



### ABSTRACT SUBMISSION

**Title:** An intelligent activity-based client-centred training system: a pilot study on motivation, usability and credibility in persons with central nervous system diseases.

**Abstract No.** 1759

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#### Abstract

**Introduction:** Clinicians and rehabilitation centres are searching for affordable technology-supported systems that incorporate a client-centred task-oriented approach which increase client's motivation and adherence without extra costs and extra individual therapy time. In order to meet these requirements, the intelligent Activity-based Client-centred Task-oriented Training (i-ACT) was developed via user-centred design.

**Objective:** To evaluate the motivation, usability, credibility and treatment expectancy of i-ACT and treatment effect on upper limb functional ability.

**Method:** In four rehabilitation centres, a mixed method longitudinal study was performed. Training with i-ACT was provided for 6 weeks, 3x/week, 45 min/day, additional to treatment as usual. Data collection was performed at baseline, after 2 weeks, 4 weeks and 6 weeks of training and 8-10 weeks after training completion. Semi-structured interviews were conducted with therapists and clients after 6 weeks of training.

**Results:** Seventeen persons with central nervous system diseases participated. Motivation scores on the Intrinsic Motivation Inventory remained high on all subscales ( $\geq 5.2/7.0$ ), except pressure ( $\leq 2.0/7.0$ ). Similarly, high scores were seen throughout on the System Usability Scale ( $\geq 73.8/100$ ) and Credibility/Expectancy Questionnaire ( $\geq 22.0/27.0$ ,  $\geq 15.8/27.0$  respectively). Results on upper limb functioning showed a significant progress over time ( $p < .05$ ). Significant improvement over time was also found on self-perception with the Canadian Occupational Performance Measure ( $p < .05$ ). Results from the interviews corroborate the findings of the quantitative results. Furthermore, therapists and clients also considered i-ACT user-friendly and affordable.

**Conclusion:** i-ACT is a client-centred task-oriented system with great potential in neurorehabilitation to increase motivation and assist improvement on functional level.

**Permission** Yes

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**Biography** Els Knippenberg is researcher at Centre of Expertise in Innovation in Care at PXL University College. She's lecturer and thesis coordinator of the Bachelorprogramme of Occupational Therapy (PXL University College). She studied Occupational Therapy and graduated as a Master of Science in Physical Activity and Health at Maastricht University. Els is involved in various research projects regarding client-centred task-oriented training and the use of assistive technology in persons with neurological disorders.

**Presenter** Other

**Life Span** Adults

**Methodology** Research

**Registration** Confirm

**Categories** Rehabilitation

**Second choice** Assistive Technology/Adaptive Equipment/Home & Environmental Modifications

**Third choice** Neurology/Stroke/ABI/Other

**Other category** Client-centred task-oriented training

**Sub theme** Impact of occupational therapy

**Presentation** Oral only

**Target** All

**Experience** Previous Presentation Experience

**Statement** Yes

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