

Learning Outcomes and Working Life MEKOT project

14 March, 2012

SUFAREL Video seminar:

Approaches and case studies in development of the Qualifications Framework:
examples from the EU forestry sector - education, innovations and benchmarking

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Forest Education - True Stories

”When I hired new employees the only things that I controlled was that the candidate could say openly hello looking into my eyes and has a firm hand-shaking.”

Dr. Yrjö Pessi

CEO, Kemira Inc. (international corporation)

For first your students: “When you work hard and do your studies properly you will find good working opportunities and your career will be promising”

Dr. Anne Toppinen

Prof. in Forest Products Marketing

University of Helsinki



Mika Rekola



- Dr.Sc. Forest Economics
- University lecturer in forest economics

- Research interests:
 - Non-market valuation of environmental benefits
 - Research on learning outcomes and economics of education

- Other activities:
 - ICA, Association for European Life Science Universities, treasurer and board member
 - Forestry students association in Helsinki, foreman



Content

- Study aims
- Staff
- Time table
- Framework
 - Learning outcomes
 - Relatedness of studies and work
 - Working experience
 - Further education
 - Earnings
- Data & Method
- Discussion and conclusions



Research questions



1. What are the effects of study programmes and majors on learning outcomes and earnings?
2. Does working during university studies have an effect on learning and earnings?
3. What is the proportion of graduates working in jobs unrelated to their field of study?
4. Do relatedness of studies and work affect earnings?



Staff, partnership

- **Mika Rekola**, Dept. of Forest Sciences, University of Helsinki, project leader
- **Sari Lindblom-Ylännö**, Pedagogical research unit, University of Helsinki
- **Jukka Matero**, Forest sciences, University of Eastern Finland

- **Elia Liitiäinen**, post-doc
- **Belle Selene Xia**, doctoral student
- **Riitta Kilpeläinen**, doctoral student
- **Eila Lautanen**, MSc student

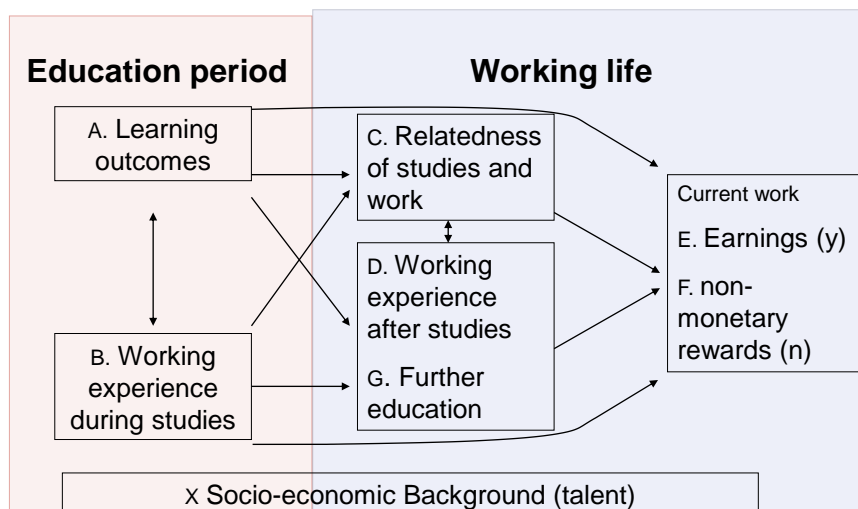


Project schedule

Stages	2010	2011	2012	2013	2014
A Theoretical analysis	●——●				
B1 Interviews		●——●			
B2 Survey					
Focus group			●——		
Pilot			——		
Main survey			——		
Non-reply analysis			——		
Analysis and reporting				——●	
C Publishing ()				——●	



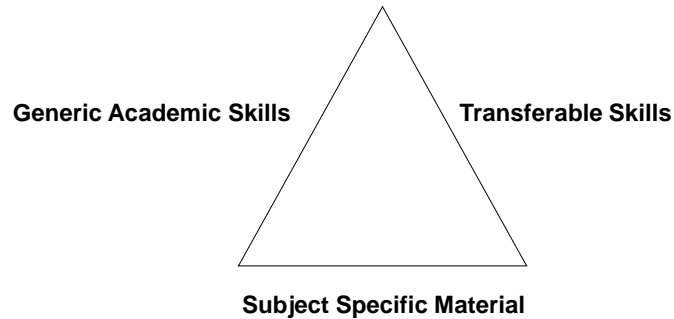
Frame of Reference





A. Learning outcomes

- **LEARNING OUTCOMES** (intended and not intended):
 - what a learner knows, understands and/or is able to do at the end of a period of learning



Allan (1996)



Learning outcomes (Allan 1996)

- **Generic academic skills**
 - analyse
 - organise and structure ideas
 - think critically
 - synthesise ideas and information
- **Transferable skills**
 - Communicate effectively
 - Organise
 - Gather information
 - Use information technology
 - Act independently
 - Work teams
 - Numeracy



Learning outcomes, subject specific categories

1. Silviculture
2. Forest Ecology
3. Timber procurement and forest technology
4. Forest industry
5. Forest resource monitoring and management
6. Multiple use of forests
7. Wildlife and game management
8. Forest economics and policy
9. Marketing

See for instance: Schuck (2009)



B. Working experience during studies

- congruence hypothesis (D'amigo 1984)
 - similarity between the personality traits desired and rewarded by employers and teachers
 - employment and class-room participation may reinforce each other
- working -> less dropouts
- very intensive work detrimental to school grades





C. Relatedness of studies and work

- **Quantity** (level of schooling – job requirements)
- **Quality** (type of schooling – job requirements)

- Effects of Relatedness
 - wage
 - job satisfaction
 - productivity

Robst (2007)

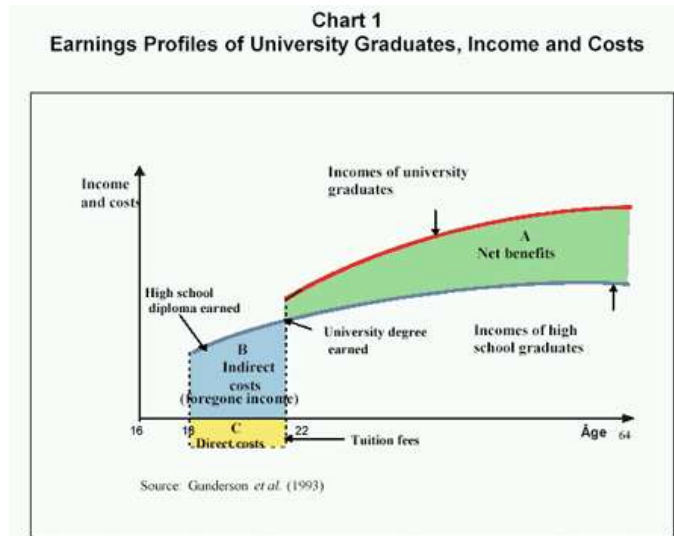


E. Earnings Theory of Human Capital

- Human capital is the stock of productive skills and knowledge that individuals have
- Education and working experience increase human capital
- Returns of human capital :
 - **private** (foregone wage as during studies as costs and increased wage after studies as benefits)
 - **narrow social** (including all costs and benefits to individual)
 - **wide social** (including externalities = all costs and benefits to all people)



E. Earnings Theory of Human Capital



F. non-monetary rewards

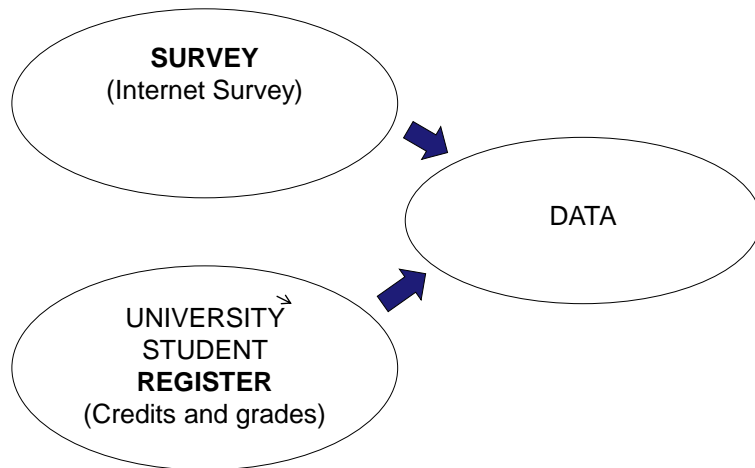
- Social status
- Ability to adapt leisure / working hours (flexibility)
- Opportunity to learn new things and autonomy



DATA



Data





DATA

Concept	Measurement
A. Learning outcomes	
Generic skills	Self evaluation Credits and grades
Academic skills	Self evaluation Credits and grades
Subject Specific skills	Self evaluation Credits and grades Test scores in a survey (did not work)
C. Work & education relatedness	
During studies & After studies	Self evaluation
B. & D. Working experience	
During studies & After studies	Working months
E. Earnings	
Earnings	Annual income before taxes, nonmonetary rewards



Data: A Survey Total sample

- 1. Graduates from Universities 2000-2008**
Total of 900
- 2. University dropouts**, those started studying 1994-2002
but not graduated
Total of 300
- 3. Graduates from Polytechnics** (Un. Of Applied
Sciences) 2000-2008
Total of 950
TOTAL SAMPLE around **2150**



Internet Survey

- Implemented in November-December
- Contact with email
 - 1) Labour union of foresters (M.Sc.) (members)
 - 2) Labour union of forest engineers (B.Sc.) (members)
 - 3) with regular mail (MSc) (non-members)

- Response rates :
 - 1) 31%, Labour union of foresters (M.Sc.) (members)
 - 2) 28% Labour union of forest engineers (B.Sc.) (members)
 - 3) 10% with regular mail (non-members)

- Data is now under preparation (survey + register data)

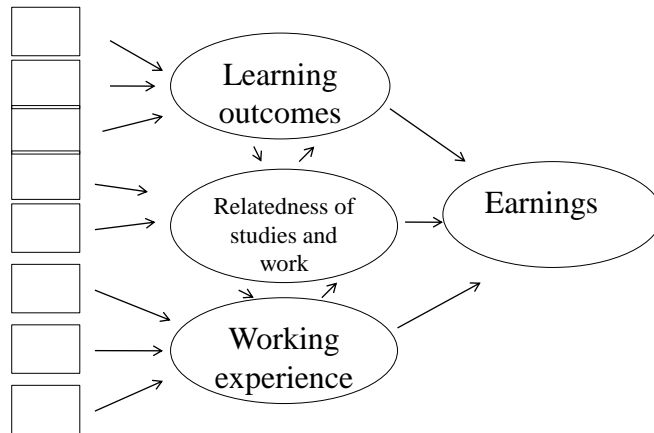


Method





Structural equations models



Discussion and Conclusions





Discussion

- Income is not the only benefit of work
 - qualitative results of education?
 - include questions to measure non-monetary benefits of work
- Private / public sector salary differences
- Demand for labour varies (Unemployment due to recession time)



Conclusions

- Scientific approach to analyse higher education is needed
 - understanding mechanisms of learning
 - understanding relationship between studies and working life
- Economic returns of different study programmes
 - > the relevance of learning outcomes
 - > implications to curriculum design





So, what is when you ” could say openly hello
looking into eyes and have a firm hand-shaking”

How much it impacts on your career and salary?

Or if you work hard for good grades?

We will see....



References

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