On Creativity and its measurements

Ernesto Villalba

Centre for Research on Lifelong Learning (CRELL)
Unit of applied statistics, Institute for Protection and Security of Citizen (IPSC)
European Commission- Joint Research Centre (JRC)

Scoping workshop on Creativity and Innovation in Learning, enabled by ICT
Institute for Prospective Technological Studies (IPTS)
Seville, 23 - 24 FEBRUARY 2009
JRC Structure: 7 Institutes across 5 Member States

- Institute for Reference Materials and Measurements
  IRMM – Geel, Belgium

- Institute for the Protection and Security of the Citizen
  IPSC – Ispra, Italy

- Institute for Environment & Sustainability
  IES – Ispra, Italy

- Institute for Health and Consumer Protection
  IHCP – Ispra, Italy

- Institute for Transuranium Elements
  ITU – Karlsruhe, Germany

- Institute for Energy
  IE – Petten, The Netherlands

- Institute for Prospective Technological Studies
  IPTS – Seville, Spain

> 2,700 staff across Europe
THE CHALLENGE

1. WHAT IS CREATIVITY?

2. CAN CREATIVITY BE MEASURED?

3. IS IT FEASIBLE TO DO IT IN AN INTERNATIONAL, COMPARATIVE WAY?

4. WHAT TOOLS DO WE HAVE?

CAN CREATIVITY BE MEASURED IN AN INTERNATIONAL, COMPARATIVE WAY?
“Creativity now is as important in education as literacy and should be treated with the same status”

Sir Ken Robinson
That thing called “creativity” (I)

• COMPLEX
• Diversity of approaches

Psychology

“Sector” approach

- Psychodynamics
- Psychometrics
- Cognitive psychology
- Individual Differences
- Management
- Urban development
- Innovation

Picture retrieved from: www.nature.com
That thing called “creativity” (III)

Start from existing sources

“Standing on the shoulders of Giants”

Psychology \(\rightarrow\) Divergent thinking \(\rightarrow\) Individual

Sector \(\rightarrow\) Innovation Entrepreneurship \(\rightarrow\) Collective

Personality traits

Culture

3T’s
Start from existing sources

"Standing on the shoulders of Giants"

A working definition of creativity

Psychology → Divergent thinking → Personality traits → Individual

Sector → Innovation → Entrepreneurship → Culture → 3T’s → Collective
Psychology

A process of becoming sensitive to problems, deficiencies, gap in knowledge, missing elements, disharmonies, and so on; identifying the difficulty, searching for solutions, making guesses, or formulating hypothesis about deficiencies: testing and retesting these hypotheses and possibly modifying and retesting them; and finally communicating the results.

E. P. Torrance (1966, p. 6)
Psychology

- Problem identification - Openness
- Imagination - Problem solving
- Persistent - Purposeful
- Persuasion

Approaches

- Fluency: Number of ideas
- Originality: rarity of the ideas
- Elaboration: Added ideas
- Abstractness
- Resistance to premature closure
Approaches

Sector Approach -- The Creative Class

- Technology
- Tolerance
- Talent
Sector Approach -- Innovation

a new significant improved product (good or service), or process, a new marketing method, or a new organizational method, business practices, workplace organization or external relations"

OECD and EUROSTAT, 2006, p. 46
Sector Approach -- Entrepreneurs

those persons (business owners) who seek to generate value, through the creation, expansion of economic activity, by identifying and exploiting new products, processes or markets

Ahmad and Seymour 2008, p. 14
Approaches

• Agreement

• NEW

• VALUE

• Democratic
Creativity dilemmas

- Personal or social?
- New to whom?
- A feature of what?
- Universal or specific?
A dead end?
Dec. 11th 2008 – Workshop 1
Jan. 26th 2009 – Workshop 2
28, 29 May 2009 – Conference
Thank you!

ernesto.villalba@jrc.it