution is relevant to photography, video and the other visual tools available to children as part of participatory urban planning practice. In Image 6, there is an example of an under-exposed and difficult to interpret photograph. It might be unusable as an image except that the annotation refers to the alley being a "secret spot"; a note that helps the viewer relate to the darkness and indistinct elements of the image.
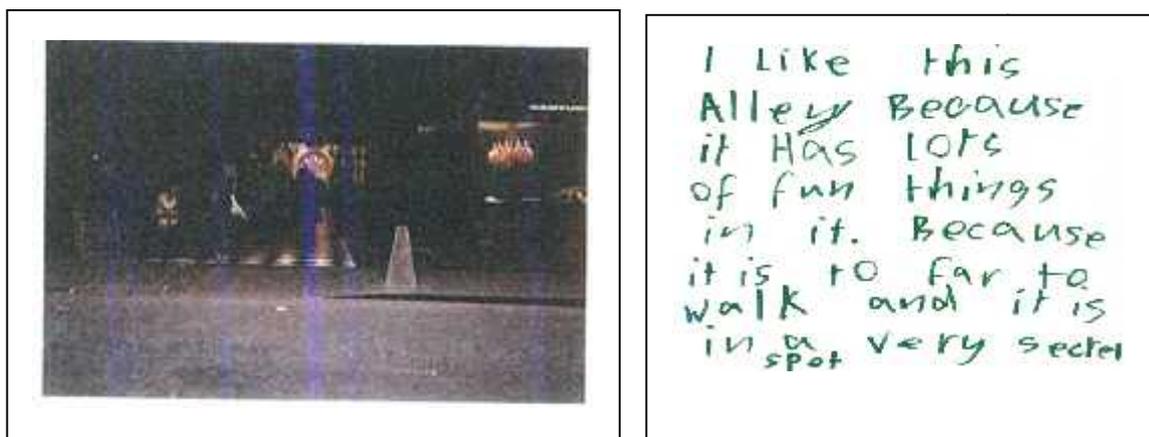
Image 6: A 'bad' photograph? Perhaps not…
(photo credit: Vertical Living Kids week with a camera participant, 2009)

The lessons for us include the need (a) to acknowledge the human proclivity to seek out and privilege the 'good' examples of the visual (the sophisticated map, the well-composed photograph, the artful and thought-provoking video) and to resist those aesthetic impulses as much as possible; (b) to consciously look to all materials produced by children (the good, the bad and the ugly) to look at the meaning of the imagery versus the composition of it, and; (c) to think about our role, as adult facilitators, in supporting children in learning how to be more competent mapmakers, modellers, photographers or videographers.

THE 'HOW' OF DEVELOPING VISUAL TOOLS: FIVE 'WHY BOTHER' LESSONS

Previous Australian research has tended to demonstrate both ideological and practical gaps to consulting with children about planning issues. For instance, a recent Victorian study that compared five local governments with Child-Friendly City (CFC) policies with two 'control' local governments (Whitzman et al, 2010) found that CFC initiatives tended to be led by social and health planning officers, with land use planners and designers generally less involved in the initiative. Land use planners reported that the views of children were accorded a low priority, and in some cases, were subsumed under "planning for families", with parents consulted about their children's needs. While some training for social and health planners had taken place around consulting with children, land use planners and designers were less involved. Furthermore, an

examination of land use planning schemes found almost no mention of children as a specific group with explicit rights and needs.

Lesson Six: Imagery from Children Expands Our View of 'The City'

Image 7 is a type of imagery we would be very familiar with as planners: an aerial photo of a suburban neighbourhood. It conveys to us not only the elements of the photograph (road networks, buildings, green open space) but something else: it conveys meaning about what the city is through what it has captured in the opening and shutting of a lens. That meaning is then reinforced every time someone sees the city represented in this same aerial way that stresses road networks, buildings and green space.

Image 7: Typical cadastral imagery of 'the city'
(credit: Victorian State Government land channel map, 2006)

This description of what the city 'means' is often quite different when seen through a child's eye, however, as the two photos in Image 8 suggests. In this image, the elements of the photos are put together in a very different manner and the meaning we, as the viewer, take away is different, even though the physical space is in the same neighbourhood as in Image 7.

Seeing these different representations reinforces the 'communicative action' that planners are engaged in (Forester 1988; Healey 2006) The ways in which communications, including imagery, is produced about the city frame understanding *of* the city. If certain types of communications (such as Image 7) are always privileged over other types (such as those in Image 8), this becomes the communicated norm and serves to eventually exclude the non-privileged altogether.

Image 8: Alternate views of 'the city', taken by children
(photo credit: Braybrook Community Vision 'week with a camera' participants, 2006)

Expanding our portfolio of imagery about the city (and our representations and communications about it) is a good outcome for planners and for the community, we feel, and this is a lesson we take from our work with children. This expanded portfolio enables us to understand the city's complexity more fully ("ah, perhaps I now understand why people love that space or hate that other space better than when looking just at the cadastral map") and provide communications to those we are planning for in ways they can identify more readily with ("hey, I know that street and those guys playing basketball in my park").

Lesson Seven: Imagery Can Highlight Shared Values

Imagery, when used with children and adults, can be a powerful and immediate vehicle for finding the "mutual understandings" that Cele speaks of (2006: 20). Sometimes the 'mutual understandings' are vividly illustrated in photos, maps or drawings done by children and those that adults create, as the paired photos in Image 9 illustrate.

Image 9: Adult and child imagery of 'sacred' space
(photo credit: Latrobe 2026 week with a camera participants, 2009)

The message of these two photographs, taken together, is one of a shared value of the environment type represented: in this case, the small rural creek. In addition, Darian's annotations to his image are a reminder of the power that that childhood environmental experiences have in shaping life-long environmental preferences and values, as well, as we can see in Amber's annotations, that same experiential process happening in childhood.

For planning practice, understanding the 'sacred' as shared by different people in the community can be a fundamentally important thing, and the lesson for us is in the ways in which imagery can aid planning by clarifying values and aspiration and in quickly (and viscerally) identifying the areas of consensus amongst different members of the community, including the traditionally under-consulted like children. In a pragmatic sense, this saves time and resources in planning processes, and in an ethical sense it opens planning up to a wider group of 'stakeholders' in ways that are easier for them to participate in.

Lesson Eight: Imagery Can Also Highlight More Contested Values

Planning practice is marked by many 'contested' spaces and issues; ones that even members of homogeneous groups of adults in the community can disagree on in terms of vision and aspiration and what is loved and hated. Children rarely get a voice in the debates about the 'contested', and are sometimes even at the heart of these contested spaces and issues (Malone & Hasluck 2002).

Image 10: Newspaper headline regarding 'hated' graffiti

Without their contributions (and the contributions of a range of people in the community), contentious issues will remain poorly understood. Image 10, for example, is a news headline in a local paper in Melbourne that appears to resolve the issue of graffiti in that community. One voice on the issue is presented. It would seem that the community value regarding graffiti is clear.

Or is it? In the same area, a week with a camera activity produced multiple images of local graffiti that the photographers said they loved, as the two annotated photos in Image 11 illustrate.

Image 11: Alternative views of graffiti
(photo credit: Braybrook Community Vision 'week with a camera' participants, 2006)

The different narratives conveyed in the two types of imagery illustrate, for planners and policy makers, that consensus on some issues is not necessarily fully represented in traditional communications that occur regarding the vision that people have of the community and the 'sacred' aspects that they want to protect. Further, the difference may be age-related (the photos taken in the week with a camera activity were taken by young people while the news article represents an adult perspective). Understanding this value in imagery is a critical lesson that we take from practice and literature.

Lesson Nine: Planning is a Spatial *and* Social Activity, as Seen Through Children's Eyes

As much as we may identify with spatial planning being a different activity than social or community planning, a critical lesson from our own and others' work with children is how blurred these boundaries really are in the ways that children use the city.

The social is expressed in many children's photos of physical environments, even when people do not feature in the photos. Take for example the two photos in Image 12, where children have drawn the 'absent' people into their photos. In this and other ways, children describe, through their imagery, their social connectedness to the city as well as their spatial connectedness and understanding of their neighbourhoods, and this reinforces the argument of Whitzman et al. (2010) that the work of engaging with children on planning issues is the work of spatial and community planners alike.
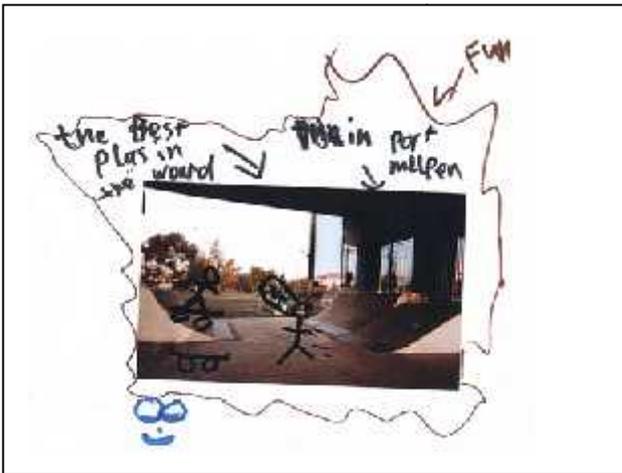
Image 12: Children drawing people into their photos
(photo credit: Vertical Living Kids week with a camera participants, 2009)

Seeing this sort of imagery reminds us that "children… develop a number of stories from one photograph – stories of the social context but also the physical spaces, past events and often even triggers to past experiences which seem quite unrelated to the photograph content" (Marr & Malone 2007: 23) and that there isn't a division of the spatial and the social in the experience that people have of the city.

The lesson we take from this is that planners of all 'description' need to come along for the ride and see how the imaging of the city, as expressed by children, can improve decision-making in their sphere of influence on 'the city'. The division of planning labours isn't a natural one, in many respects, as the city is concurrently experienced by city dwellers, including children, as physical, social, cultural and functional. It is also experienced not only in the present but also in the past and as an anticipation of the future. Capturing this in practice, whether we identify as 'social', 'land use', 'environmental' or 'transport' planners, strengthens strategic planning as a whole.

Lesson Ten: The Production and Use of Images Is Influenced By Evolving Technologies

A final lesson to be discussed is that of recognising and exploiting emerging opportunities. Planners and planning researchers need to remain aware of the evolving possibilities within the technologies related to visual methods and be ready and skilled in marrying these opportunities with all types of methods, visual methods included.

Children and young people are often at the vanguard of new technology and can be active teachers and catalysts for the innovation in technology. They, for example, are using emerging technologies like image sharing (e.g. YouTube or PhotoVoice) and social networking sites (e.g. FaceBook or Twitter) on the internet. They increasingly have mobile phones with cameras and are already engaged in taking photographs and video of their environmental experiences and are comfortable with the technologies these tools represent (Cele 2006).

The lesson (and the challenge, perhaps) is for planning practice and research to keep pace and to be offering children and the wider community ways in which to engage in these new technologies as applied to planning.

GIS, for example, is used both as an analytic and mapping tool for better understanding and planning for children in urban environments (Giles-Corti et al 2011; Wridt 2010; Wheeler et al 2010). Developments within GIS are developing participative and multi-modal means of knowledge generation into complex visual representations and spatial analysis. Shepphard (2001: 547) notes that "situated knowledge and ethnographic material", such as sketch maps and photographs, can be easily incorporated into GIS. Dennis Jr (2006) describes a series of workshops organised with young people that used a range of qualitative methods, including photo-collages, to incorporative aspects of 'sense-of-place' into GIS. Santo et al (2010) incorporated photographs into GIS maps to allow children to evaluate their own neighbourhoods.

A caution, however: technological advances are not necessarily positive and new opportunities provided by technological change will be laden with new power dynamics that must be critically examined. Planners need to understand and be open to the possibilities and pitfalls evolving visual technologies create, but not

rely on them uncritically or to the exclusion of facilitated methods that explore the "situated knowledge" that Sheppard speak of.

This caution aside, new technologies -- often very visual technologies -- are exciting and creative avenues for the planner to explore in how to "do planning" with children. With planning practices being transformed by new and evolving technologies, methods that allow children to translate aspects of their daily lives into images are becoming more practical and feasible. Furthermore, these technologies can highlight visual representations as part of the overall knowledge base that contributes to planning. Planners therefore need to understand and be open and critical to how visual methods and images can best inform their practice.

CONCLUSIONS

In recent decades, there has been a fundamental theoretical shift from a dominant framework of research and planning *on* or *for* children to one of researching and planning *with* children (Freeman & Mathison 2009; Marr & Malone 2007) and the challenge, for planners, is to translate that into practice.

The complexities of how to 'do planning' with children can be puzzling, however, and there is an urgent need to provide practical and empowering advice to those in practice who may feel overwhelmed by the demands of these changes to how they work.

Learning from the lessons of practice from those working with children using visual methods has, we hope, improved our own practice in relation to the development of the research design of our national CATCH/iMATCH project. We also hope that consolidating and sharing those learning will be a support to other practitioners and will be a first step that CATCH/iMATCH can make in providing robust tools to planners to empower them in their work with children.

The lessons we've taken away have been lessons regarding both the methodologies and methods related to visual approaches specifically; the 'why and the 'how' of using visual methods with children and what they can contribute to planning practice. One result of working with children using the visual methodologies is that the results can be truly transformative in terms of challenging the widely held assumptions that children are too difficult to work with, or that their views can be validly presented by their parents or teachers. The very practice of using visual methodologies helps to reinforce the right and the value of children to take a part in the planning process. As well as challenging assumptions about the capacities of children to be involved in planning, the rigorous application of the visual methodologies described in this paper can help planners and other practitioners be more aware of their own value judgements, even in terms of what images might be chosen to represent children's views.

Perhaps the fundamental lesson that comes from this paper is that to "do planning" with children requires an openness to the idea that children are citizens in their own right, rather than citizens in waiting. This is a profound cultural shift for many adults, including many planners and policy makers. Because of the many advantages of visual methodologies, including the finding that children respond positively to the use of a visual approach, planners who are willing to carefully apply these methodologies may be rewarded with valuable insights to creative approaches to future challenges.

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