

Work in Progress:

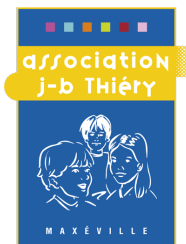
Promoting Self-Regulation for Children with Autistic Spectrum Disorder with Robots

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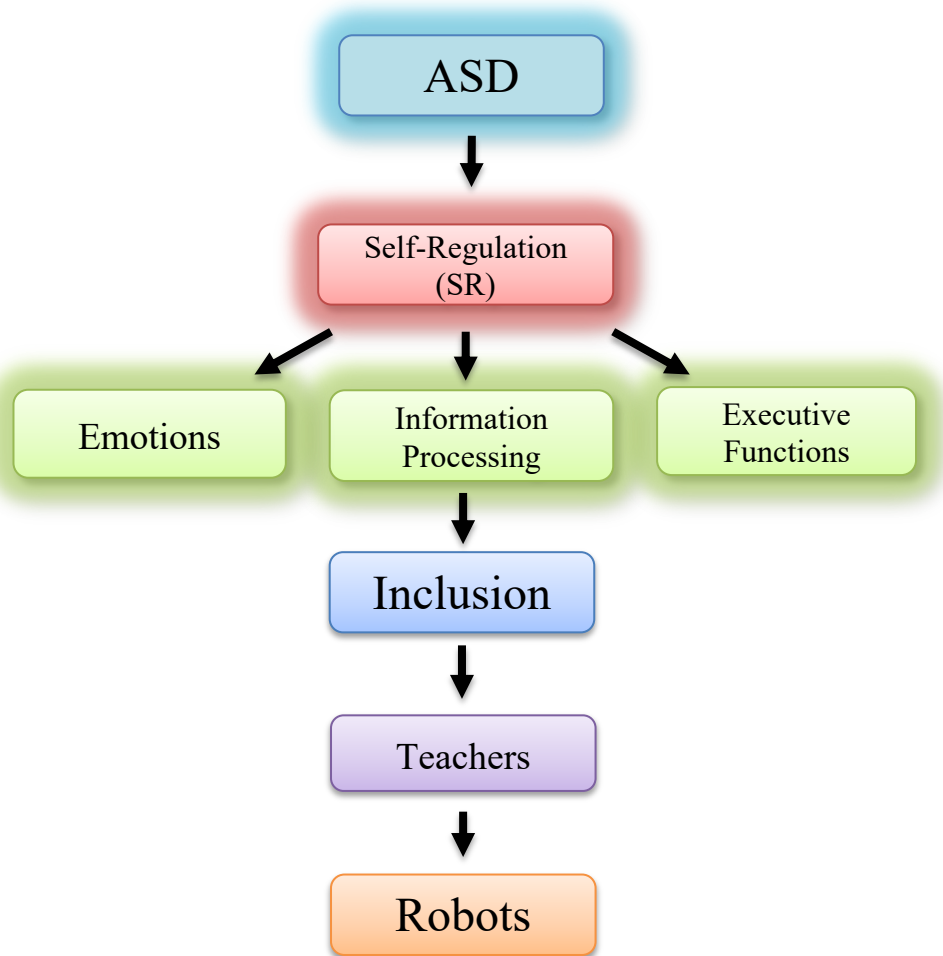




Rychalski Marie received the master's degree in Cognitive Psychology from the University of Paris 8 Vincennes Saint-Denis, Paris and she is a PhD student in the Association Jean-Baptiste Thiéry, Maxéville, France and at the Laboratory of Psychology and Neurosciences, University of Lorraine, Nancy, France.

Her research interest links Self-Regulation for children with Autistic Spectrum Disorder and robot integration.

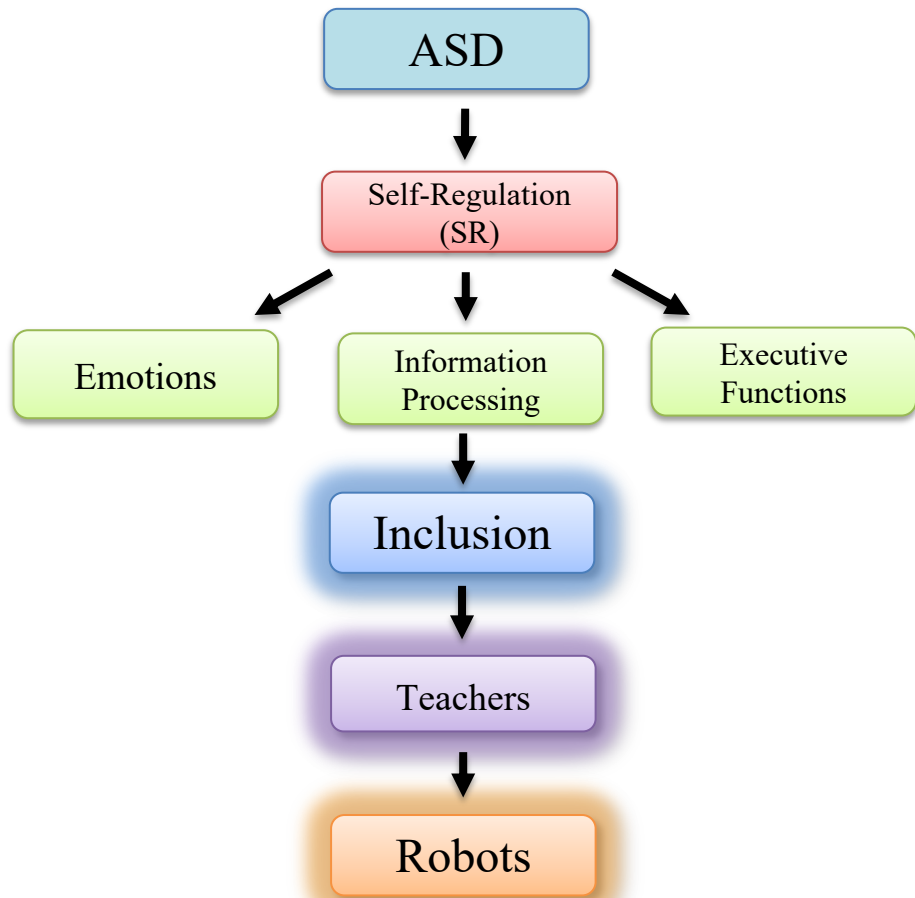
1. Scientific motivation



- **Autism Spectrum Disorder (ASD)**
- **Self-Regulation (AR)** = conscious process by which the individual directs their emotions, actions, and thoughts toward a specific goal (Carver & Scheier, 2011 ; cited by Vohs & Baumeister, 2016).
→ **Central to learning**
- **People with Intellectual Disabilities (ID): SR Deficiency** (Whitman, 1990)

Figure 1: Diagram of the scientific context of the project

1. Scientific motivation



- « **Inclusive School** » : Students with Special Educational Needs
- **Challenges for teachers :**
Linking working conditions + integration of a new tool
- **Social Robot Facilitates :** Engagement and Attention (Azizi & al., 2023)
- **Increases :** robot/child interactions ; caregivers' perception (Dinet et al., 2021)
- **Ecological Context** → robots' integration
- **4A Integration Model** (Acceptability, Acceptance, Adoption, Appropriation) (Bauchet, 2020).

Figure 1: Diagram of the scientific context of the project

1. Scientific motivation

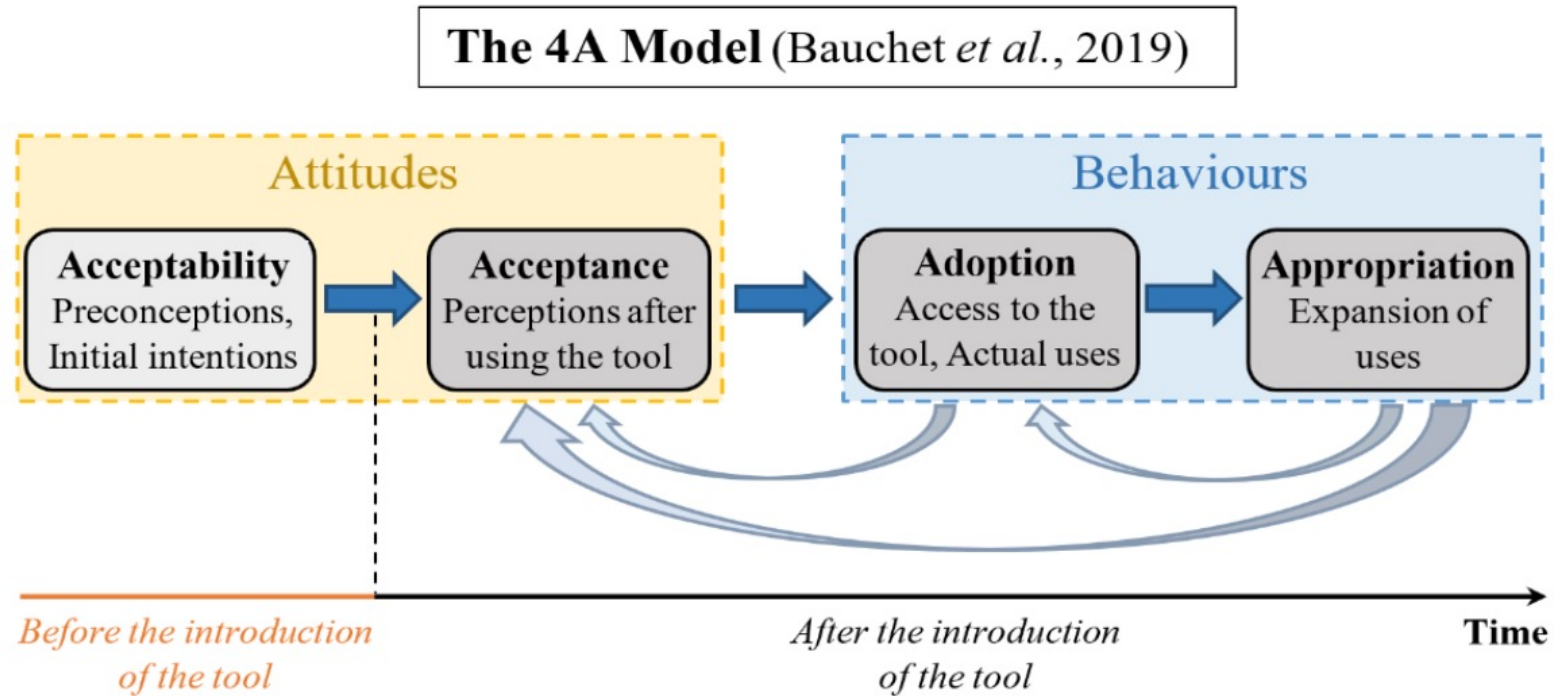


Figure 2: The 4A Model

1. Scientific motivation

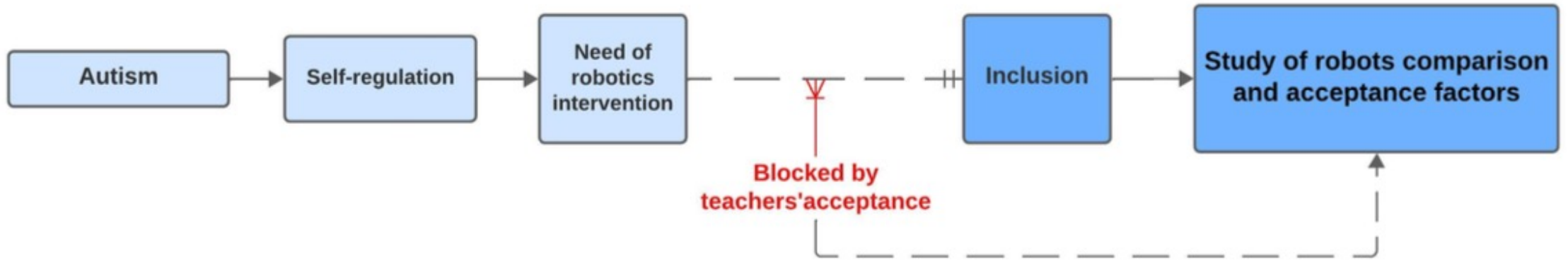


Figure 3: Proposition of a visual presentation of our subject

2. Method

To what extent can a robot be integrated into an adapted educational system in order to develop the Self-Regulation of a child with Autism Spectrum Disorder?

H1: The SR of a child with ASD via the use of a robot = robot features.

H2: Robot facilitates children’s SR via a learning effect.

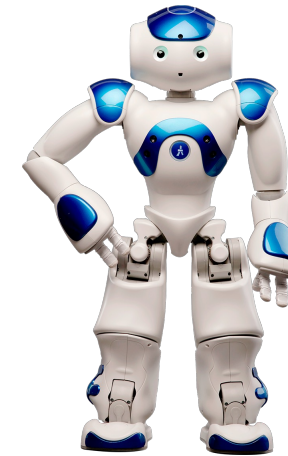
H3: Robot integration = user experience (the user's acceptance of the tool)

Table 1. Distribution of the different analysis tools according to the dimensions to be evaluated

Dimensions	Tools
Children: self-regulation, cognitive and social level, level of development	• Mixed Evaluation Method: Qualitative and Quantity : Observation Grid Interviews Questionnaires
Professionals: Challenges, Effectiveness, Inclusion	
Robot Acceptability	



Leka (APF France)



NAO (Aldebaran Robotics)



Buddy (BlueFrog)

2. Method

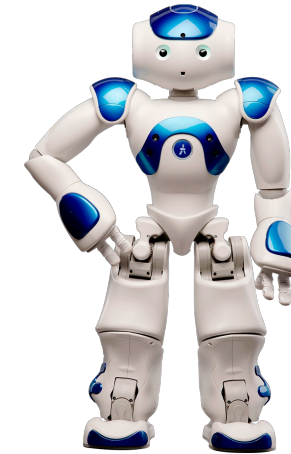
- ✓ The target sample is **50 to 70 children** between **3 and 11 years of age**
- ✓ With **Autism Spectrum Disorder (ASD)**
- ✓ **National Education Teaching Units** within the perimeter of the Nancy Metz Academy
- ✓ **Teaching Units of the J.B Thiéry Association**, in collaboration with the pedagogical and educational team.

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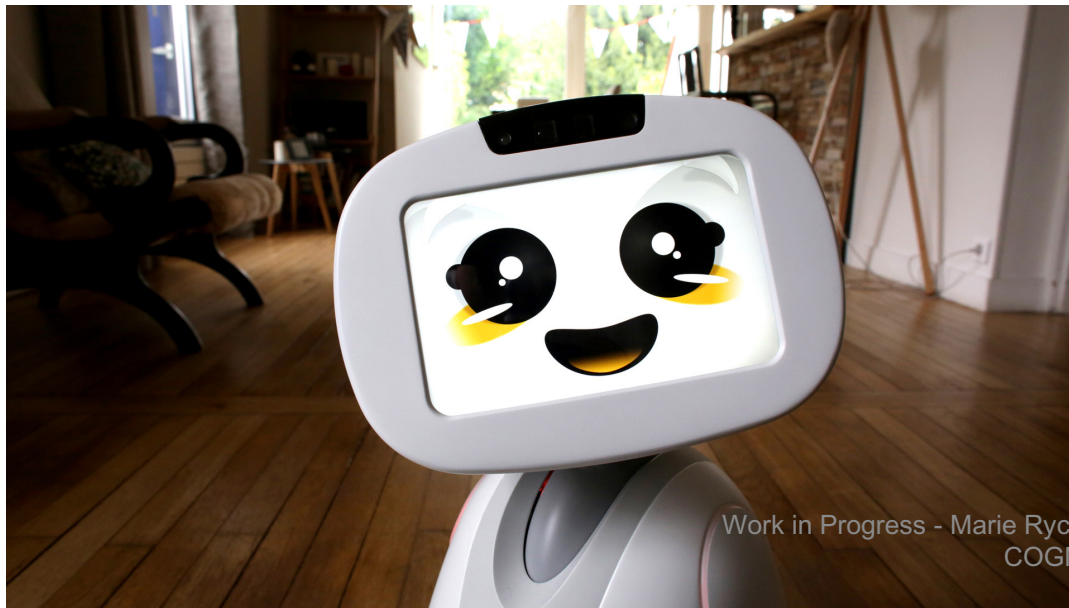
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3. Perspectives

- Deliver a guide: Digital Integration in Teaching Units
- Structuring Knowledge: Self-Regulation and Robotic Use
- Future Studies: Inclusive Education and Digital



Thank you for listening !



Work in Progress - Marie Rychalski - Ph.D. Psychologist IARIA
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