Farewell address Prof.dr. Martin Mulder
October 20th, 2016

Competence for life
A review of developments and perspective for the future
Parts of the Farewell address

1. Introduction.
2. Turbulent history of the chair group.
3. Alignment of the mission of ECS with WUR.
4. The genesis of the competence construct.
5. ECS competence research.
6. Competence overviews and syntheses.
7. Competence for life.
8. Conclusions.
9. Words of thanks.
2. Turbulent history of ECS
I had a lot of support of colleagues...
WHAT MATTERS MOST IS HOW YOU SEE YOURSELF.
Een professor met mazzel, een professor met pech

Van de 105 hoogleraren van de Wageningen Universiteit blijven er na de reorganisatie nog maar 81 over. Een gesprek met een gelukkige en een onfortuinlijke professor.


"Ik ben begonnen op 1 oktober 1998. Zes weken later, op 19 november, kreeg ik te horen dat deze leerstoel zou verdwijnen. Mulder lacht besmuikt. "Ik was totaal verbijsterd. Ik vind het onbegrijpelijk. Niets was erop dat het zou gebeuren. Deze leerstoel is tien jaar lang tijdelijk bezet geweest. Toen ik werd aangesteld, werd het weer een vaste plaats. Bij ‘agrarisch onderwijs’ hadden ze het gevoel dat ze eindelijk uit de zorgen waren."

Niets is minder waar. De halfjaren baan van de professor en de banen van zo’n 35 medewerkers worden geschrapt. Mulder: "De bedoeling was dat ik me zou gaan bezighouden met na- scholing van docenten, met ver- nieuwen van opleidingen, met teleleren, de invoering van het BSc-MSc-modell met pro- bleemgestuurd onderwijs. Daar zijn ze in Wageningen al tien jaar mee bezig, maar het komt niet echt van de grond. En nou tevens richtten op het finge- Agrarisch Onderwijs. De ver- nieuwingen in de agrarische sector hebben ook gevolgen voor het onderwijs."

Het gaat niet door. Mulder is niet boos, zegt hij. "Wel teleur- gesteld." Nadien het slechte nieuws hem had bereikt, stelde hij een redingsoperatie. We hebben een plan van de campagne opgesteekt.
Research questions of ECS

1. What competencies do people need in and around the transforming sectors of agrifood and the natural environment?

2. What learning arrangements can be provided to acquire these competencies?

3. How effective are these learning arrangements?
1st Chair in Education in Wageningen 1964

- Focus on teacher education.
- For pre-university general secondary education.
- Lack of interest in the 1980s.
- Switch to Agricultural Education in the 1990s.
- Introduction of Environmental Education.
- Collective mission?
Sample of dissertations of ECS

1. CSCLearning?
   - Yvonne de Vos

2. Onderwijscorset en professionele ontwikkeling van leraren vanuit praktijktheoretisch perspectief
   - Yvonne de Vos

3. The combat for gender equality in education
   - Sara Milman Taitara

4. Towards a Competency Profile for the Role of Instruction of Agricultural Extension Professionals in Estahun
   - Mostafa Kurbasion

5. Student Collaboration and Learning
   - Manasree Karthik

6. Open Innovation Competence
   - Filipe da Conceição

7. Comprehensive competence-based vocational education
   - Renata Wusselbach

8. Fostering Argumentation-Based Computer-Supported Collaborative Learning in Higher Education
   - Omid Noroozi

9. Selecting Intercultural Computer-Supported Collaborative Learning in Higher Education
   - Vitaliy Popov

10. Analyzing and Promoting Entrepreneurship in Iranian Higher Education: Entrepreneurial Attitudes, Intention, and Opportunity Identification
    - Saeid Kadjii

11. Inquiry-based science teaching competence of pre-service primary teachers
    - Enter Hasho-Toubard

12. Innovations in hands-on simulations for competence development
    - Anne F. Kramer

13. Professional development on innovative competence of teaching staff in Nigerian universities
    - Oluwasegun O. Adeyemi

14. Teaching and learning of interdisciplinary thinking in higher education in engineering
    - Eduard Spalt

15. Designing Hybrid Learning Configurations at the interface between school and workplace
    - Petra H.M. Cremers

16. Competence Modelling for Export Performance Improvement in Ethiopia
    - Yonas Teferra

17. Towards Competence-Based Technical-Vocational Education and Training in Ethiopia
    - Yonas Teferra
3. The mission of ECS aligned with that of Wageningen University
Mission of WUR and ECS

WUR mission

● To explore nature and to improve the quality of life.

ECS mission

● To explore competence to improve the quality of life and society.

● To identify and promote competence in Wageningen domains, green education and related societal sectors.
Competence research from three perspectives – focused on core
CBE more popular than ever

https://www.youtube.com/watch?v=RckLD9A0pqc

What is competency-based education?

https://www.youtube.com/watch?v=WjNYElRzRtI

Obama Mentions SNHU and Competency Based Education

https://www.youtube.com/watch?v=X_EbseBknZA

Dr. Bernard Bull
@bdean1000 | Assistant Vice President of Academics and Professor of Educational Design & Technology at Concordia University Wisconsin

#beyondlettergrades

https://www.youtube.com/watch?v=L3H-och9Hfc

Paul J. LeBlanc
President, Southern New Hampshire University
China, 2015

China: Improving Technical and Vocational Education to Meet the Demand for High-Skilled Workers

September 14, 2015

At technical/vocational schools in China, curriculums and training methods are outdated and barely keep pace with market needs. A project helps bring changes.

9,000

The project has benefited more than 9,000 students, as well as school teachers and administrators.

China
East Asia and Pacific
Education

RELATED PROJECT
Guangdong Technical and Vocational Education and Training Project
Ethiopia

NATIONAL CURRICULUM WORKSHOP ON
COMPETENCE BASED MSc PROGRAM IN HORTICULTURE
JUCAYM JULY 26, 2008
The Federal Republic of Nigeria

Federal Ministry of Labour and Productivity
(Skill Development and Certification Department)

Skill Upgrading and Vocational Training Centre
5, Lancaster Road, Opp. Queens College, Onike, Yaba, Lagos.

In Collaboration with
AATA Energy Nig. Ltd.

Offers
Competence Based Technical & Vocational Training
For Trade Test, NABTEB Modular and City, Guilds IVO and other International Certification.

The courses includes:
- Mobile Crane Operation
- Rigging and Signal Man
- Forklift Operation
- Scaffolding
- Port Operation
- 3G/4G Welding
- Fabrication Technology
- Industrial Machining
- Domestic Electrical Installation & Maintenance
- Industrial Electrical Installation & Maintenance

Tel: 08023020301, 08182025545, 08140396889
Email: info@aatalearning.com, aatalearning@gmail.com
The Ministry of Education of Rwanda through Rwanda Education Board is honoured to provide all beneficiaries with the new competence based curriculum. It serves as an official document and guide to competency based teaching and learning, and also ensures that there is consistency and coherence in the delivery of education across all levels of general education in Rwandan schools.
German Chambers of Commerce project in India

VETnet Pilot Project
Pune, March - May 2015

German Chambers worldwide network (AHK) for cooperative, work-based Vocational Education & Training
Implementing Competency-Based Training (CBT) in Bangladesh
Mexico, 2015

Competency Based Education
EU Competence Framework for ICT, 2014
The Great Eight competence framework
(Bartram, 2005)

1. Leading and Deciding
2. Supporting and Co-operating
3. Interacting and Presenting
4. Analysing and Interpreting
5. Creating and Conceptualising
6. Organising and Executing
7. Adapting and Coping
8. Enterprising and Performing

Competence in Medicine - Cornell Press, 2012
CanMeds Competency Framework, 2015

http://canmeds.royalcollege.ca/en/framework
New Journal Competency-based education
James Konrad (a music critic in the 1960s): It’s a shame about Big Brother and the Holding Company, it really is. Their lead singer, Janis Joplin, is the most important female vocalist since Aretha Franklin, but the musicians in the band are only slightly better than competent, and can’t begin to come up to her level.
“Philadelphia” (1993) - Beckett against (Bob) Wheeler

- WHEELER (Employer) Andrew (Beckett) brought AIDS into our offices, into our men's room. He brought AIDS to our annual ... family picnic ...
- SEIDMAN (Co-worker) A jury might decide that Andy has a case.
- WHEELER Waite a minute. The man was fired for incompetence, not because he has AIDS. You didn't know he was sick, did you, Bob?
- KENTON (Co-worker) Holy Shit. Did you, Bob?
- BELINDA CONINE (Attorney) Your Honor, Mr. Beckett's incompetence nearly sabotaged a 350 million dollar suit.
The new Q in Skyfall – James Bond (2012)

Q: 007. I'm your new Quartermaster.
Bond: You must be joking.
Q: Why, because I'm not wearing a lab coat?
Bond: Because you still have spots.
Q: My complexion is hardly relevant.
Bond: Your competence is.
Q: Age is no guarantee of efficiency.
Bond: And youth is no guarantee of innovation.
Q: I'll hazard I can do more damage on my laptop sitting in my pyjamas before my first cup of Earl Grey than you can do in a year in the field.
4. The genesis of the competence construct
Code of Hammurabi, 1792-1750 BCE

‘... Hammurabi, le roi compétent ... ‘

Laws of justice which Hammurabi, the wise king, established. A righteous law, and pious statute did he teach the land.

Translated by L.W. King (1910); Edited by Richard Hooker
Institutional Use of Competence

- Rychen & Salganik (OECD, 2003).
- EQF – NQFs.
- Assessment of Key Competences (EU, 2012).
- European e-Competence framework 3.0 (CEN, 2014).
- Riga Conclusions - Key Competence as policy option (2015).
Old roots of the word competence

- Sanskrit: समर्थ (samartha).
- Chinese: 作证能力 (zuòzhèngnénglì).
- Greek: ικανότης (Ikanotis) – the quality of being ikanos (capable), to have the ability to achieve something; skill (Plato, Lysis 215A; 380 BCE).
- Latin: competens; competentia.
- English: competence; competent.
- French: compétence; compétent.
- Dutch: competentie; competent (1504 CE).
In educational reports (Alfred True, 1929)
In educational books (John Dewey, 1916)

- The democratic ideal
- Everybody should develop competence
- To choose and pursue a career

The ‘new’ first publications on competence

An alternative for motivation psychology of Freud (unconscious drives) and Hull (drive reduction).

Children and adults are motivated to become competent in what they do.

Competence = the ability to interact effectively with the environment.

Cambridge: MIT Press
Limited prognostic validity of intelligence tests and school grades.

Testing what people actually can do shows a better result.

Competencies should try to measure clusters of life outcomes.

Criterion-based job analysis may lead to overdetailed tests.

Competencies should be identified by what superior performers do.

Competence, performance and management

- Engineering worthy performance – Tom Gilbert (1978)


- Cognitive competence
- Linguistic competence
- Interactive competence

“We’re outsourcing everything but our core competency. Once we find out what that is, we’ll begin the outsourcing process.”
Michael Eraut and Robert Quinn


Current state of competence practice

- Professional associations – competence frameworks
- Governmental organizations – competencies of teachers
- Testing companies – competence measurement tools
- Consultancy firms – competence dictionaries, advisory services for assessment and development
- Organizations – competence management systems
- Educational institutions – implemented qualifications frameworks in which competencies are integrated.
5. Competence research of ECS
1. Which competencies?

- Sustainable development - Wesselink and Wals (2011).
- Argumentation competence - Noroozi (2013).
2. Learning arrangements


- Learning in regional planning projects - Oonk (2016).

3. Effectiveness

- Open innovation in large organizations (Du Chatenier, 2009; Du Chatenier et al 2009, 2010).
- Authentic assessment in competence-based education (Gulikers et al, 2009; Wesselink, 2010).
- Argumentation competence (Noroozi (2013).
- CBE in Ethiopia (Solomon, 2016).
- Other studies.
6. Time for overview and synthesis
Many partial reviews and critiques done

- Domas and Tiedeman, 1950
- Houston, 1974
- Grant et al, 1979
- Ellström, 1997
- Lum, 1999
- Rothwell and Lindholm, 1999
- Argüelles & Gonczi, 2000
- Westera, 2001
- Jones and Voorhees, 2002
- Hager, 2004
- Hyland, 2006
- Mulder, Weigel and Collins, 2007
- Smith, 2010
- Winterton, 2011
- Mulder, 2014

"I'm sorry, but you have a very impressive resume, and at this company, we find competence threatening."
Time for a current comprehensive review

- Collects the diverse viewpoints regarding CBE
- Unravels controversies in CBE debates
- Deepens the understanding of CBE theory
- Reviews policies and practices regarding CBE
- Assesses the value added of CBE
- Points at research priorities in the field of CBE
What are these people thinking of?
Flower traders need professional competence

- **Knowledge**
  - product quality
  - market

- **Skills**
  - multi-tasking
  - information processing

- **Attitudes**
  - stress-tolerance
  - feeling for sales
  - open for change

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Extreme competence: brilliance

Riccardo Chailly
Maria Joao Pires

https://www.youtube.com/watch?v=CJXnYMI_SuA
My understanding: competencies are...

1. integrated capabilities,
2. consisting of clusters of knowledge, skills, and attitudes,
3. conditional for sustainable effective performance, including
   - problem solving
   - realizing innovation
   - creating transformation,
4. in a certain profession, occupation, job, role, organisation, or situation.
7. Competence for Life
Competition for Life - Uganda

COMMUNITY LIFE COMPETENCE

HEALTH NEST UGANDA WINS AN AWARD FOR EFFECTIVELY STIMULATING OLDER PERSONS TO RESPOND TO THEIR ISSUES

HENU - Health Nest Uganda has been awarded the first prize for JACK WATTERS MEMORIAL for its contribution to addressing issues and concerns of older persons in Uganda more especially for using a strengths based approach. This happened in Thailand on 12th September 2016. Thanks to the EasyCare Foundation and the Constellation for the CLCP (Community Life Competence Process). Photo courtesy Arthur Namara

Welcome to community life competence

Sign Up
or Sign In

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Subscribe to our Newsletter in English, in French or in Spanish

Facebook https://www.facebook.com/pages/The-Constellation/457271687691239

Twitter @TheConstellati1

http://aidscompetence.ning.com/
Three types of competencies

1.0 – for specific tasks

2.0 – for known jobs

3.0 – for the unknown future

The future is an unknown, but a somewhat predictable unknown. To look to the future we must first look back upon the past. That is where the seeds of the future were planted. I never think of the future. It comes soon enough.

(Albert Einstein)
Models of competence for future life

- DeSeCo Model of Key Competencies (2003).
- Key competences (2006 European Union).
- The Essential Learning Outcomes (AAUC, 2008).
- Seven Survival Skills for today’s students (Wagner, 2010).
- Critical Competencies For Future Leadership (Vora, 2015).

The global competence movement...

Center for Global Education

Global Competence

WHO WE ARE
WHERE WE WORK
OUR INITIATIVES
DEFINING GLOBAL COMPETENCE
RESULTS AND OPPORTUNITIES
NEWS AND EVENTS

WATCH

EDUCATION / NEW YORK
Transforming 21st Century Education Systems (Complete)
A high-level dialogue on how to transform primary and secondary education systems to foster global competence.

http://asiasociety.org/education/global-competence
Specified for subject areas...

**EdSteps**

**Global Competence Matrices**

### MAIN GLOBAL COMPETENCE MATRIX

Global Competence is the capacity and disposition to understand and act on issues of global significance.

<table>
<thead>
<tr>
<th>INVESTIGATE THE WORLD</th>
<th>RECOGNIZE PERSPECTIVES</th>
<th>COMMUNICATE IDEAS</th>
<th>TAKE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students investigate the world beyond their immediate environment.</td>
<td>Students recognize their own and others’ perspectives.</td>
<td>Students communicate their ideas effectively with diverse audiences.</td>
<td>Students translate their ideas and findings into appropriate actions to improve conditions.</td>
</tr>
</tbody>
</table>

**Students:**

- Identify an issue, generate a question, and explain the significance of locally, regionally, or globally focused researchable questions.
- Use a variety of languages and domestic and international sources and media to identify and weigh relevant evidence to address a globally significant researchable question.
- Analyze, integrate, and interpret information to identify and weigh relevant evidence to address a globally significant researchable question.

- Recognize and express their own perspective on situations, events, issues, or phenomena and identify the influences on that perspective.
- Examine perspectives of other people, groups, or schools of thought and identify the influences on those perspectives.
- Explain how cultural interactions influence situations, events, or phenomena and how that affects communication.

- Recognize and express how diverse audiences may perceive different meanings from the same information and how that affects communication.
- Listen to and communicate effectively with diverse people, using appropriate verbal and nonverbal behavior, languages, and strategies.
- Select and use appropriate technology and media to communicate.

- Identify and create opportunities for personal or collaborative action to address situations, events, issues, or phenomena in ways that improve conditions.
- Assess options and plan actions based on evidence and the potential for impact, taking into account previous approaches, varied perspectives, and potential consequences.
- Act, personally or collaboratively, to translate ideas and findings into appropriate actions to improve conditions.
assessments...

http://www.globallycompetent.com/model/
and in training programs...

Global Competence

What is Global Competence?

Global Competence is rooted in our changing reality and is constantly evolving with the world. At its core, global competence is “the disposition and capacity to understand and act on issues of global significance.”*
COMPETENCES
FOR DEMOCRATIC CULTURE
Living together as equals in culturally diverse democratic societies
Global competency for an inclusive world

(OECD, 2016)

Competence 3.0 – for the unknown future

- Ambiguity handling
- Argumentational reasoning
- Balancing interests
- Complex problem solving
- Computational thinking
- Creativity - creation
- Entrepreneurship
- Global competence
- Intuition
- Mindfulness
- Negotiating meaning
- Professional identity
- Resilience
- Sustainability
- Transformation
- Uncertainty handling

Source: http://qaspire.com/2016/01/06/leadership-skills-for-the-future/
Competence for life

- Self-management and career competence
- Personal-professional competence
- Integrative learning competence
- Social-professional competence
- Disciplinary and interdisciplinary competence
Integrative learning competence

- Ambiguity and uncertainty handling
- Dealing with vulnerability and ambiguity
- Developmental competence
- Evaluation competence
- Knowledge co-creation competence
- Leadership competence
- Synthesizing competence
- Sustainability competence
- Transformation competence
• Critical thinking and complex problem solving
• Financial, economic, business literacy
• Higher order thinking, sound reasoning
• Inquiry and analysis
• Mathematics literacy
• Social sciences and humanities literacy
• Languages literacy
• Arts literacy
• Digital (ICT) literacies
• Media and information literacy
• Reading, writing, numeracy, computational competence
• Science, technology, design and inquiry literacies
• Environmental literacy

Disciplinary and interdisciplinary competence
Self-management and career competence

- Acting autonomously
- Self-regulation competence
- Civic knowledge and engagement
- Life planning competence
- Personal project planning competence
- Responsibility
- Managing for results
- Prioritizing
- Productivity
- Accountability
- Argumentative reasoning
- Resilience and stamina
- Sense of initiative, innovation and entrepreneurialism
- Calculated risk taking competence
- Lifelong learning competence
Personal-professional competence

- Adaptability, flexibility, agility
- Anticipate and create change
- Big picture visioning, global competence
- Civic competence – balancing, defending/asserting rights, interest, limits, needs
- Cultural awareness and expression
- Curiosity, imagination, and creativity
- Emotions handling competence
- Ethical reasoning and action
- Health competence
- Intuition, mindfulness and integrity
- Managing complexity
- Physical competence
- Reflection and self-awareness competence
• Clarification competence
• Collaboration in networks
• Creating ecosystems for engagement
• Interactive communication skills
• Managing and resolving conflicts
• Meaning negotiating competence
• Multicultural literacy
• Relating well to others
• Social, interpersonal, cooperation competence
• Teamwork

Social-professional competence
8. Conclusions
Final conclusions

- There is a wide variation in competence theories.
- The competence approach is much criticized.
- But worldwide it is more popular than ever.
- The concept has a long history – and is now institutionalized.
- Many competence-based education initiatives concentrate on known tasks and present jobs.
- But, we must also think about competence for the unknown future.
- Research is needed into dedicated learning arrangements to develop future competence.
9. Word of thanks
Thank you very much!