





**Innovative technologies for autism:
critical reflections on digital bubbles**

From the DB team!


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digitalbubbles.org.uk
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Original aims

- To explore, and critically reflect on, the idea of 'digital bubbles' relating to the development, application and investigation of technology use for, and by, children, young people and adults on the autism spectrum.
- To challenge the existing tendency in the field for researchers to work within their own 'bubbles' that are often technology, discipline and / or autism specific.



Core questions

- What does the current evidence base reveal about technology use?
- What are the important research questions for exploration for the future?



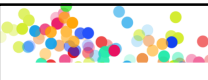
Bubble (from Kevin Durkin)

- 1.: a thin sphere of liquid enclosing air or another gas

"we'd shake up a piece of soap in a tin of warm water and blow bubbles"
- 2.: a good or fortunate situation that is isolated from reality or unlikely to last

"we both lived in a bubble, the kind provided by occupying a privileged pied-à-terre in Greenwich Village"

•(Google dictionary)

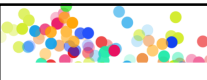


Digital bubble(s)

a good or fortunate situation

involving diverse forms
of engagement with new technologies

isolated from reality and unlikely to last?




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1. Social: create a social bubble and, if so, do they increase social isolation, or provide helpful ways of engaging with other people in a remote way?

2. Developmental: How can developmental psychology inform approaches to understanding of autism (and approaches to intervention)?



3. Methodological: What are the useful strategies as well as challenges that have been found in developing, researching and evaluating technologies for autism?

4. Technological: What are the benefits and costs of the development and use of different types of innovative technologies (e.g. Virtual Reality; tangible devices; augmented reality



5. Disciplinary: What is it that we are trying to achieve with technology and how can we collaborate constructively across these disciplines to realise our goals?

6. Diversity: What research is being conducted with other groups of users, with and without disabilities that can usefully inform and extend our understanding of technologies for autism?



Participation

- 265 delegates
- National and international speakers
- Autistic people and families
- Schools, organisations, local authorities, industry
- 43 bursaries for post-graduate research students and stakeholders + supporting everyone today!



<http://ascme-it.org.uk/>

Short paper

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Knowing me
perspective

Short project report

Virtual reality and robots for autism: moving beyond the screen


...articipatory design inform the
, and development of innovative
technologies for autistic communities?

Mark Brosnan, Sarah Parsons, Judith Good and Nicola Yull




What ingredients for the Cauldron?

Interconnecting and multiple bridges between the bubbles


Digital technologies as bridges...

- to interactions
- of gaps in understanding
- between real and virtual
- between cultures
- between research and practice
- between communities
- between disciplines
- between processes and outcomes




Absolutely central question

‘Whenever you’re trying to develop technologies think about whether it will really improve someone’s life – or do you just think it will?’ (Participant, DB1)



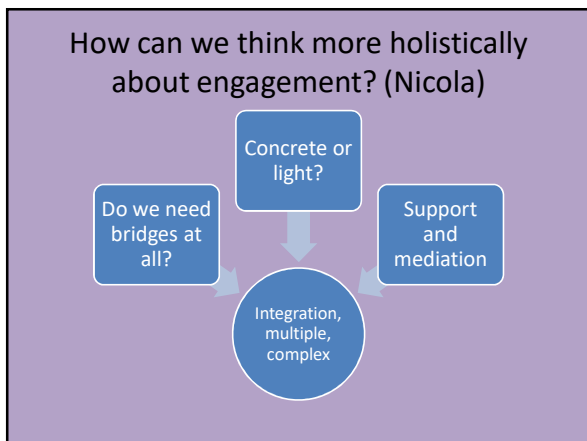
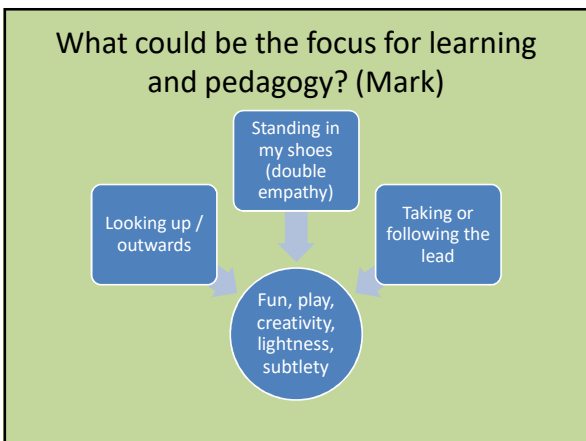
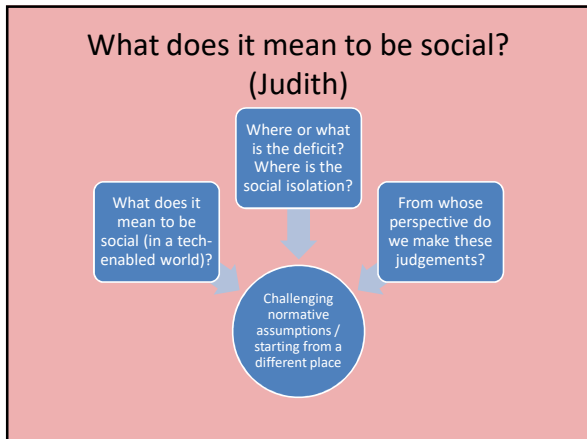
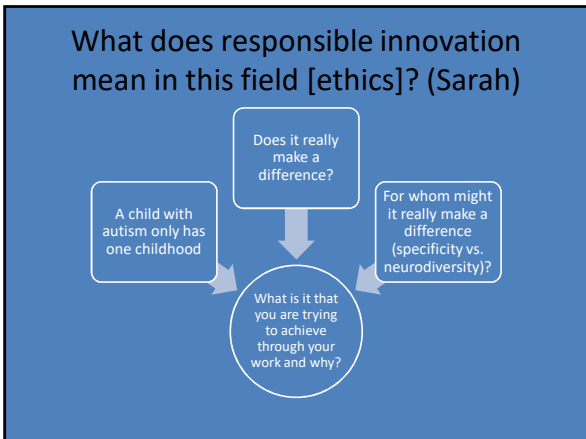

‘A child with autism only has one childhood’

(Sam, DB6)




Key ideas

- *Looking up and outwards*
- *Standing back* [from (neurotypical) assumptions and expectations]
- *Taking the lead* [who, how, & when]
- *Multi-dimensional*
- *Holistic*

Embodied cognition

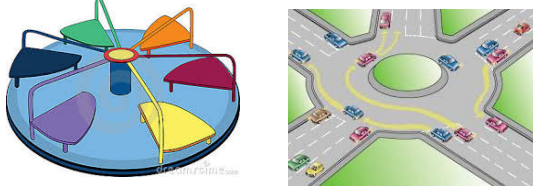
We have to understand minds not as just brains but in the context of a physical body that senses and moves in the physical world – we are not brains in jars!



Redefining embodiment?

<p>Authenticity of lived experience Virtual or face to face which has primacy?</p>	<p>Agency in Virtual Reality: actor or passive observer? Who takes the lead?</p>
<p>Filtering: timing of interaction Who controls it, how do we <i>negotiate</i> it?</p>	<p>Social presence: what's typical? Do we prioritise face or screen?</p>

More of a roundabout
than a bridge?



- Multiple directions and viewpoints – anyone can enter
- Interaction and connection
- Enter and exit at different points – hop on, hop off
- [In the playground version] – it's fun and playful!
- Please join in!

The image contains two illustrations. On the left is a playground roundabout with a central blue pillar and several colorful seats (green, orange, red, purple, yellow) arranged in a circle. On the right is a road roundabout with a central green island and several cars driving around it.