

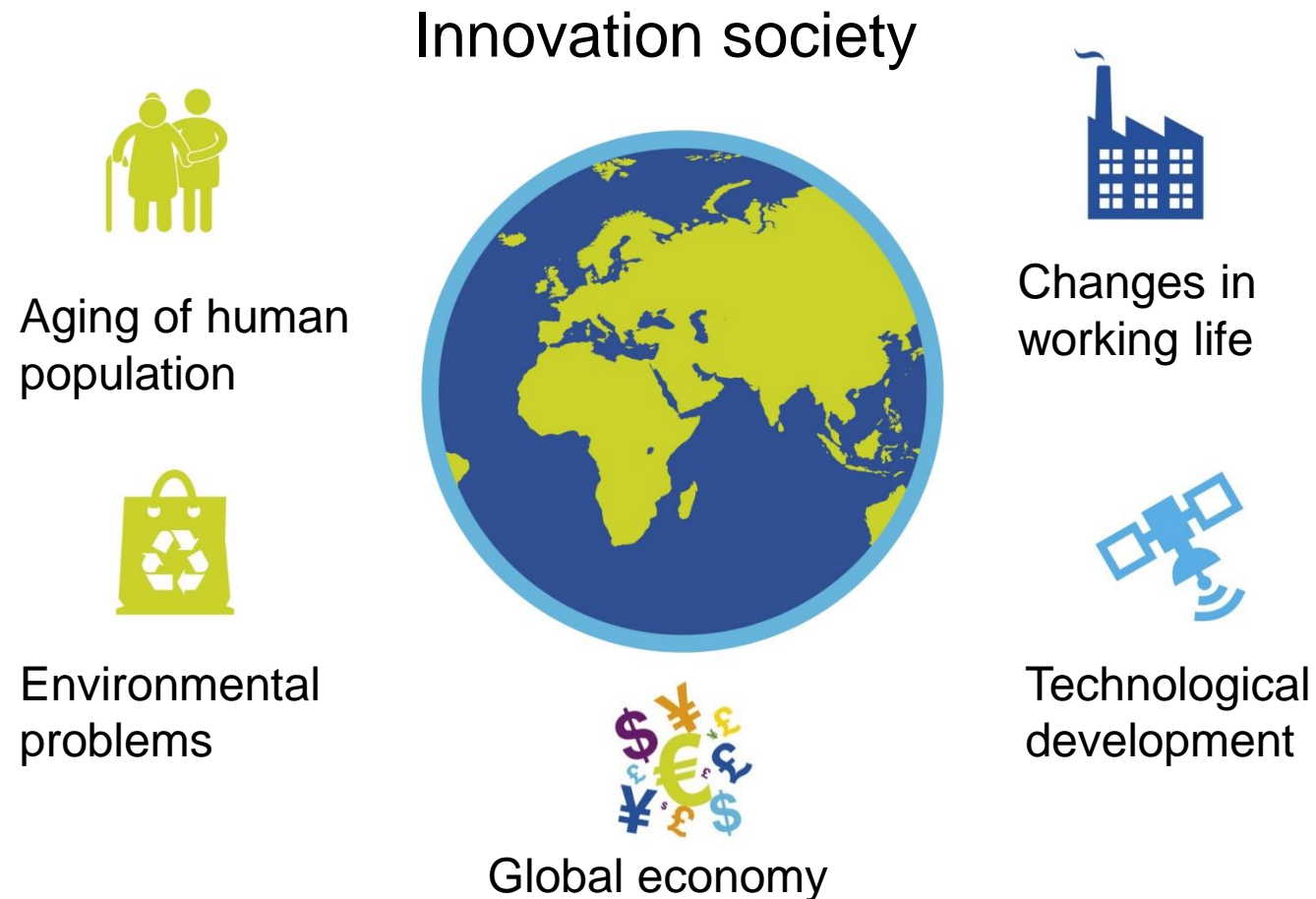
A black and white photograph of frosted evergreen branches, likely spruce or fir, with a soft, out-of-focus background. The branches are covered in a thick layer of white frost, creating a delicate, crystalline texture. The lighting is soft, highlighting the intricate details of the frost on the needles and branches.

# **Assessing students' innovation competences in higher education**

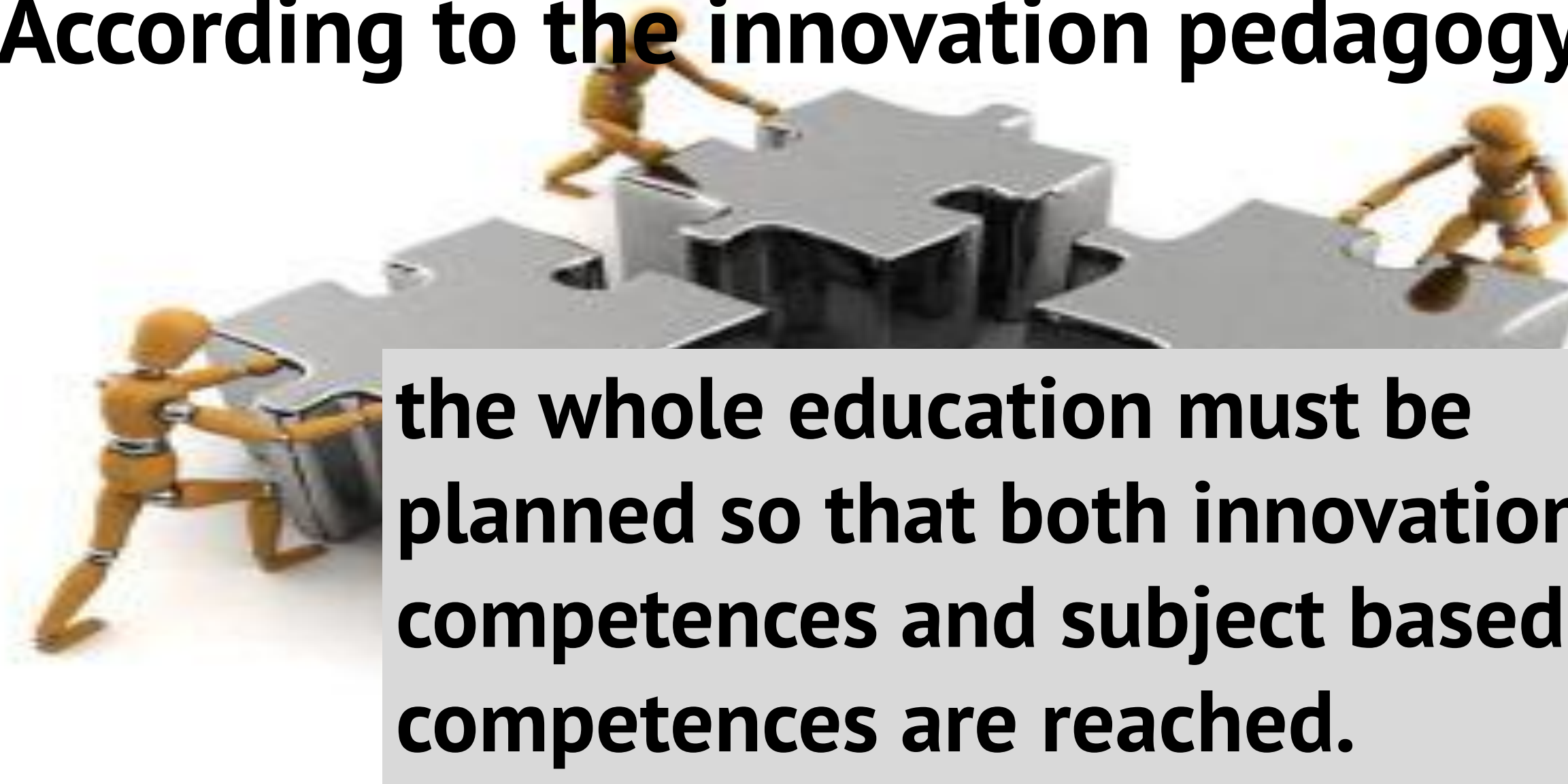
Meiju Keinänen & Liisa Kairisto-Mertanen  
PEDA-forum 16.8.2018



# The World is Changing



**According to the innovation pedagogy,**

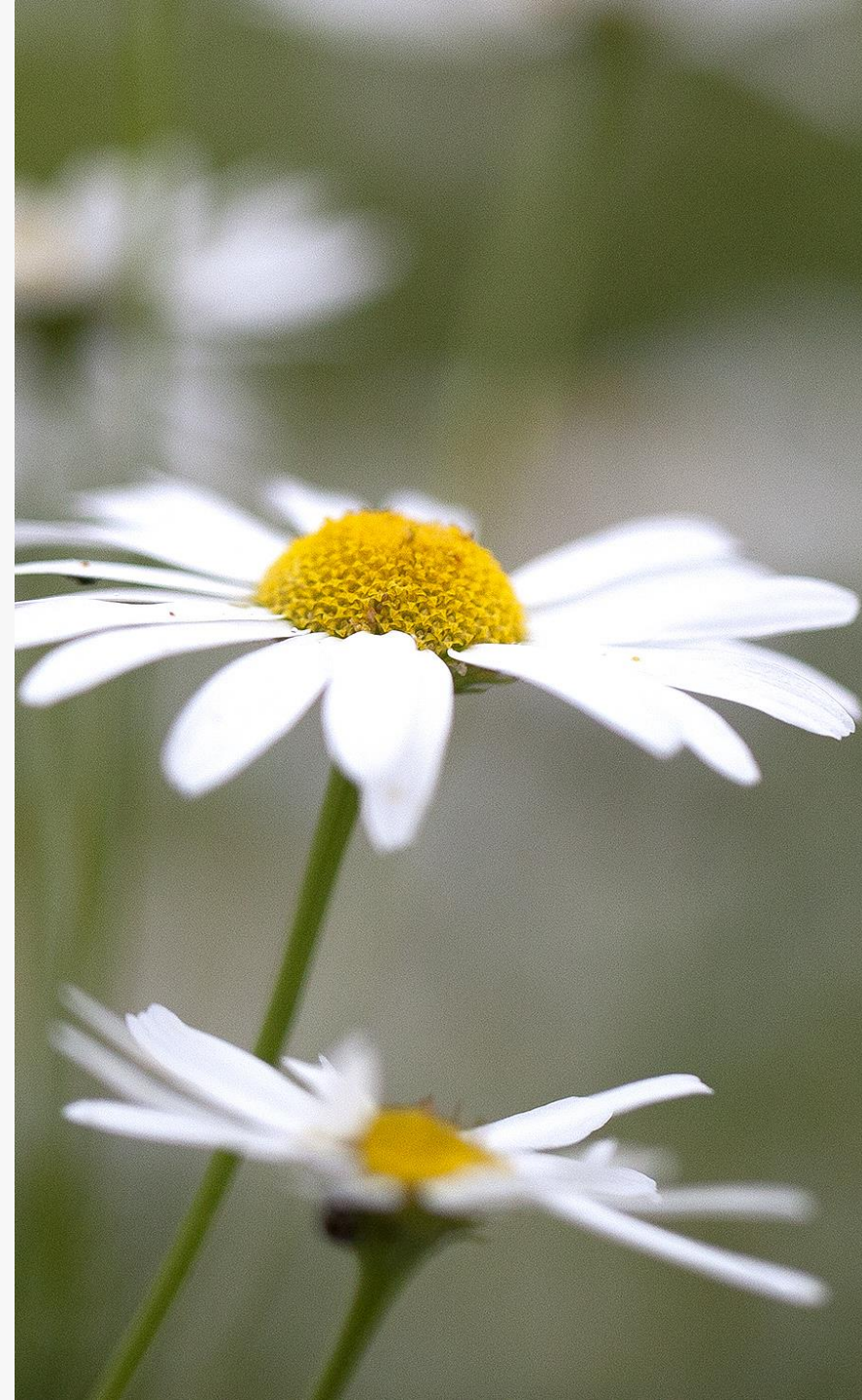
The background image shows four small, orange, humanoid figures working together to assemble large, grey puzzle pieces. One figure is in the foreground, pushing a piece into place. Another is on the left, also working on a piece. A third is in the background, reaching for a piece. A fourth is on the right, holding a piece. The puzzle pieces are large and interlocking, forming a larger shape. The figures are small and appear to be made of a soft, clay-like material.

**the whole education must be planned so that both innovation competences and subject based competences are reached.**

# Training innovative professionals

- Assessment has a powerful effect on all teaching and learning activities. It provides one of the clearest indication of what the institution gives priority to because it typically frames how higher education students actually learn. (Boud, 2007.)
- Traditional methods of testing focus on written forms are regarded as inadequate to say anything about innovative behaviour because the focus is only too often on knowledge, instead of authentic action (Van der Klink, 2007).
- Therefore, if we want to educate innovative future professionals, we must to rethink our assessment methods and practices.

Photo Minna Scheinin

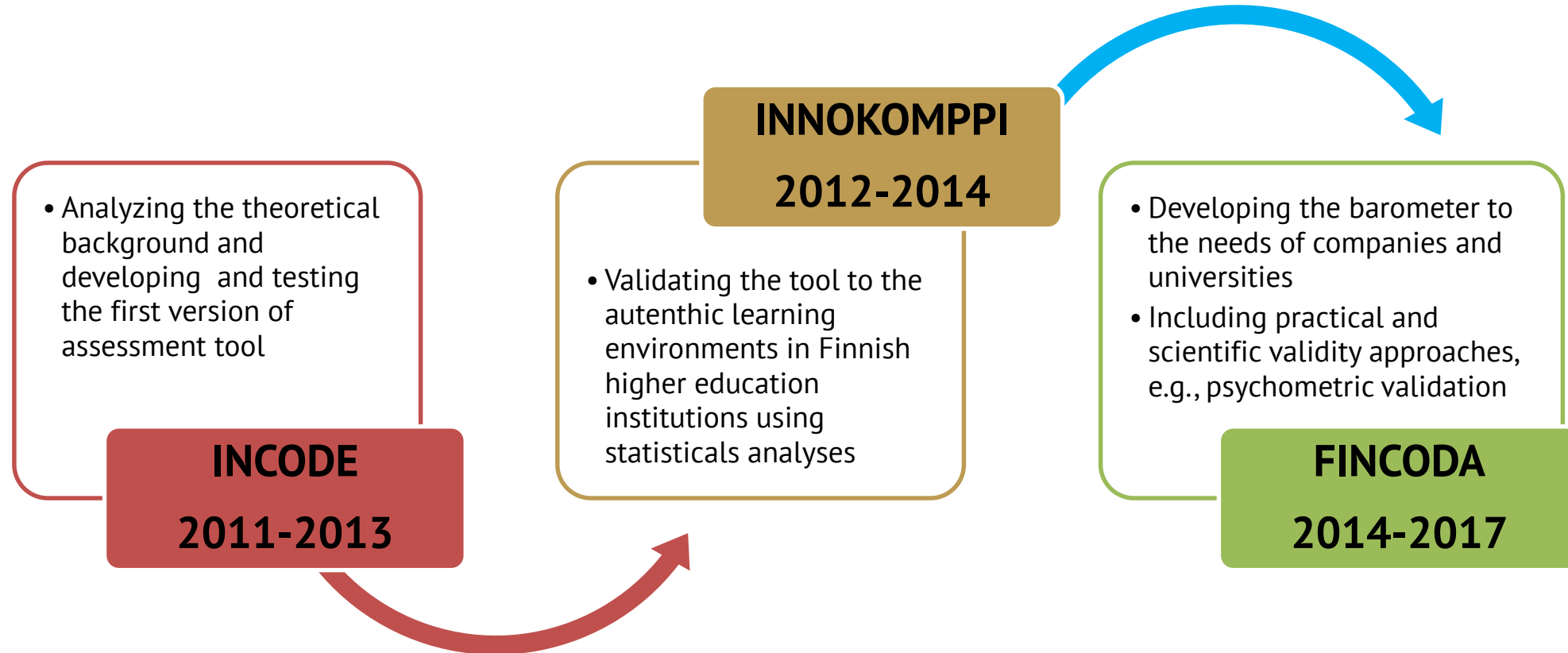




**How to measure the complex cognitive  
behaviour needed in the creation of  
innovations?**

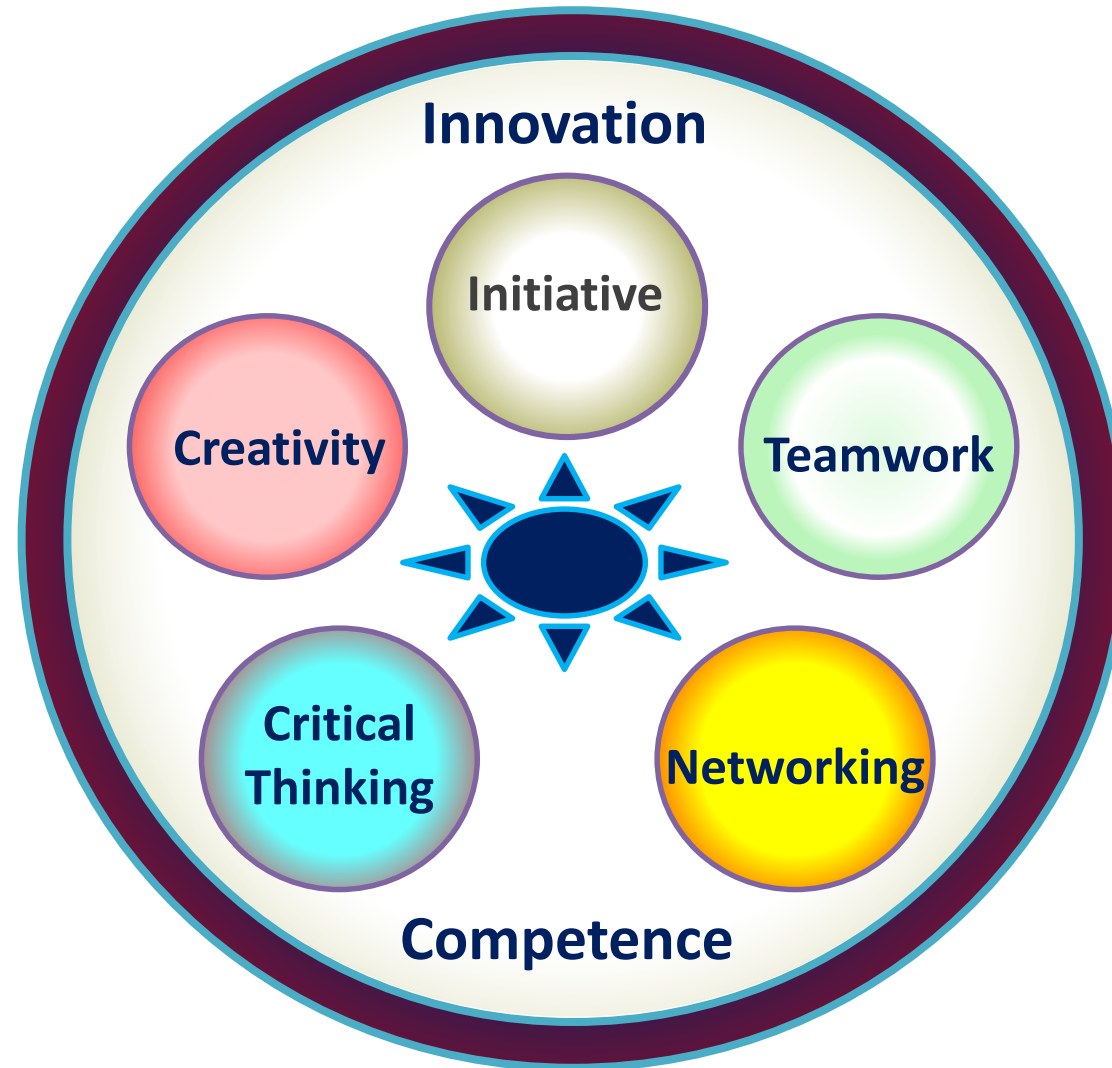
**We think that, if we lack the needed methods,  
there could be a risk that in higher education  
only what can be easily and transparently  
measured is taught or assessed.**

# Developing the assessment tool to measure innovation competences





# INNOVATION COMPETENCE MODEL



**FINCODA** 



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tion Showcase Contact **Tutorial**

## Organisation Registration

[Click here to watch tutorial](#)

## Basic User Registration

[Click here to watch tutorial](#)

## View Survey Results

[Click here to watch tutorial](#)

## Create a Self Survey

[Click here to watch tutorial](#)

## Create a Peer Survey

[Click here to watch tutorial](#)

# The FINCODA Assessment tool

<http://fincoda.dc.turkuamk.fi/>

**FINCODA** Home Description Showcase Contact Tutorial Login Register ▾ About

# Fincoda Survey System

A tool for Universities and other working life organizations for measuring individuals' innovation competences

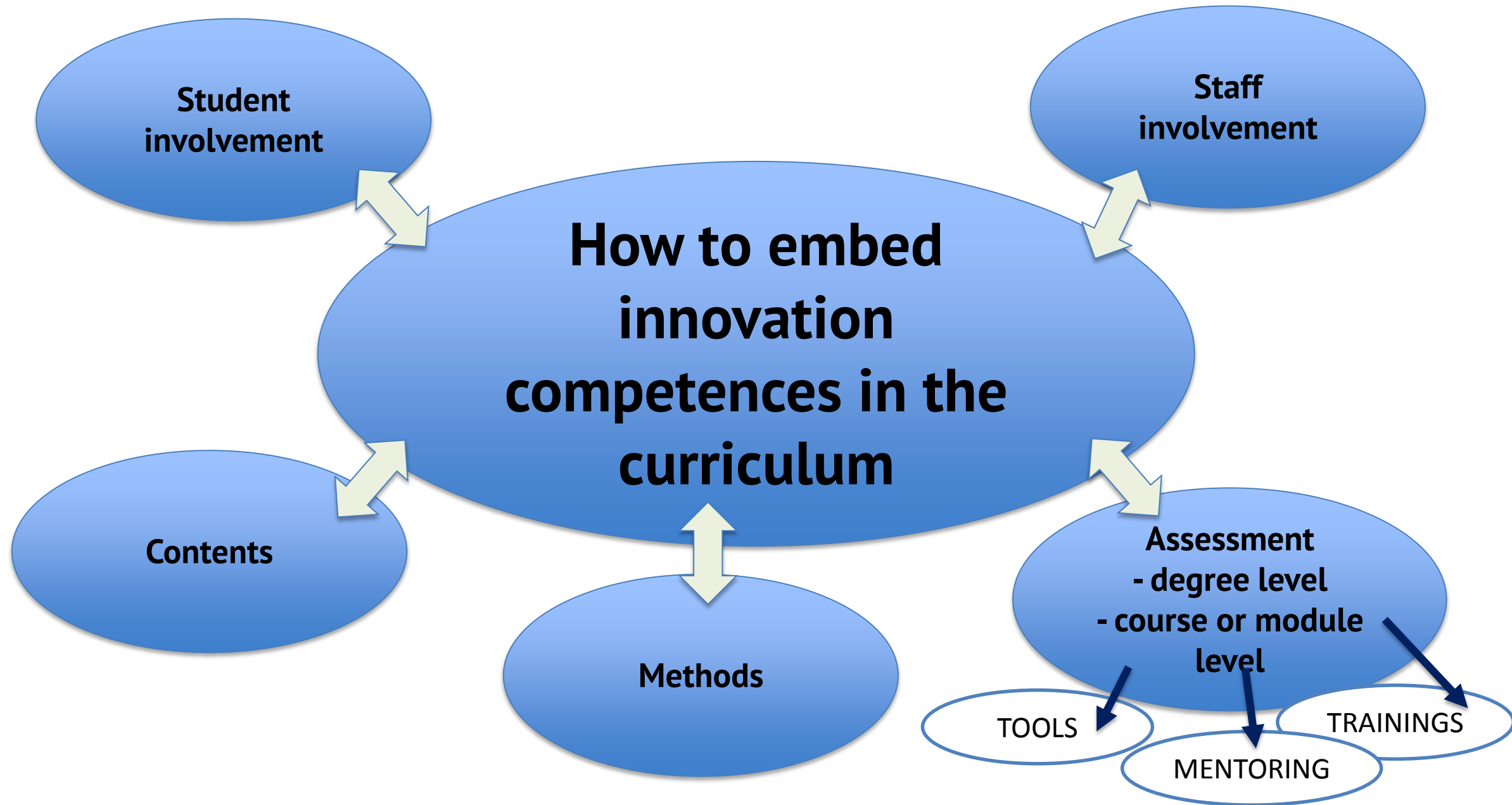
**Amazing Results**  
Scaled bar charts with all data fit in provide visual presentation of categorical data.

**Company average score per dimension**



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## **Curriculum / Assessment**

- **degree level**
- **study unit or modul level**

### **Degree level**

- electronic assessment tool available on our electronic curriculum (SoleOPS)
- self- assessment in the beginning of studies / annually / in the end of studies
- linked to study unit "University studies and working life skills" 5 (ECTS), extent 3.5-4 years
- lead by tutor teacher, development discussions with students

### **Study unit or module level**

- electronic assessment tool available for all teachers on our learning platform (Optima)
- can be applied to self, peer and external assessment
- can be applied partially and revised to fit for the content of course



# Some observations and feedback...

## *Challenges*

- Changing the education (attitudes) takes time!
- For example, some teachers may not perceive innovation competences development as their teaching responsibility and may believe that such things are best taught in additional courses (see also e.g., Bath et al., 2004), as well as, some students may not perceive innovation competences development as an important part of their studies.
- Therefore, the mere training is not enough – it needs lot of discussions and common reflection both with the students and the staff.



# Some observations and feedback...

## *Advantages*

- The assessment tool helps teachers to design and develop innovative curriculums or courses, and gives concrete suggestions for counseling their students. It also offers an alternative tool to assess learning outcomes in behavioural level (compare written outputs, e.g., reports or essays).
- With the assessment tool students are able to recognize different kind of learning situations, and describe and reflect not only their innovation competences but also their learning and expertise from versatile perspectives. The tool also raises students' awareness of the innovation process. (Keinänen & Butter, 2018)





**“If you want to  
change student  
learning, change  
assessment”**

**(Brown, et al. 1997)**



Photo Minna Scheinin



# Lähteet:

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2. Marin-Garcia, J.A., Andres, M.A.A., Atares-Huerta, L., Aznar-Mas, L.E., Garcia-Carbonell, A., González-Ladrón-de-Guevara, F. and Watts, F. (2016), "Proposal of a framework for innovation competencies development and assessment (FINCODA)", *WPOM-Working Papers on Operations Management*, Vol. 7 No. 2, pp. 119-126.
3. Perez-Penalver, M.J., Lourdes, E.A-M. and Montero-Fleta, B. (2018), "Identification And Classification of Behavioural Indicators to Assess Innovation Competence", *Journal of Industrial Engineering and Management*, Vol. 11 No. 1, pp. 87-115. Photo Minna Scheinin



# Thank you for attention!

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