

# NEURO DIVERSITY IN DESIGN

EUROPEAN WORKING GROUP

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# Neurodiversity

- **Neurodiversity as a political movement**
- **Neurodiversity as a scientific fact**

# Neurodiversity

- Neurodiversity as a political movement
- **Neurodiversity as a scientific fact**

# Example: executive functioning in Prader-Willi syndrome (PWS)

- PWS is a genetically-defined syndrome
- PWS is associated with intellectual disability
- There is a *specific & atypical* neurocognitive profile associated with deficits in executive function processes in people with PWS
- E.g., Woodcock et al. (2010). Neural correlates of task switching in paternal 15q11–q13 deletion Prader–Willi syndrome. *Brain research*, 1363, 128-142.
- Executive functions are important for education, social relationships, mental health, and employment.

# Example: executive functioning in Prader-Willi syndrome (PWS)

**Genetic difference**



**Neurocognitive difference**



**Deficits in specific cognitive functions**



**Challenges in education, employment, and daily life**

DESIGNERS OF  
EDUCATIONAL  
TECHNOLOGY  
TAKE NOTE!!!!

Designers of educational technology (and me in 2014): “of course we *want* to accommodate neurodiversity in our designs, but we just don’t know where to start”

# Participatory design

## Terms

- “User centered design”
- “User led design”
- “Informant design”
- “Experience centered design”
- ... and more

## Roles

- User
- Tester
- Informant
- Design partner
- Co-designer

Benton, L. & Johnson, H. (2015). Widening participation in technology design: A review of the involvement of children with special educational needs and disabilities. *International Journal of Child-Computer Interaction*, 3-4, pp. 23-40



# Participatory design

- **Children with ID should *generate* ideas**
- **All children should be able to participate**
- **The process should be fun**
- **Researcher values should be acknowledged**
- **Role of adults should be considered**
- **We should consider (and report) outcomes beyond the software**

Benton, L. & Johnson, H. (2015). Widening participation in technology design: A review of the involvement of children with special educational needs and disabilities. *International Journal of Child-Computer Interaction*, **3-4**, pp. 23-40

Me now (after 4 years of research and practice):

**STILL NOT ENTIRELY SURE WHERE TO START**

# The Neurodiversity in Design European Working Group

- Yurgos Politis (UCD) [twitter.com/yurgospolitis](https://twitter.com/yurgospolitis)
- Bryan Boyle (TCD)
- Nigel Robb (UCD) [twitter.com/nglrbb](https://twitter.com/nglrbb)
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# The Neurodiversity in Design European Working Group: Our Mission

- To advance the state of the art in participatory design for people with autism and intellectual disabilities.
- To develop a European-led global collaboration between participatory design researchers and practitioners.
- To raise public awareness of, and knowledge about, the many roles people with autism and intellectual disabilities can play in design.
- To facilitate participatory design with people with autism and intellectual disabilities by making practical resources and guidelines accessible and easy to use.
- To promote a “one size fits one approach”, by cultivating agile, inclusive, responsive approaches to design.
- To stimulate debate on ethical issues, policy, and practice relating to the nature of participation, including issues relating to the rights of persons with disabilities, and gender issues.

# The Neurodiversity in Design European Working Group

- [neurodiversityindesign.eu](http://neurodiversityindesign.eu)
- [twitter.com/NDinDesign](https://twitter.com/NDinDesign)
- Mailing list: coming soon
- Workshop: planned for summer 2018
- Funding: UCD seed funding scheme

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