

Title: Participatory methods for understanding 0-3s' technology use in family homes.

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Even babies have a voice! In other published work, with colleagues, I highlight that “every movement made by children holds a degree of intentionality that demonstrates their motivations and feelings in expressions of body and (non-verbal) voice” (Arnott et. al, 2021, p116). This is based on world-leading neuropsychological research from prominent scholars such as Colwyn Trevarthen, which informs our understanding of the ways that babies and very young children communicate their experiences.

Research such as this feeds into educational practices, particularly in Scotland, where the National Practice Guidance recognises the rights of babies to express their voices and the need for adults to recognise the often silent, embodied mechanisms through which very young children communicate. Approaches for interpreting babies' voices are clearly articulated with sections in the guidance on communicating from babies' perspectives, e.g., “I ‘speak’ my voice to you through my noises, actions and expressions. I am learning to communicate my thoughts and feelings by responding to others and my environment” (Education Scotland, 2020 p26). Practitioners and adults are advised to “listen with your eyes. Know that my expressions and movements are a fundamental part of my ‘voice’” (p30).

The recognition of very young children’s right to express themselves should not and does not only translate into educational pedagogy. Contemporary early childhood research involves the active participation of parents, guardians, carers and young children, typically from aged 3 and older. The *Toddlers, Tech and Talk* project, presented in the rest of this article, attempts to do just that, but with babies and toddlers aged under 36 months old alongside their parents and guardians.

The Toddlers, Tech and Talk Project

Toddlers, Tech and Talk is an ESRC funded research project, led by Prof Rosie Flewitt at Manchester Metropolitan University in collaboration with colleagues at the Universities of Strathclyde, Lancaster, Queen’s Belfast and Swansea. The study explores birth to 36-month-old children’s use of digital tech at home in diverse communities across the UK, and their experiences with technology in the home learning environment. Our main focus is on what 0-3s learn about talk and literacy while engaging with different digital and traditional media.

The project explores all manner of technologies including but not limited to: iPads, tablets, mobile phones, PCs, televisions, eReaders, radios, smart speakers, games consoles, virtual reality devices, Yoto Players, digital toys and digital household appliances, such as dishwashers, robot vacuum cleaners, printers and smart home technologies.

How is the project exploring this topic?

The study consists of three phases: 1) a nationwide survey of parents and legal guardians of 0-36-month-olds (1,603 responses); 2) 40 interviews with parents and 20 with ECEC practitioners; and 3)

40 case studies of individual children at home with their families (10 families in each UK nation). In this last phase, we are gathering broad and deep insights into how digital tech forms part of everyday family life for today's babies, infants and toddlers.

This article focuses on Phase 3, for which we developed an innovative participatory research methods palette - where families can choose which approach best suits their family life whilst helping us to learn about parents' and children's perspectives on tech use at home. Image 1 presents an overview of the starting prompt – a 'Research Palette' - that we used to help families decide which research approach was the best fit for their busy family lives.

****Insert palette image****

Families were not limited to only one method from the palette and in fact, many families chose to mix and match different approaches. This has helped us to understand from multiple angles how technology is part of families' daily lives – or not. We are using this information to map the potential of play with technologies for language and literacy learning.

Many of the approaches used in this study can be explored in other publications, for example the Day in the Life technique is detailed by Gillen et al. (2007) and the Living Journal's approach is documented by Savadova (2023). In this article, we describe a new approach that the team used to foster babies', infants' and toddlers' active participation in the research project: The Magic Bag (one of the choices under Participatory Research in Image 1).

The Magic Bag

Children's involvement in research is not new, but encouraging very young children (under 5 years old) to play an active role in research about their own lives is an evolving approach that involves "listening with your eyes", and noticing what very young children do, as well as what they might say or vocalise through sounds (Clark and Flewitt, 2020).

Steadily, methods are materialising which consider how we can involve even our youngest citizens in research, including ways that align with early childhood pedagogies. For young children, pedagogy is typically anchored in play, and a range of play-inspired data collection methods have emerged (Arnett and Wall, 2021). These approaches are gaining momentum, particularly with children from 3-5 years. Yet direct participation for babies and toddlers is still underexplored, largely because of a misconception that participation and voice need to privilege verbal communication. However, as explained in the opener of this article, we take the view that ALL children of ALL ages have a voice, albeit sometimes more embodied than verbal.

Building on the conceptualisation that babies and toddlers should not be marginalised, we felt passionate about attempting to cater for babies' and toddlers' right to participate. We looked to pedagogy to understand how we might develop methods that were appropriate for the children's ways of being and ways of communicating and we were struck by two elements of early childhood pedagogy:

1. The use of Treasure Baskets, first devised by Goldschmied, for exploration and curiosity.
2. Narrative stories that play on the child's interest in surprise and anticipation, particularly *Wee Granny's Magic Bag* by Elizabeth McKay.

The notion of treasure baskets was originally established with the intention of supporting children's concentration and we needed a way of focusing the child's attention towards the subject of our research. Yet we needed something practical for travel from home to home and so we merged these concepts and created our own Magic Bag, full of technological toys found around the home. The image below demonstrates a typical Magic Bag.

*****Magic bag image*****

Babies were then invited to play with the researchers and the parents by pulling items out of the bag, one at a time in a moment of suspense and excitement.

What did the Magic Bag tell us?

We filled the Magic Bag with technologies from around each home, which meant that the children were familiar with the objects that we included. The moment of uncovering a technological device was immediately followed by the child's desire to play. We were able to capture children's immediate reaction to each device, be it excitement or indifference or somewhere in between. Instantly, the child's preferences and 'voice' began to shine through. Subsequently, because early childhood play is fuelled by repetition, children began using the objects in ways that they would typically when found around the home, which provided the overview of everyday use we had hoped for. Mothers supplemented these interactions with commentary about what the children were doing and whether this was typical or new behaviour with the device.

1. iPads were pulled from the bag and babies began swiping back and forth, thrusting the iPad to the mother to unlock the screen.
2. Landline telephones appeared and babies lifted them to their ears and called out the names of family members they were used to phoning.
3. Toddlers pulled out a dummy laptop and immediately began reading the letters from the keyboard.
4. Cash registers induced hilarity as the drawer release button was pressed prompting a 'ping' noise and the drawer shot out. The toddlers said 'again' and the game was repeated at length.

How did it go?

Researching flexibly with families helped to craft deeper understandings of how children use technologies at home, in an environment where they felt comfortable and using methods that best suited their lifestyle. Flexibility in our research approach was particularly useful for the babies and toddlers involved in the project. Our approach builds on rights-based perspectives and relates closely to listening and play-based pedagogies because it allows parents to be responsive to children's preferred ways of being and doing. Thus, we were able to select methods to ensure very young children were comfortable to take part and able to express their perspectives.

As hoped, our innovative Magic Bag activity provided an insight into babies' and toddlers' technological worlds, from the unique perspective of their active involvement as a research participant through play-based methods

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References:

Arnott, L and Wall, K. 2021 *Research through Play: Participatory Methods in Early Childhood*. Sage. London.

Clark, A. and Flewitt, R. (2020). The Competent Child: valuing *all* young children as knowledgeable commentators on their own lives. *Review of Science, Mathematics and ICT Education*, 14(2): 9-24. Available at: <https://pasithee.library.upatras.gr/review/article/view/3369/3641>

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Education Scotland, (2020) Realising the Ambition: Being Me, National Practice Guidance for Early Years in Scotland, Education Scotland, Livingstone.

Gillen, J., Cameron, C.A., Tapanya, S., Pinto, G., Hancock, R., Young, S. & Accorti Gamannossi, B. (2007) 'A day in the life': advancing a methodology for the cultural study of development and learning in early childhood, *Early Child Development and Care*, 177:2, 207-218, DOI: 10.1080/03004430500393763

Sabina Savadova (2023): Subterfuge: a parental strategy for mediating young children's digital media practices in Azerbaijan, *Learning, Media and Technology*, DOI: 10.1080/17439884.2023.2283724