Education for Green Jobs –
How to Create Relevant Competences?

Mika Rekola, University of Helsinki
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
Questions?

1. Which competences are important?

2. How important is a competence of X?

3. Which is the minimum level of competence X to be a qualified worker?

4. Which is the level of competence X to be a high performing worker?
Table of Content

1. Introduction

2. Theory of competencies
3. Identification of competencies
4. Teaching and learning of competencies

5. Conclusions
Theory of competencies
Competences – a definition

KSAO model:

Knowledge
Skill
Ability
Other characteristics

that is needed for effective performance in the jobs in question.

The target of competence could be a subject specific or generic

(Green, 1999; Schippmann et al. 2000).

Several definitions exists, see Boyatzis 1982; Dubois 1993; Spencer & Spencer 1993; Fleishman et al. 1995; Green 1999; Le Deist and Winterton 2005; Hogg 2008; Mulder et al 2009; Mäkinen & Annala 2012.

European Qualifications Framework (EQF)
Competences - structure

*Threshold* competences or essential competencies which indicate minimum or average requirements for performers

*Differentiating* competences which separate low and high level performers

(Campion et al. 2011)
House of Competences
House of Competences

- **High performance threshold**
- **Minimum threshold**

- **Subject specific competence**
- **Generic Competence**
Example of one subject and one generic competence

Forest technology

Communication

House of Competences

High performance threshold

Minimum threshold
CASE: Communication as a threshold competence

House of Competences

Minimum threshold

High performance threshold

Forest technology

Communication
House of Competences

CASE: Communication as a differentiating competence

Forest technology

Communication

High performance threshold

Minimum threshold
Identification of competencies
Identification of competencies

Traditional job analysis applies:
1. Observations
2. Interviews
3. Focus groups
4. Surveys

(e.g., Parry 1996; Lucia & Lepsinger, 1999; Rodriguez et al., 2002).
Identification of competencies – Example of a survey

Arevalo et al. (2010) explored forest sector competence

- modelling using quantitative surveys
- instrument being traditional Likert scale (1-5):
  Respondents were asked to evaluate the 42 competencies according to: (1) the importance of the competency for the employment of graduates [on a scale from of little importance (1) to very extremely important (5)]
Behavioural Event Interview (BEI) represents a unique approach to competence identification (modelling).

The essence of BEI is highly in-depth interviewing process concerning employees’ successes and failures in their working life

(McClelland 1973, 1998)
Google is using Behavioral Event Interviews (BEI) in recruitments

It was interesting to see how useful Google has seen BEI interviews, Laszlo Bock, senior vice president of people operations at Google:

"Instead, what works well are structured behavioral interviews, where you have a consistent rubric for how you assess people, rather than having each interviewer just make stuff up.

Behavioral interviewing also works — where you’re not giving someone a hypothetical, but you’re starting with a question like, ”Give me an example of a time when you solved an analytically difficult problem.” The interesting thing about the behavioral interview is that when you ask somebody to speak to their own experience, and you drill into that, you get two kinds of information. One is you get to see how they actually interacted in a real-world situation, and the valuable “meta” information you get about the candidate is a sense of what they consider to be difficult.”
Identifying Competences
Global Outlook on Forest Education (GOFE)

- IUFRO-IFSA Joint Task Force study
- 10 countries (all continents)
- Competences of recent graduates analysed with BEI method
- Final report to be published in IUFRO 125 Anniversary congress in September 20, 2017

- More information: https://foresteducation.wordpress.com/
Teaching and learning of competencies
Teaching and learning of competencies

• Teaching (learning) needs Biggs (1998) aligned elements:
  • **Aims** (typically threshold competence levels are set by subject specific and generic competences)
  • **Methods and materials** (proper pedagogics)
  • **Assessments**

• **TÄHÄN KUVA BIGGS!!!!!!!!!!**
An example of proper pedagogical model:

**Integrative Model of Pedagogics**

Tynjälä (2008)
Conclusions

✓ The right questions: what are **Threshold & Differentiating** levels
✓ Competence **identification** (modelling) methods are many
  ✓ Behavioral Event Interviews (**BEI**) is a validated but not commonly used within forest sector
✓ Teaching alignment (**AMA**) needed
✓ **Integrative** pedagogics useful
References


Fleishman et al. 1995;


Thank you!

mika.rekola@helsinki.fi

https://foresteducation.wordpress.com/