

# LEARNING BY DOING

## Case examples from Satakunta University of Applied Sciences



Satakunta University of Applied Sciences



# THE UNIQUE LEARNING PROCESS

Students are

- receiving the support and guidance from teachers and other experts
- becoming professionals by doing the work
- gaining valuable contacts across industries



ENTREPRENEURS  
CORPORATIONS  
COMMUNITIES

PARTNERS



FINNISH  
EDUCATION  
IN  
DIFFERENT  
LEVELS

HIGHER EDUCATION  
UPPER SECONDARY  
SCHOOLS  
VOCATIONAL UPPER  
SECONDARY  
EDUCATION AND  
TRAINING  
PRIMARY SCHOOLS

STUDENTS  
TEACHERS  
EXPERTS  
BUSINESS  
CONTACTS

PARTICIPANTS

FIELDS OF  
EDUCATION

HEALTH AND  
WELFARE  
LOGISTICS AND  
MARITIME  
SERVICE BUSINESS  
TECHNOLOGY

# THE UNIQUE LEARNING ENVIROMENT

Students have

- a chance to work in our joint use laboratory: RoboAI
- the support and guidance of their teachers and mentors
- access to the latest innovations and technology



# GOALS AND ACHIEVEMENTS

## Students

- receive valuable feedback from both the client and the teacher
- gain an understanding of the process behind project work
- build confidence in their craft through practical experience



# APPLIED RESEARCH AND COLLABORATION

## CASE:

Robot assisted gait training  
with exoskeleton



# DEVELOPMENT BASED ON WORKING LIFE'S NEEDS

- expanding knowledge and skills
- implementing evidence-based practice
- creating new evidence-based knowledge
- providing new experiences







# CASE EXOSKELETON

- purchased in Health and wellbeing enhancing technology research team
- used in
  - education for students and local physiotherapists
  - research and piloting in collaboration with local hospitals and clinics
- in Finland in five rehabilitation centers and individually used with 2 people
- worldwide many commercial devices – research mainly on feasibility and safety less RCT

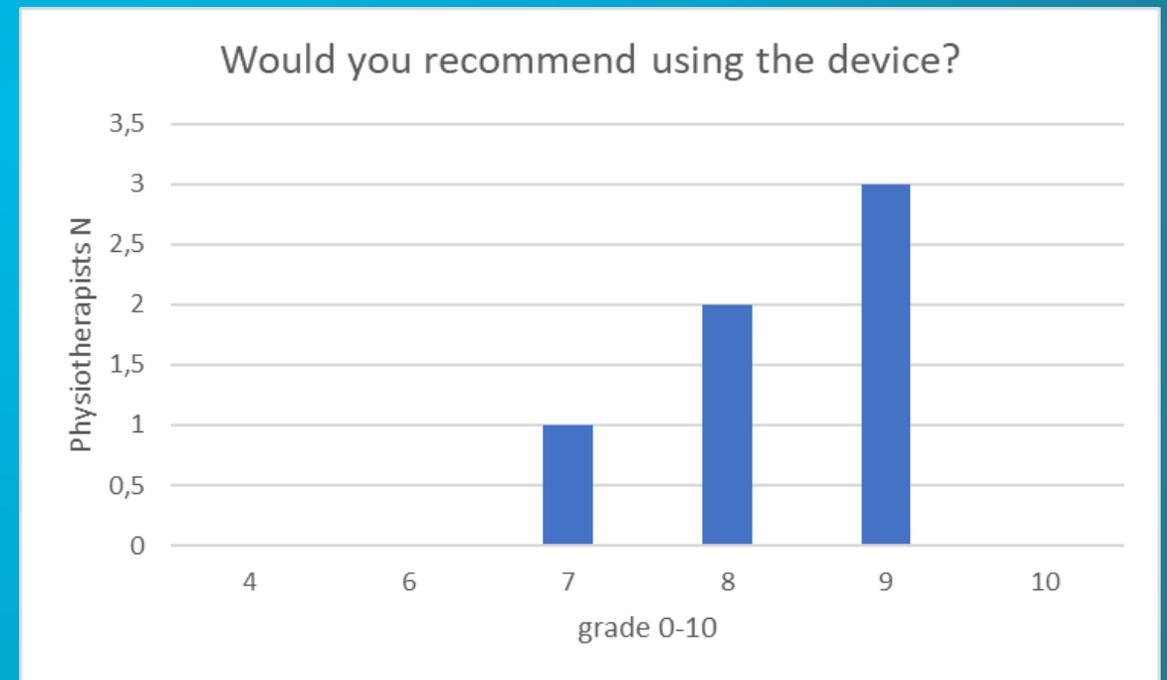


# RESEARCH WITH EXOSKELETON

## OVER-GROUND ROBOTIC LOWER LIMB EXOSKELETON IN NEUROLOGICAL GAIT REHABILITATION - USER EXPERIENCES AND EFFECTS ON WALKING ABILITY

Part 1: Physiotherapists' user experiences

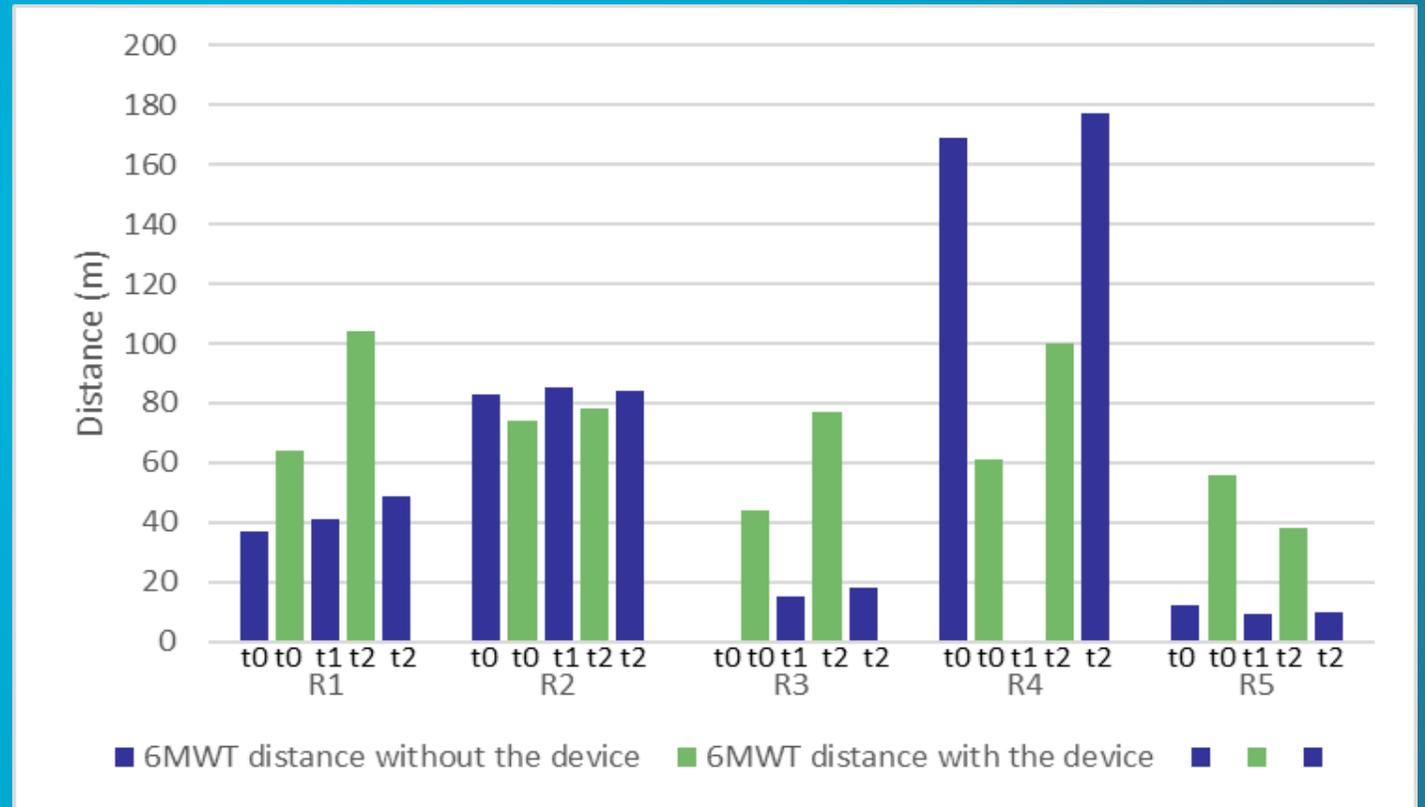
Questionnaire of user experience for physiotherapists using the device



# RESEARCH WITH EXOSKELETON

Part 2: Rehabilitees' user experiences and effects of Indego training

Practical training period of gait training with participants with stroke or traumatic brain injury



6 minute walking test

# FUTURE RESEARCH WITH EXOSKELETON

Patients' and therapists' user experiences

Other technology possibilities for measuring effectiveness and effects:

- EEG, EMG
- effects on function, coping with daily living



TECHNOLOGY  
WELFARE  
TECHNOLOGY  
HEALTH  
TECHNOLOGY  
HEALTH CARE  
REHABILITATION

MULTI-  
SECTORAL  
APPROACH

PUBLIC SECTOR:  
HOSPITALS  
HEALT CARE  
CENTERS  
PRIVATE SECTOR:  
CLINICS AND  
CENTERS

APPLIED  
RESEARCH  
PROJECTS  
PILOTING

WORKING LIFE  
STAKEHOLDER  
S

THERAPISTS  
PHYSICIANS

VOCATIONAL UPPER  
SECONDARY  
EDUCATION AND  
TRAINING  
UNIVERSITIES OF  
APPLIED SCIENCE  
UNIVERSITIES

EDUCATIONAL  
ORGANISATIONS

STUDENTS  
PROJECT  
WORKERS  
PROJECT  
RESEARCHERS  
TEACHERS

# QUESTIONS & ANSWERS

## Learning by doing at Satakunta University of Applied Sciences



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