Using Emoji in Research with Children and Young People: Because We Can?

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Abstract. Participatory and rights based research with children and young people emerged over the last few decades. The participatory tradition describes children as human beings with a right to participate in research on questions important to their lives. Visual methods such as drawing, mapping and photography have been adapted from positivist traditions in childhood research and from qualitative research in general. More recently, digital technology has been rapidly changing and expanding, affording a myriad of new possibilities for researchers. This paper considers the use of new technologies, specifically emoji, in conjunction with other visual methods such as video and digital interactive mapping, to improve participant engagement and interaction with the research topic in ways that are salient for children and young people. Using three case studies, the paper reports on the theoretical development, application and experiences of researchers using these technologies.

Keywords: interactive mapping; emoji; participatory; young people; children; qualitative methods.

1 Introduction to Participatory Research With Children and Visual Methods

It is not so long ago that children were predominantly subjects in research: studied but not heard, researched on but never with (Darbyshire, MacDougall, & Schiller, 2005). Critical and progressive movements opened up new ways of understanding the broader phenomena of children and childhood and research could no longer uncritically adopt ‘adultist’ methodologies. Qualitative researchers were well placed to embrace these new approaches and drive fundamental change to involve children respectfully and ethically as legitimate social actors with agency. Participatory qualitative research strives for genuine consultation, participation with children as valued partners or even being in charge.

The Children’s Rights movement added further impetus by articulating the need to involve children and to take seriously their views and perspectives, not as icing on a kindly research cake but as a fundamental human right. Article 12 of the UN Convention on the Rights of the Child became an article of faith for many childhood researchers (summarised from MacDougall & Darbyshire, 2018, pp. 618-619).

A recent review (MacDougall & Darbyshire, 2018) of the possibilities for visual methods in participatory research with children noted how children’s health and social care were both changed by the observational documentary film work of James and Joyce Robertson comprising a harrowing account of the near mental destruction of a young girl who spent eight days in hospital for a minor operation (http://www.robertsonfilms.info). Despite the health establishment vilifying the film it was central to the landmark Platt Report in 1959 which shaped paediatric care until the present day.
Visual methods developed from film and photography to incorporate digital technology in the qualitative methods toolbox. Photovoice, or the closely-related photo-elicitation, involves researchers providing children with a camera to take photographs relevant to the research, taking care to minimize directions about what adults think is important. Researchers can ask children to provide a caption or description and there is usually a follow up interview or focus group encouraging children to discuss their photos, either in a free discussion or in response to prompts. The review authors expected visual methods to move with the digital times and embrace new concepts such as emoji (MacDougall & Darbyshire, 2018).

Emoji are a type of graphic symbol which express concepts and ideas pervasively used in mobile communication and social media (Novak, Smailović, Sluban, & Mozetič, 2015). Emoji descended from the emoticon, a shorthand form of a facial expression created using a standard keyboard, for example :-)\. Rather than keyboard shorthand, an emoji is an ideogram which can be used to represent a facial expression, but has been co-opted to represent feelings, gestures, objects, animals, food and drink and activities which are all commonly used in electronic communication and social media (Novak et al., 2015).

In this paper we consider the use of new technologies, specifically emoji, in conjunction with other visual methods such as video and digital interactive mapping, to improve participant engagement and interaction with the research topic in ways that are salient for children and young people. Using three case studies, the paper reports on the theoretical development, application and experiences of researchers using these technologies as qualitative data collection methods in different contexts. We bring the studies together to suggest theoretical and practical possibilities for the use of emoji as an emerging visual method that could be used for qualitative data collection in diverse contexts. Each of the three studies obtained ethics approval from approved institutional ethics committees and relevant formal consent from all participants.

2 Three Studies Using Emoji

2.1 Emoji experimentation - Informing Research Planning

Authors 2 and 4’s use of emoji started during the planning of structures to enable the participation of children in setting the research agenda of a research team at the University of Melbourne dedicated to right’s based, participatory research with children. While the team’s research and evaluation projects were invariably participatory, team members were seeking ways to involve children more broadly in priority setting.

Guidance from the literature about how to involve children at the higher levels of research planning is mixed (MacDougall & Darbyshire, 2018). The team decided to experiment by making a professionally produced video involving children in schools in which the researchers had conducted projects. The objective of the video was to ensure that the team’s research remained relevant to contemporary Australia and would be informed by children’s accounts of their interests and activities. There were five primary schools involved, located across Victoria including Melbourne, the coast and in regional and rural Victoria1 (Jack Brockhoff Child Health and Wellbeing Research Program, 2017).

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1 In Australia, the terms regional, rural and remote are used to define non-urban areas according to population size, distances between localities and access to services. For the purposes of this paper, regional refers to non-urban centres with a population over 25,000 and good access to services, rural refers to non-urban localities with a population fewer than 25,000 people and reduced access to services, whereas remote refers to areas with a population less than 5,000 people with restricted access to services (Roufeil & Battye, 2008).
The emoji option arose because in previous studies we had used a photo ordering method to stimulate discussions about playgrounds and physical activity in primary schools. That method was as follows:

The researcher leading the group discussion placed 17 A5-sized photographs on a table; these photographs were different from the photo documentation used to verify playground features. They represented a variety of situations and environments, e.g., families, school playgrounds, grass ovals, sports equipment, classrooms, lunch boxes, and chocolate fundraising. The researcher asked the children as a group to put them in order of what they considered the most healthy, down to the least healthy. Children simultaneously shared their thoughts, negotiated with each other, and discussed their reasons for the position in which they placed the photos. The first researcher used prompts and asked the children to clarify the reasons for their choices. The second researcher took notes of what was being discussed, in addition to the audiotape recording the session (Willenberg et al., 2010, p. 212).

We concluded that photo ordering added to our findings on the basis that it led to an unanticipated outcome of detailed discussion among the children about their perceptions of playground surfaces, design and equipment and stimulated discussion between children. This had the added benefit of reducing the power imbalance between the researcher and the children because the bulk of the discussion was between the children. In the decade since that study was conducted there have been rapid advances in technology rendering emoji commonplace in the lives of children. We resolved to experiment by asking whether the more contemporary emoji, used so extensively in young people’s communication, would resonate with children’s digitally native lives and prove effective in stimulating interest and discussion.

We therefore designed the data collection for the video to include interviews and focus groups involving a mix of verbal discussion and responses to a range of enlarged laminated emoji and pictures of common objects on the table, and a child-led tour of their favourite places in the school grounds.

When we showed the final video to a range of people we received many comments about how the use of emoji sparked discussion, increased energy levels and provided more nuanced data than from focus groups or interviews. As a result we re-analysed the video comparing the children’s engagement and accounts between conventional verbal methods and the use of emojis. Children were polite and engaged with verbal methods and provided descriptive information about their activities and preferences. Particularly in group settings, successive children often built on the accounts of those who started the conversation.

By contrast, the introduction of emoji stimulated an immediate change in body language with children sitting up, showing more emotion in their faces and speaking in more animated tones. They were more likely to turn their bodies towards other children when speaking and there was a noticeable increase in the to and fro of debate among children. Particularly evident were the differences in content of their accounts which, in response to emoji, were richer with reflections about emotions and feelings. One boy chose a smiley face to describe how he felt about his neighbourhood, saying ‘on the holidays when I walk around see how people are kind and if anyone needs help they help you straight away without anyone telling them.’ This was particularly notable because he came from a migrant background and there had recently been anti-migrant debates getting a lot of coverage in the media. A girl chose a more indeterminate expression because ‘I am forgetful and forget to do things I am asked to do.’ Rather than build on the accounts of preceding children, they were more likely to debate and draw out points of difference, often referring to the emoji and their statements as if to claim ownership of their accounts.
Children were also asked to select one of a number of pictures of objects and activities such as sport, a bicycle, a house, and a tree. The tree was chosen by one boy because ‘I like nature and riding my bike and I like how trees go off in different directions.’ A girl’s reason for choosing a tree was ‘I like nature, I love trees because they make me feel calm.’ A picture of a computer prompted a boy to say ‘I chose this because it reminds me of my aunty. We talk to her using Facetime because she lives in another country.’ One girl chose the image of a bicycle because ‘I love riding my bike. I ride it up and down the driveway because I’m not allowed to ride to the park by myself.’

Our conclusions were that emoji and pictures added interest and engagement and provided a window on emotions and feelings. As a result, we were confident that the method had promise and its effectiveness should be explored when a suitable research question arose.

2.2 Emoji as a Method - Wellbeing and Transition From Kindergarten to School

Having concluded that emoji were a promising tool for visual methods with children, for our next study Author 3 first reviewed the literature, then evaluated the processes and outcomes of using emoji to engage young children. She found that engaging young children in learning about and through digital technologies has become increasingly commonplace in early education and care environments as these technologies have become increasingly a part of children’s lifeworlds. Digital literacy is the ability to use a range of technologies to find information, solve problems or complete tasks, and has been identified in Australia as a key educational outcome for all children (Department of Education and Training, 2015). Digital literacy has become an important component of our current conceptualisation of literacy, including the interpretation and use of symbols, icons, logos and multiple sign systems such as video clips (Department of Education and Children's Services, 2006).

Visual research has a strong link with technology, and new technologies can contribute to and inform our knowledge about social worlds and actors (Cipriani & Del Re, 2012). Emerging technologies have the potential to produce ‘new, innovative, reflexive, and theoretically informed’ research (Pink, 2003). As young children’s voices have been largely excluded from child wellbeing research (J Fane, MacDougall, Redmond, Jovanovic, & Ward, 2016), the use of digital technologies may offer opportunities for children to participate in research in ways previously thought impractical or impossible. The increased focus on technology within curriculum and designs for learning in early childhood education (Marsh, 2005), supports the use of emoji as a research method for engaging young children in investigations of their experiences and understandings of wellbeing (see Jennifer Fane, MacDougall, Jovanovic, Redmond, & Gibbs, 2016).

Visual materials are not simply read as if they contain an internal meaning that the viewer can listen to (Banks & Zeitlyn, 2015). Instead, interpreting visual materials requires attending to both internal (the image’s content) and external narratives (the social contexts and relations within which the image is embedded at any moment of viewing) (Banks & Zeitlyn, 2015). While emoji were selected by Author 3 due to their ability to engage children in thinking and explaining their understandings and experiences of emotions, as demonstrated in the first case study, the key strength of emoji as a research tool is that the interpretation, or external narrative, rests solely with the participant. As such, the use of emoji permitted the introduction of the research method with very limited instructions or ideas from the researcher, limiting the influence of the researcher or the research agenda on children’s interpretation of the visual material.

The study involved 78 children (49 boys and 29 girls) aged three to five years across eight long day care centres in Adelaide, the capital of South Australia. The study commenced with multiple visits at each site to build relationships. The researcher (author 3) conducted 13 focus groups with four and nine children in each group. She started by explicitly stating to participants that adults need children
to explain to them what children know about feelings and emotions, and that these important ideas will be used to teach adults.

Emoji were the sole data collection tool, and were enlarged to 10cm by 10cm and laminated so they could be manipulated by children. Triplicates were used so that multiple children could choose the same emoji, facilitating children’s engagement with their picture of choice. The researcher began each focus group by distributing five different emoji faces representing feelings through facial expressions to the child participants (see figure 1). Children were first asked to identify the feeling or emotion being portrayed by the five faces. The only verbal prompts given by the researcher was ‘can you tell me what feelings you see?’. From this prompt, the children participating as co-researchers in this study generated 24 different feelings, emotions, and ideas. Of particular interest was the volume and diversity of the responses in relation to the more ambiguous straight mouthed emoji (see figure 1). Not only did the straight mouthed emoji garner the most ideas, it also facilitated the greatest amount of discussion between participants, generating disagreements and negotiations between children about their individual interpretations of the emoji.

Once children had shared all the ideas they wanted with the researcher, the researcher gave each focus group 13 other emoji pictures, chosen to represent common objects, environments, activities, or iconography that young children would be familiar with. Once child participants had the opportunity to explore the new emoji, they were asked to pick one and tell a story about the one they chose. The researcher engaged with every child’s response throughout the interview, asking clarifying questions if the response was not understood by the researcher, and repeating the child’s idea or story to ensure the researcher had correctly understood. The focus groups were concluded once all child participants had finished telling the researcher what they wanted to share.

![Figure 1. Ideas elicited by emoji (source, author 3)](image)
2.3 Emoji and Apps – Using Emoji to Label Interactive Maps

The third use of emoji arose during a study in Adelaide, Australia using an ecological framework to chart the social networks of young people from migrant and refugee backgrounds aged 13-21 years. This study involved testing another digital possibility: using tablet-based interactive mapping to describe and discuss the functions of social networks. Technological advances mean that we can now explore young people’s everyday mobilities without needing to travel, hence the term virtual mobile methods (MacDougall and Darbyshire, 2018).

The rationale for using this method was that the lives of young refugees have been disrupted in space and time opening the possibility for multiple and transnational networks. Geographical mapping has been used by scholars from a broad range of disciplines to explore where young people go and how they interact with their environment in their everyday lives (Badland, Oliver, Duncan, & Schantz, 2011; Freeman, van Heezik, Stein, & Hand, 2016; Nansen et al., 2015). Generally, studies with young people using maps have been local (e.g. within a 5 km radius of their home and/or school), hard copy maps on which participants can add layers, for example marking places they like and places they do not like (Badland et al., 2011; Jung, 2015). Author 1 and her colleagues anticipated that social networks and the places that hold meaning for young people from migrant and refugee backgrounds would very likely be transnational (Williams, 2006). Thus, they anticipated that hard copy maps would be too limiting for the study purposes.

Interactive mapping techniques have been used to explore young people’s use of space, such as the Visualisation and Evaluation of Route Itineraries, Travel Destinations, and Activity Spaces (VERITAS) mapping system which utilises the Google Maps application in conjunction with interview/survey questions (Bhosale et al., 2017). In addition, a few studies have used Google Earth to explore the extent to which young people can use these systems and to investigate their mobility (Danby, Davidson, Ekberg, Breathnach, & Thorpe, 2016; Islam, Moore, & Cosco, 2016). VERITAS systems have mainly been used to understand where and how young people move through physical space, rather than exploring who they connect with by virtual or physical means (Chaix et al., 2012).

New digital technologies have to some extent democratised the realm of map literacy, which was historically accessible only to the wealthy and powerful (Gordon, Elwood, & Mitchell, 2016; Panek, 2015; Powell, 2010). Young people’s map literacy and spatial awareness is evident in geographical studies which have shown they are able to interpret maps and can describe correctly their movements using maps (Badland et al., 2011; Jung, 2015). Nevertheless, there remains a digital divide, whereby the exposure to technology, including the use of personal computers, smart technology (e.g. smartphones and tablets) and access to the internet, remains inequitable across the social gradient (Alam & Imran, 2015; Newman, Biedrzycki, & Baum, 2012).

Prior to using this virtual mobile method, Author 1 piloted it with three young people (aged 14-17) who regularly undertook independent travel on public transport, which the researchers anticipated would be the experience of their study sample. Author 1 asked the pilot participants to drop pins (place markers) on places of importance or those where they spend substantial time (e.g. home, school, local park, friends’ houses). She then asked participants to label their places, using stars (asterisks) to indicate how much they liked the places, with one asterisk meaning ‘do not like’. One of the pilot participants immediately accessed the emoji keyboard option rather than using asterisks, providing a more extensive range of possibilities to signify their feelings about places. Author 1’s experience was similar to Jung (2015), who had asked children to write and draw on hard copy maps places they liked and disliked, yet they chose to use smiley-face stickers. Author 1 therefore changed the study design to ask participants to use emoji to label places rather than asterisks to indicate their feelings about the places they selected (for an example, see figure 2).
Author 1 and colleagues conducted mapping interviews in groups of two or with individuals, depending on which they preferred, with each participant using an individual tablet. The researchers found that the first thing participants wanted to do was bring up street view and show the researchers their homes. One of the two-participant groups chose to start by locating their home village and town in Africa, immediately demonstrating the global possibilities of using web-based interactive maps. For all participants, this method provided space to talk about who lived there, who they were in regular contact with, how they travel around and who they travel with. Participants could lead the interview from their preferred start-place. One of the participants accessed the tablet dictation application to find places so that he did not need to type in addresses.

The participants used public transport extensively in their resettlement city, some with multiple connections to get from home to school or to visit friends, demonstrating the importance of time in daily life. Rather than drop a pin at their bus stop (which is what we had expected) participants used street view, taking us on a virtual journey from home to their bus stop, while describing how long the walk was, who they went with, how long each bus or train ride was and how long the overall journey would take. This lead to in-depth discussions that included the time they had to be at their bus stop/railway station to make all their connections, which was affected by how many people lived in their households, who they travelled with and what time they had to get up in the morning due to shared bathroom use.

The researchers continued the map-interview with prompts for participants to drop pins in their various places they went in their everyday lives, as well as how they travelled to those places. The researchers learnt that the participants lived far from the places they visited (including each other) which meant that using an interactive map was highly useful. Had they used a local area map, participants would not have been able to include all the places they go.

Toward the end of the interview, where participants had not already done so, the researchers asked participants to show them where they lived prior to arriving in Adelaide. Again, as soon as participants
found their places, they opened them in street view, or opened photos that were embedded in the maps. In this way, the interactive map platform provided opportunities for participants to discuss their (often harrowing) journeys to Australia, their transnational networks and ways of maintaining communication, in their own terms and at their own pace.

Whilst participants had no trouble using interactive maps to find places and use street view, we discovered that they required more assistance than the pilot participants with selecting the label function, locating emoji in the drop-down label box and saving their places. We sat with participants so they could seek our help finding and using the label function as needed. We found that using this technique, when the participants were satisfied that they had saved all their places, they spontaneously chose one of their saved labels and offered to describe why they chose that place and why those emoji. A function that smart technology keyboards allow for is to choose the skin colour that users prefer, which participants accessed without prompting (see figure 2). One of the participants also spontaneously showed us changes over time by including multiple emoji that represented how he felt at different time points, as he described below (see figure 3):

Do you want me to explain why I chose these labels?
[A1: yes please]
This is my soccer club] I put the monkey hiding his face because when I first went there I was shy and then after a few days I was really happy and so I put a smiley face. And then after a few days I loved it. I met 3 Congolese which is good. [...] I made friends with one Congolese guy because his mum picks him up and his mum is my auntie’s friend and when she comes there sometimes she takes me home. Sometimes I go to their house. They have become my friends because of soccer (Zlatan, Congolese refugee background, 15 years).

![Figure 3. Using emoji to demonstrate changes over time (Source, Author 1, Google Maps)](image-url)
Using this method meant that participants could show us their places in the order they preferred and that they could decide when and whether they talked about sensitive topics, illustrated by the same participant in his account below:

This is where I lived before Australia. It was [place] - it’s actually a small country. [In the beginning I was really happy there but then place] was horrible because they were fighting because the President doesn’t want to get out of power so there was a small war. They used guns, they killed people - it was horrible (Zlatan, Congolese refugee background, 15 years).

To summarise, Author 1 and colleagues found web-based interactive maps effective and appropriate for research with young people from migrant and refugee backgrounds and we contend that the method has the potential for broader application, for example in studies with any highly mobile populations (such as fly-in, fly-out workers) or those with transnational networks. The researchers also found that using emoji to label places provided a way for participants to provide rich descriptions of changes in how they felt about places and their associated networks over time that did not require high levels of spoken or written English language literacy. We therefore conclude that using web-based interactive maps and labelling with emoji, in conjunction with interviews, is a valuable addition to the qualitative researcher’s toolbox (Darbyshire et al., 2005).

3 Discussion and Conclusions

Overall, the three studies demonstrate the contribution of methodological reflexivity to ensuring that methods made possible by advances in technology add analytical substance. Our reflections raise important points in the consideration of emoji as a fruitful methodological tool in rights based, participatory research with children. The first is that emoji is a tool that requires little instruction or front loading prior to use with participants. This helps the emancipatory aims of qualitative research with groups whose voices are largely excluded in the creation of knowledge because the traditional use of more structured questioning (such as in questionnaires and structured interviews). Traditional methods can serve to limit the responses and the autonomy children and young people have in sharing what they feel is important and relevant. Similarly, traditional methods may also exclude the experience of people who do not share the same first language of the researchers, or who may have difficulty in written or verbal literacy in that language. The limited need for researcher instructions and guidance in using and encouraging children and young people to interact with the emojis as a visual research method supported the positioning of children as meaning makers and knowledge generators through the limiting of adult voices within the research process.

The second key point is that while all the emoji allowed children and young people opportunities to interpret the internal and external narratives of the symbols in a variety of ways, the increased ambiguity of the symbol resulted in a greater amount of ideas, disagreement, and negotiations generated. As the number of emoji available for use on electronic devices continues to increase, as well as the diversity of the symbols available, opportunities to use emoji as a methodological tool across a variety of research disciplines and topics will continue to expand. Children and young people’s engagement within the research process in this study indicated that the use of emoji did work to shift hierarchical power balances between the researcher and the young person and leave space for young study participants to determine what was important for the researcher to know, and enact control over their participation in the research process.
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