

# Lund University, Sweden

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## Driving to Learn™ an intervention for people with profound cognitive disabilities

### Introduction

People with profound cognitive disabilities seldom get the opportunity to practice powered mobility.

The obvious reason is low expectations of their ability to learn safe and secure driving.

The objectives were to study what this population could achieve from training in a joystick-operated powered wheelchair

### Method

Classical Grounded theory led the inclusion of 45 participants with profound cognitive disabilities, aged 12 months to 52 years.

Their achievements were compared to 17 typically developing infants, aged 3 to 12 months, and to 64 participants with lesser degrees of cognitive disabilities, aged 16 months to 86 years.

Data sources were video-recordings, observation protocols, and informal interviews. The constant comparisons focused on changes in behavior and activity, and on interaction facilitating or hindering progress of learning.

### Results

Identification of an eight-phase learning process characterized by eight driving-styles:

1. Guided or accidental driving.
2. Keep-on driving after release of guidance.
3. Self-initiated driving.
4. Intentional, intended, destined driving.
5. Experimental, explorative driving.
6. Goal-directed but unskilled driving.
7. Mastery of driving.
8. Skilled secure navigation.

An instrument for assessment of actual phase.

Training strategies for each of the phases.

Development of a training powered wheelchair.

A Grounded Theory of de-plateauing.

### Conclusion

Driving to Learn™ in a joystick-operated powered wheelchair can be used to stimulate growing consciousness of tool use in people with profound cognitive disabilities.

To exceed preconceived expectations of outcome the properties motivation, endurance, responsiveness, adaptability, useful and predictable resources need to be at hand.

To become a tool user may improve an individual's autonomy and quality of life

### Contribution to practice

Driving to Learn™ can be used in clinical practice and is appropriate for people with profound cognitive disabilities as well as for people with lesser degrees of cognitive disabilities.

The goal with the intervention is to facilitate cause-effect understanding, tool-use learning, development of agency and ability to influence on the physical and social environment.

### Information

The new knowledge is shared in the dissertation *Driving to Learn. The process of growing consciousness of tool use – a grounded theory of de-plateauing*, Lund University, Sweden, 2007.

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45 participants, phase at evaluation									
Age group Years	Eight-phase learning process								Number
	1	2	3	4	5	6	7	8	
1-6	-	1	3	4	2	4	1	1	16
7-21	-	3	9	2	1	1	-	-	16
22-52	-	4	3	3	2	1	-	-	13
Number	0	8	15	9	5	6	1	1	45

