

PT/OT research and academic
education – global view and Finnish
20-years experience in the changing
world

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PT/OT research and academic education

- Global view
 - Academic education
 - Rehabilitation research
 - PT/OT in rehabilitation research
- Finnish
20-years experience

History – Nordic countries -PT

- Rehabilitation - Restoration of human functions to the maximum degree possible in a person or persons suffering from disease or injury.
- Rehabilitation – from charity to controlled evidence based activities
- PT- Swedish studies
 - Origin in the Royal Institute of Gymnastics
 - Physical therapy was a scientific and governmentally sanctioned medical treatment assumed potent enough to cure many illnesses in the past
 - Perhaps the largest Swedish cultural export
- Since then the philosophy is changed and scattered

PT as science

- Medicine
- Medical gymnastics
- Side by side 1813-1934
- Interspersed 1934 –
- Connected with difference sciences
- Science?

Target -Effective physiotherapy

- **Effective physiotherapy is people-centred, prevention-focused, safe and technically proficient, based on the best evidence available, and managed efficiently.**

PT and OT education in “western countries”

- University education
- Based on baccalaureate level in many countries
- Entry level education transition in many countries to master level education like Canada, UK, Ireland
- Entry level education in USA
 - Hosting PT programmes with high research activity

Academic University model Sweden -8 universities

- Bachelor
- Master
- PhD
- High rate PhD degrees in PT – reaching 250
– 1,5 % from PTs

Academic tradition

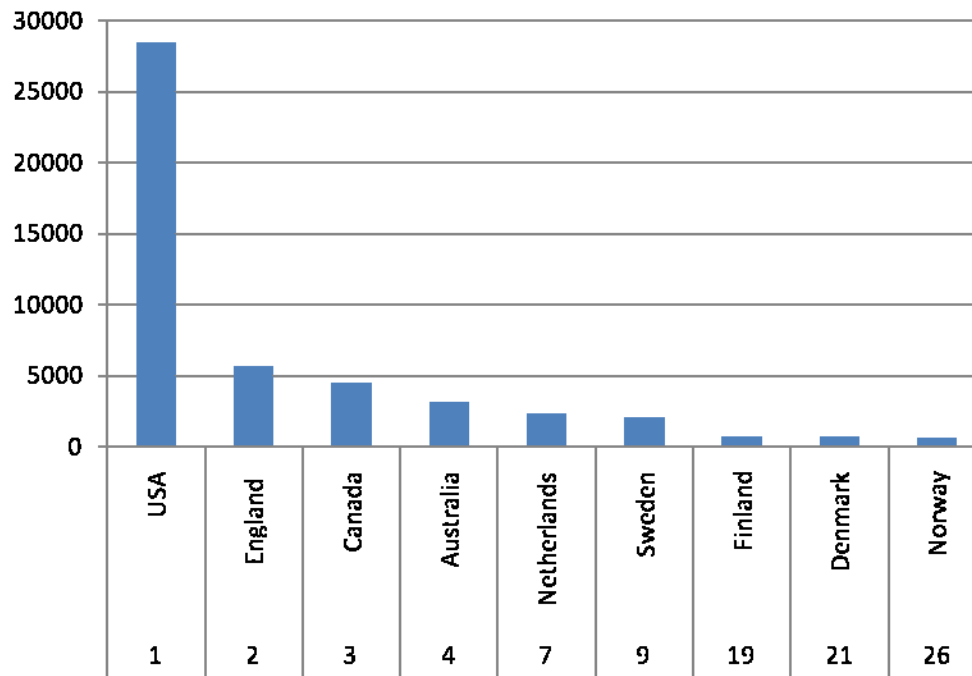
- Netherlands -increasing science
 - Several PhD degrees
 - Focused on pragmatic PT oriented problems
- USA –rehabilitation research programs
 - Strategies for Academic programs
 - Infrastructures
 - Finance
 - related disciplines- PT, OT, technology, rehabilitation medicine

Rehabilitation research

PT/OT in rehabilitation research

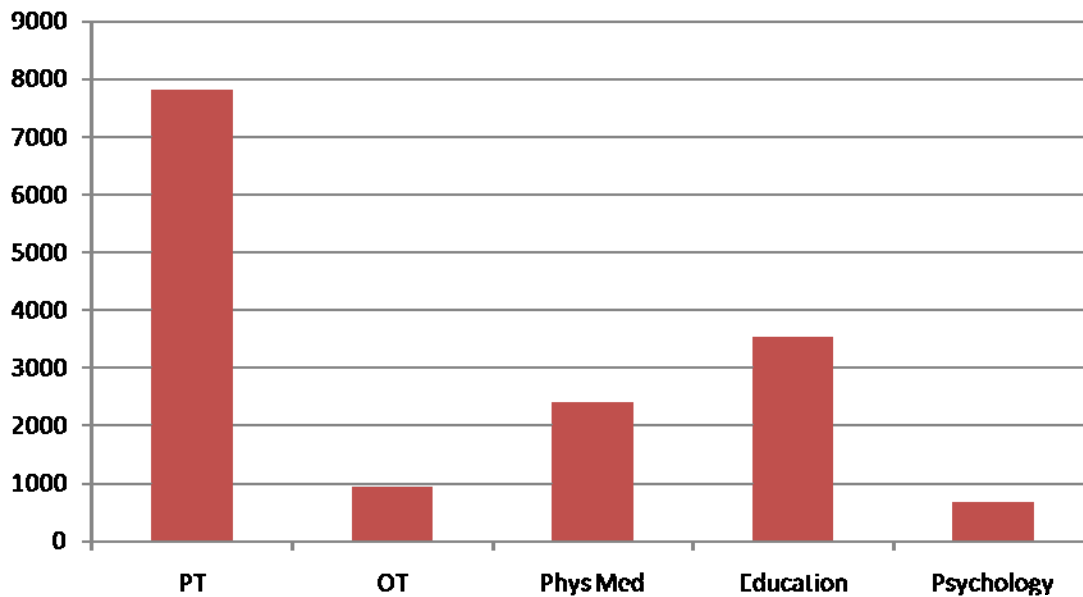
Rehabilitation all 75199 Countries Web of Science®

4.3.2010 ISI Science Citation Index Expanded (SCI-EXPANDED)--1945-present Social Sciences Citation Index (SSCI)--1956-present Arts & Humanities Citation Index (A&HCI)--1975-present Timespan=All Years.
Databases=SCI-EXPANDED, SSCI, A&HCI

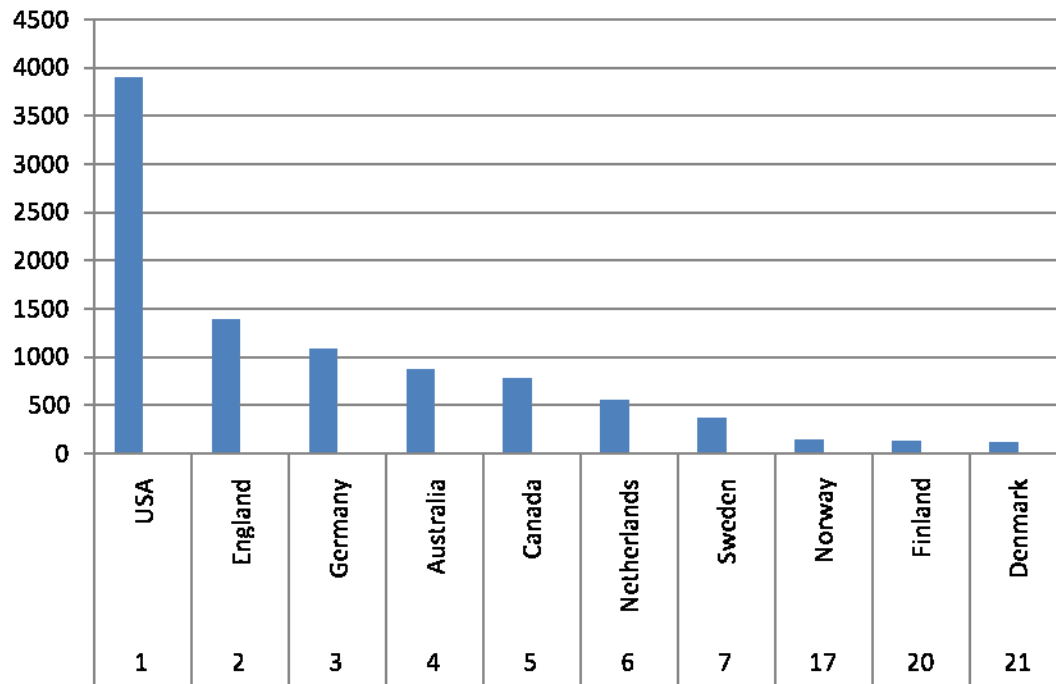


Some Rehabilitation sciences according to ISI

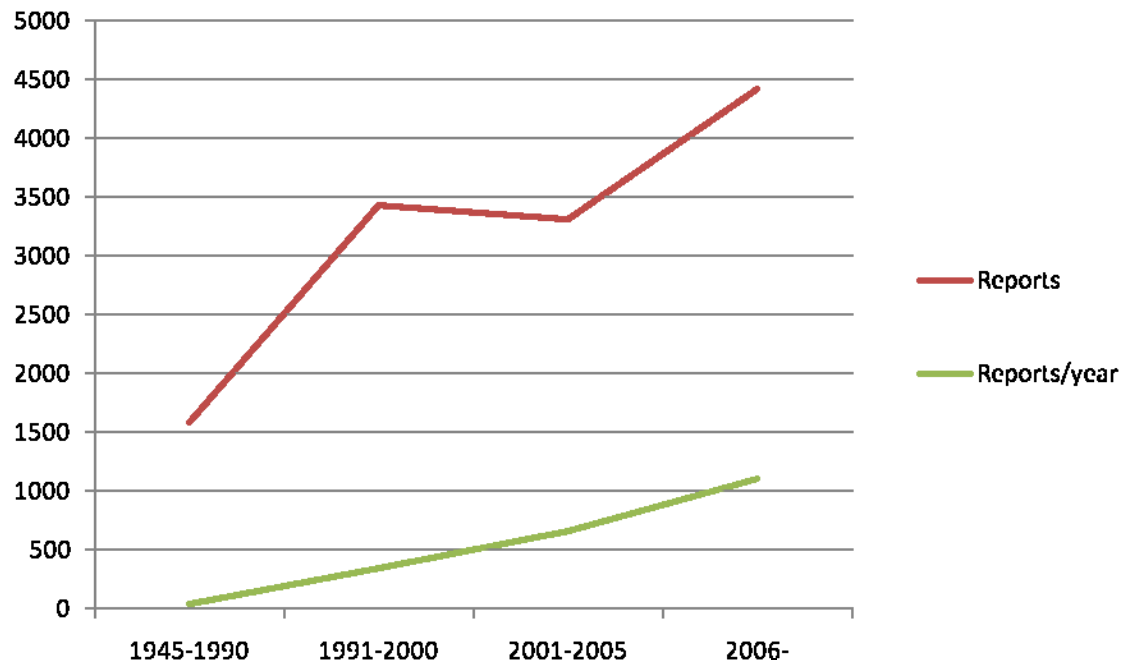
Word in title, abstract, key word All 75199



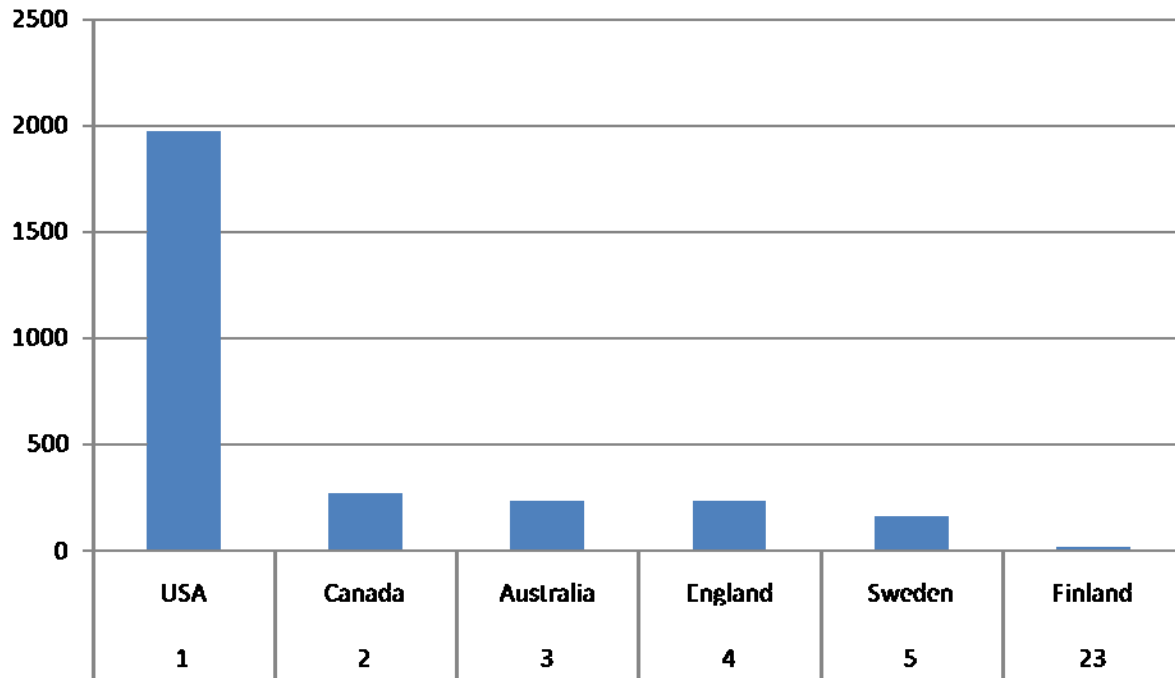
Only PT countries 12489 articles



PT reports — doubled from 2001-05 to 2006-



Only OT 3913 Articles countries



OT reports

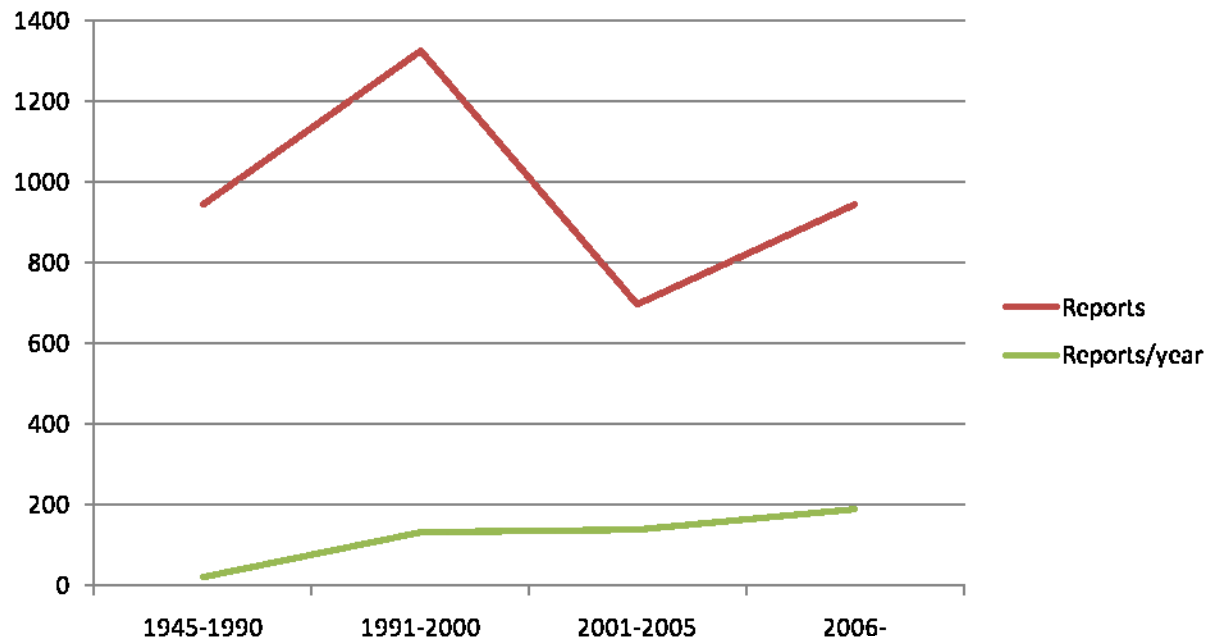
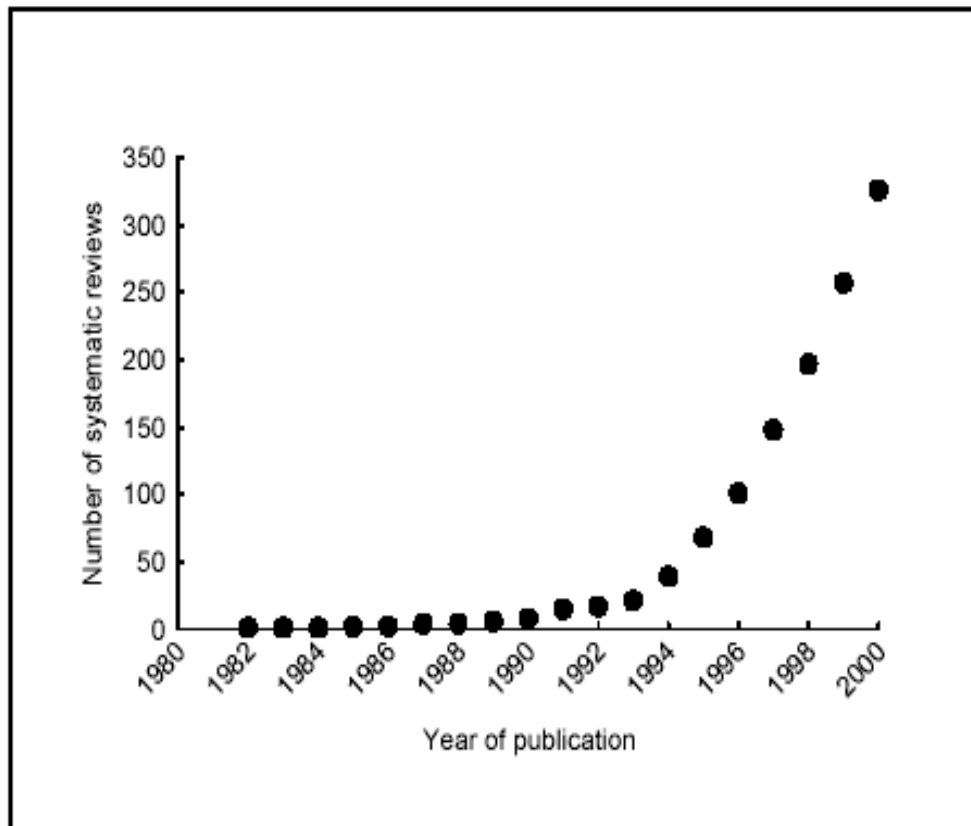


Figure 2 Growth of systematic reviews in physical therapy



Research in rehabilitation and PT/OT

- According to ISI database (Science Citation Index Expanded (SCI-EXPANDED)--1945-present, Social Sciences Citation Index (SSCI)--1956-present, Arts & Humanities Citation Index (A&HCI)--1975-present) analysis physiotherapy is **one of the most productive** in science for rehabilitation and together with OT covers nearly 20% of research work in rehabilitation.

PT – OT research concluding

- PT is playing important role in rehabilitation research
- Research activity is increasing fast since 2000
- OT- research is following with the trend

Finnish experience

Content

- PT academic education in Finland
 - Why, where
- PT –
 - beginning of education
 - research
- OT
 - why
 - education and research
- Outcome
 - Masters
 - Doctors
- ICF and research

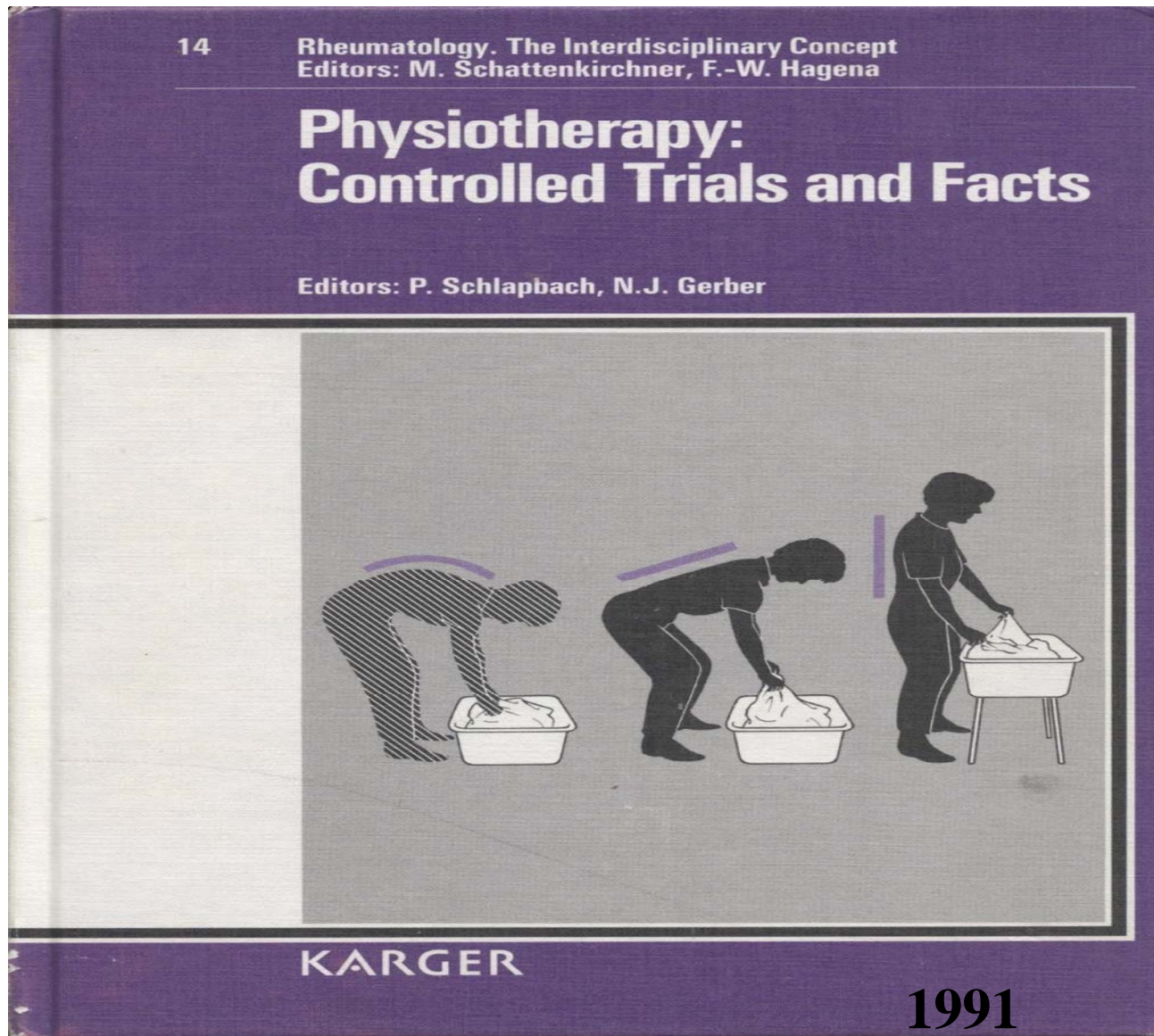
Academic PT education in Finland

- In the beginning of 1900 PT was in the university of Helsinki until 1929
- Again the physiotherapy programme in the faculty of Sport and Health Sciences in the University of Jyväskylä has taken place as only master and doctor programme in PT in Finland. The programme started in 1984. This programme has included also teacher education in Physiotherapy and health sciences.

Why - mission

- The mission of programme has been to develop physiotherapy as new science to such academic level that Finland can have scientifically educated masters and doctors to catch up the effective physiotherapy served in countries with advanced rehabilitation and physiotherapy.

Mission



Functioning, Activity and Participation
Kuntoutuspäivät

Mission in research

- Effect – efficacy – effectiveness
- Intervention studies
 - Physiotherapy
 - Therapeutic exercise
 - Motor control
- Study design
 - Critical review or meta literature analysis
 - RCT or at least controlled study
 - Consort principles
- Outcome
 - ICIDH/ICF frame
 - Reliability and validity in outcome

Structure & resources

University of Jyväskylä

Staff

- 2 senior lectures and one associate professor
 - 89 – 96
- 1997 two professors,
- two senior lectures
 - one assistant
 - Start for larger projects
- 2007 three professors

Research

has executed by staff and doctor students in many centres in Finland

PT education development

- The programme for master education was in focus in 1990s, but after millennium the programme has been able to focus more on research to produce doctors to develop excellence in Physiotherapy

LÄÄKINTÄ

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VOIMISTELIJA



19/03/2010

Esko Mälkiä Physical

Functioning, Activity and Participation

Kuntoutuspäivät

Achievement

- **Masters** 1984-99 N= 150
 - » 2000-2008 N = > 160 mean 17-18 /year
 - » **Education orientated**



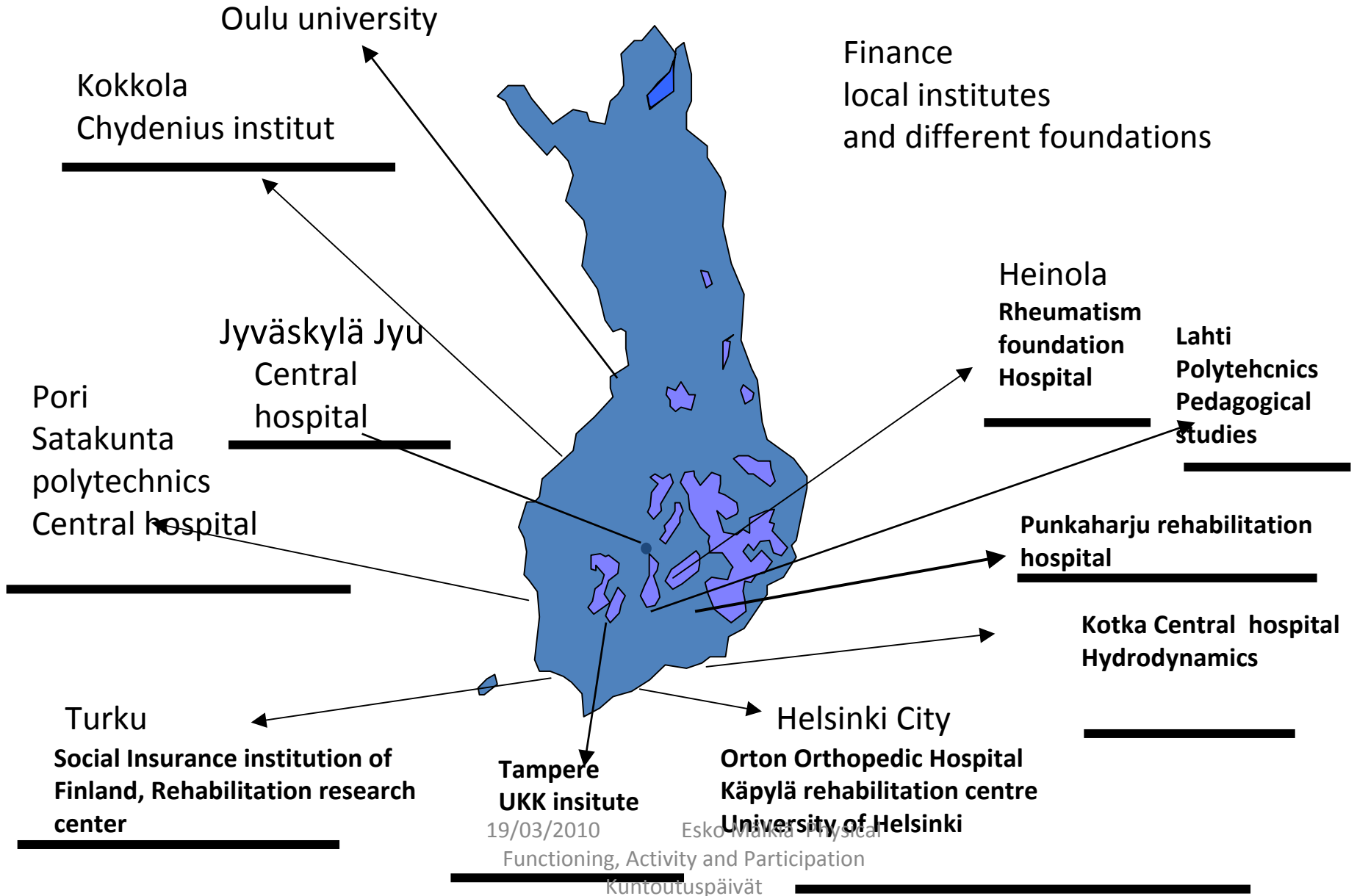
- LIC degrees N=12 2000- N=9

- **Doctors** N = 16 1991-1999 N= 4
 - 2000 - 2008 N = 12 (+3)



- » **Research orientated**

Infrastucture and finance



National co-operation to enhance national education in rehabilitation

- Application to Ministry of Education
- Research training- nationwide Doctor school in rehabilitation JU, LU, OU, TU, and institutes
- Not approved

Nordic and European co-operation in PT

- Kolle-kolle meeting Denmark 92
- NorNet nordic finance --- 92-99
- Nordic research symposia -
- Enphe 1995 --
- Aqua evidence – Belgium
- Etc.

Doctors — about 0,5 % of physiotherapists

- In Finland 71 physiotherapists have reached doctor degree from many universities and faculties. About 20% of those studies have focused on education and the rest are scattered into many different problems only a few into pragmatic problems.
- Twenty six percent of those dissertations are made in the physiotherapy programme of Jyväskylä University. Ninety percent from those dissertations are based on separate articles achieving nearly 100 as impact factor sum of those articles.

OT

- The planning of OT programme started 1994 with co-operation of PT and OT programme was able to start 1997. So PT and OT acted in co-operation with exercise sciences, gerontology, physical education and health education in the faculty. The OT and PT focused especially activities in the content of rehabilitation.

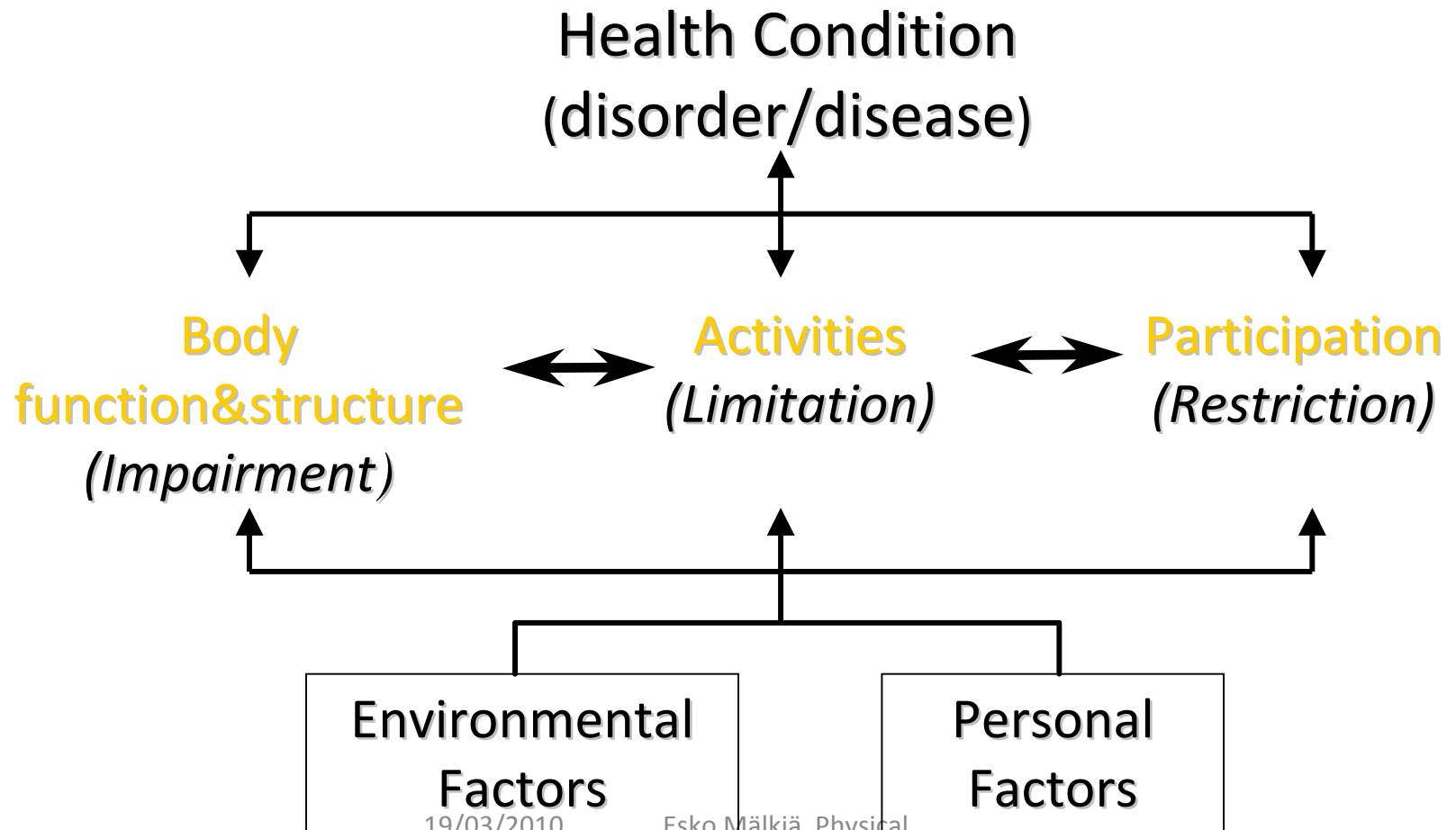
OT - achievements

- Beginning for academic tradition
- 53 – master or licentiate theses

ICF and research

- ICIDH gave already in 1980s background to develop research and find out the right outcomes of therapies. Since then six PT doctor students have defended their thesis using ICF as frame and several master theses have based on ICF.

Interaction of Concepts ICF 2001



19/03/2010 Esko Mälkiä Physical

Functioning, Activity and Participation

Kuntoutuspäivät

Exercise intervention

Health Condition

- Low back pain
- Neck/shoulder pain/occupational health
- Knee pain
- Cancer
- Juvenile rheumatoid arthritis
- MS

PHYSICAL PREREQUISITES OF FUNCTIONING

Body Structure & Functions

Activity

Participation

General subjective well-being

PSYCHOLOGICAL PREREQUISITES OF FUNCTIONING

Physical activity Intensity controlled

Environmental factors

Personal factors

- Age
- Gender
- Education

Measurements – reliability validity

OT Future

- Academic OT programme has not continued anymore since 2009 and rehabilitation is not belonging to the profile of the University of Jyväskylä. Anyway some clinically relevant studies to the PT and OT are still working and PT education is active.

Future –if any?

- Need
 - Consensus for conceptual framework and guiding philosophy
 - Infrastructure
 - Support for research including finance
 - Academic mentorship
- Research
 - Basic research
 - Pragmatic research for PT and OT
 - ICF- frame – occupational health and rehabilitation
 - Motor control studies
 - Pedagogical studies
 - Clinical studies

Concluding remark

- PT and OT are progressing well in science and education in many developed countries
- There is a great need for pragmatic problem oriented, highly and properly executed basic studies to find effects and to test them in controlled studies in effectiveness studies
- Perhaps those studies are not always fitting to the scientific society around them
- **The ugly duckling phenomena risk**
 - **PT and OT are not sport or treatment**