

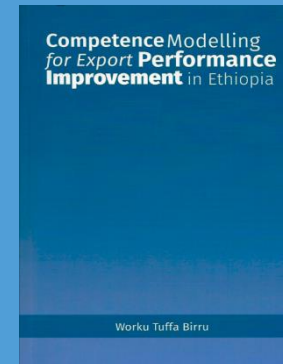
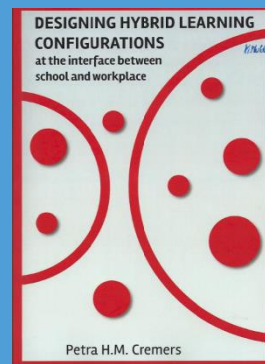
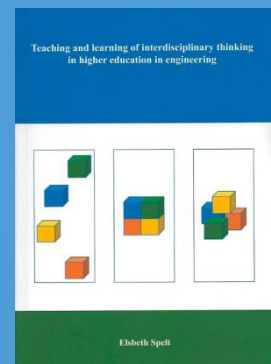
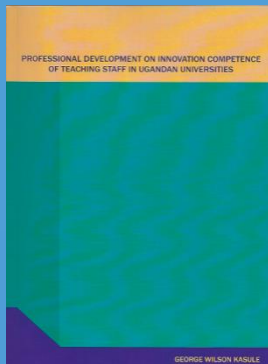
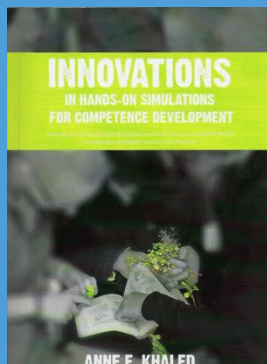
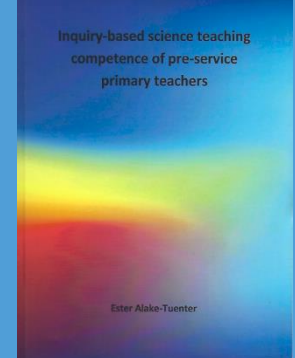
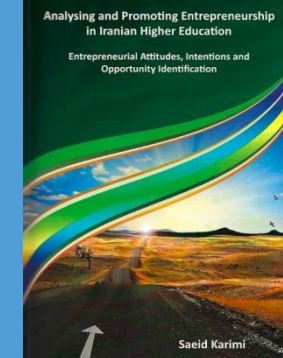
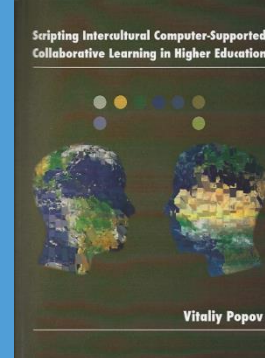
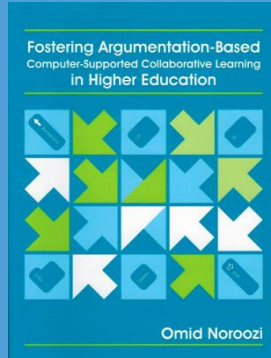
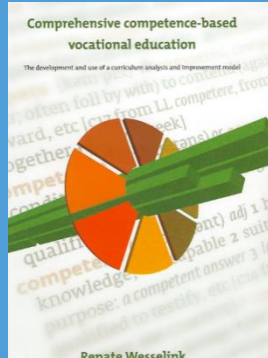
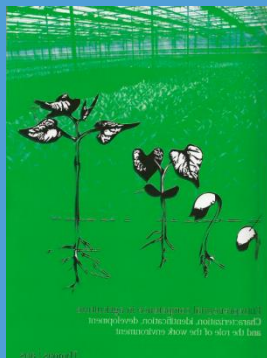
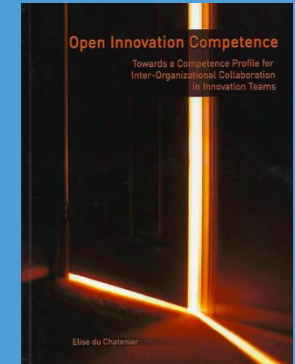
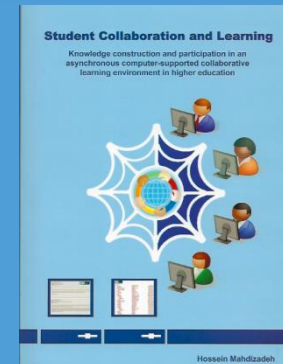
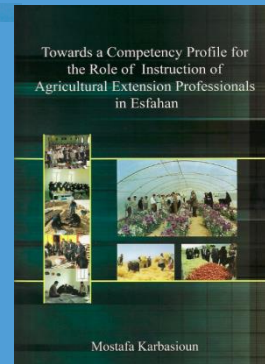
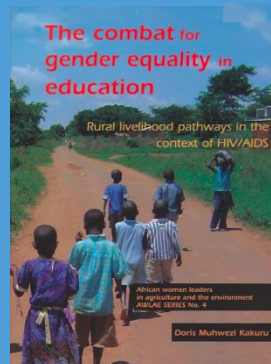
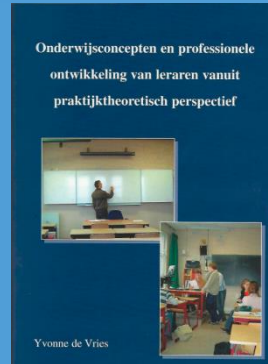
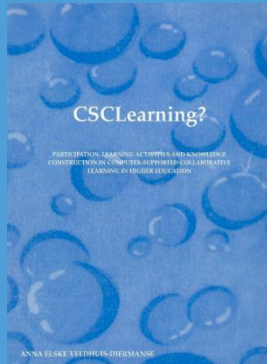
The Global Need for Competence: Competence-based VET and Implications for Policy and Practice

Bonn, BIBB-UNEVOC-UNESCO, June 22, 2017



Em. Prof. Dr. Martin Mulder
Past Head of the Chair Group of
Education and Competence Studies of
Wageningen University

The research and publications of ECS...



...represent various competence themes...

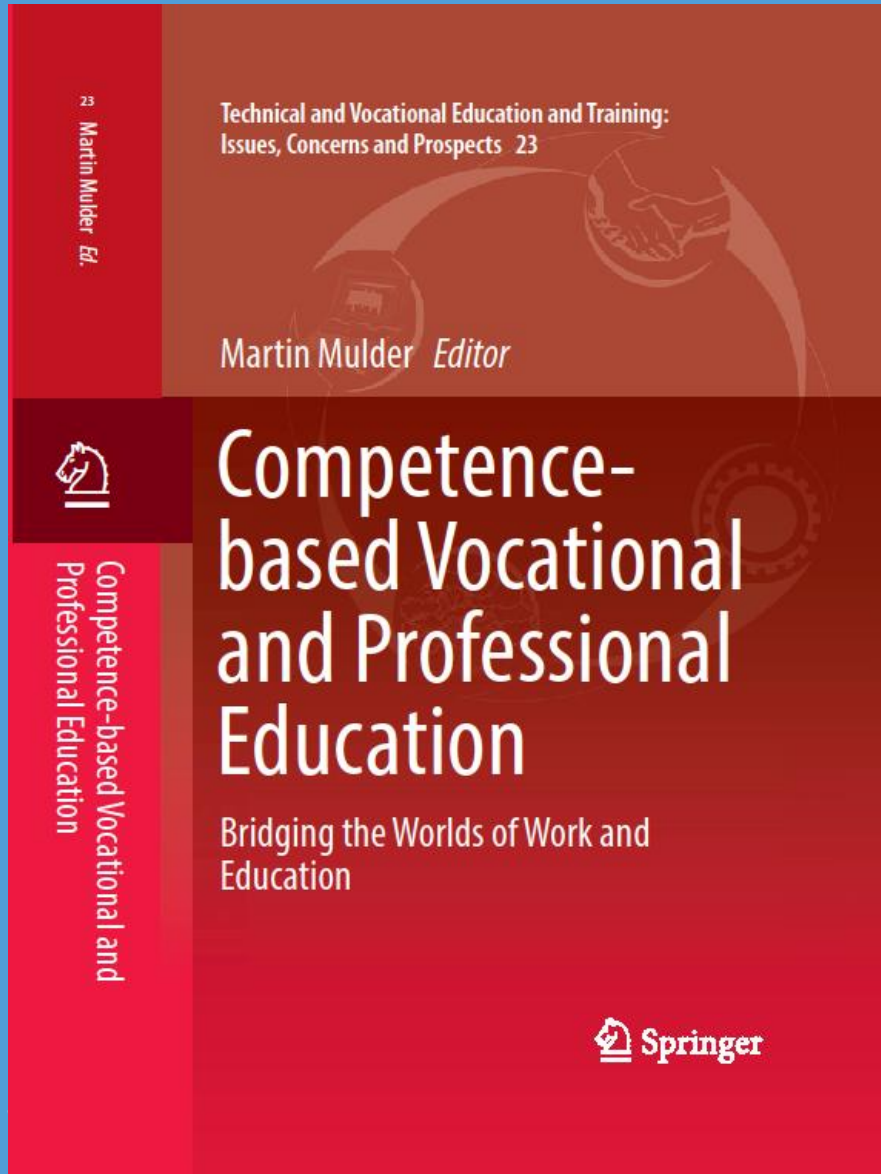
- Argumentation competence (see Noroozi et al)
- Competence assessment (see Gulikers et al)
- Entrepreneurial education and learning (see Lans et al, Karimi et al and Baggen et al)
- Hybridization of VET (Cremers et al)
- Innovation competence (see Du Chatenier et al)
- Intercultural competence development (see Popov et al)
- Interdisciplinarity competence development (see Spelt et al)
- Oral presentation competence (see Van Ginkel et al)
- Training for practical competence (see Khaled et al)
- Regional learning (see Oonk et al)
- Social responsibility competence (see Osagie et al)
- Teaching competence (see Kasule et al and Alake-Tuenter et al)
- Teacher team work and learning (see Bouwmans et al and Zoethout et al)



...and show that there is a wide diversity of competence theories and practices.



To create an overview we developed the book CbV&PE, 2017



- 1142 pages
- 50 chapters
- ≥ 85 authors
- from all continents
- Lead questions-answers
- Theories
- Policy developments
- CBE systems features
- Competence domains
- Synthesis
- Subject index
- Author index

What will be the Agenda of my talk?

1. Competence-based VET: a worldwide trend
2. Conceptual variations of the competence approaches and practical examples
3. Further pitfalls of the integrated CBVET approach
4. My theoretical perspective
5. International education development cooperation
6. Lessons for policy and practice
7. Conclusions



1. Competence-based VET: a worldwide trend



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The beginnings: Code of Hammurabi, 1792-1750 BCE `... Hammurabi, le roi compétent ...`

Code de Hammurabi,
roi de Babylone
Basalte
1792-1750 av. J.-C.



Épilogue

« Telles sont les décisions de justice que Hammurabi, le roi compétent, a établies pour engager le pays conformément à la vérité et à l'ordre équitable [...] Que l'homme injustement traité, qui est impliqué dans une affaire, vienne devant l'image de moi-même, le roi de justice, et se fasse lire ma stèle écrite, qu'il entende ainsi mes précieuses ordonnances ; que ma stèle lui indique son affaire, qu'il voit son cas, que son cœur s'allège [...] Je suis Hammurabi, le roi de justice, à qui Shamash a octroyé la vérité. »

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

The present: 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.



Recognition of Prior Learning (RPL)

Are you thinking about studying a Vocational Education and Training (VET) course at CDU? If you've ever studied or completed training, you might be entitled to apply for Recognition of Prior Learning (RPL).

China, 2015



THE WORLD BANK

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Working for a World Free of Poverty



English ▾

Search



ABOUT

DATA

RESEARCH

LEARNING

NEWS

PROJECTS & OPERATIONS

PUBLICATIONS

COUNTRIES

TOPICS

[Projects & Operations](#)

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](#)

India – VET project of the German Chambers of Commerce

VETnet Pilot Project Pune, March - May 2015



vetnet

German Chambers worldwide network (AHK) for
cooperative, work-based Vocational Education & Training

Bangladesh, 2012

Implementing Competency-Based Training (CBT) in Bangladesh

FACT SHEET



International
Labour
Organization



CONCEPT DESCRIPTION

Nigeria



FEDERAL REPUBLIC OF NIGERIA
FEDERAL MINISTRY OF LABOUR AND PRODUCTIVITY
(Skill Development and Certification Department)
SKILL UPGRADING AND VOCATIONAL TRAINING CENTRE
8, Lancaster Road, Opp. Queens College, Onike, Yaba, Lagos.

In Collaboration with

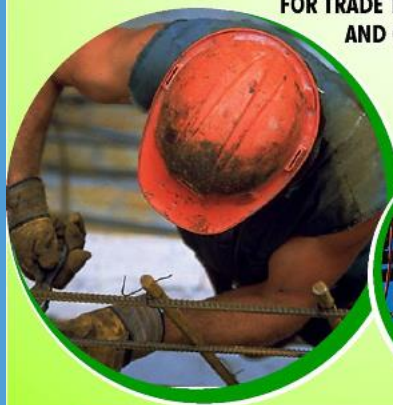


AATA ENERGY NIG. LTD.

Offers

COMPETENCE BASED TECHNICAL & VOCATIONAL TRAINING

FOR TRADE TEST, NABTEB MODULAR AND CITY, GUILDS IVQ
AND OTHER INTERNATIONAL CERTIFICATION.

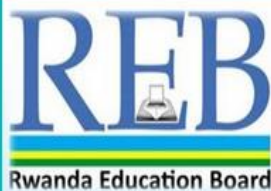


The courses includes:

- 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
E-MAIL: info@aatalearning.com, aatalearning@gmail.com

Rwanda, 2015



Competence Based Curriculum

Curriculum for sustainable development

[Home](#)[Download Syllabus](#)[Sciences](#)[Humanities](#)[Languages](#)

Competence based Curriculum

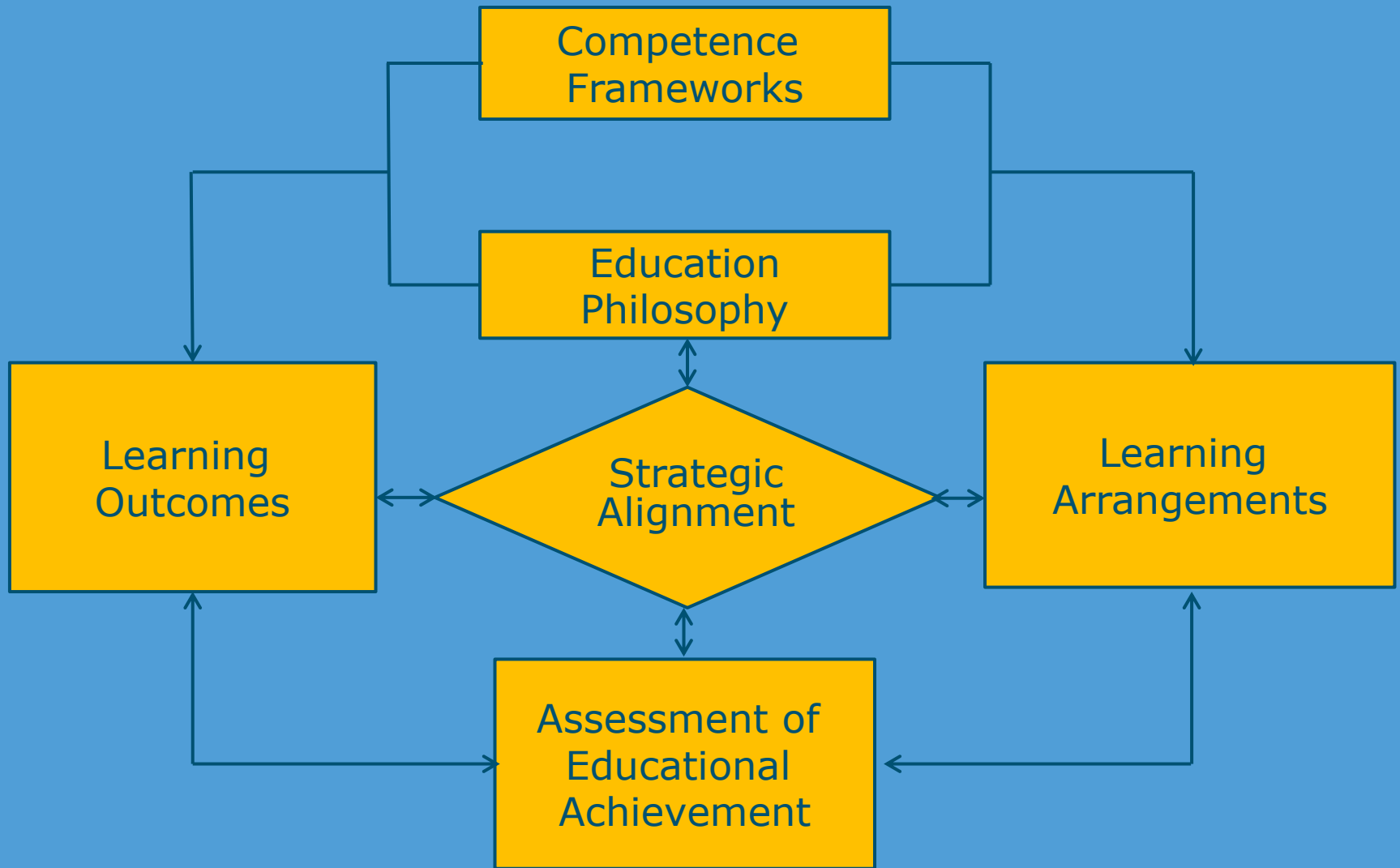
The Ministry of Education of Rwanda through Rwanda Education Board is honoured to provide all beneficiaries with the new competence based curriculum. It serves as an official document and guide to competency based teaching and learning, and also ensures that there is consistency and coherence in the delivery of education across all levels of general education in Rwandan schools.



Syllabuses

- Inyoborabarezi ku Nteganyanyigisho y'Uburezi bw'Inshuke
- Inyandiko ivuguruye ikubiyemo amabwiriza ajyanye n'ishyirwamubikorwa integanyanyigisho
- Pre-Primary
- Lower-Primary
- Upper-Primary
- Lower-Secondary
- Upper-Secondary
- List of Subjects and A Level Combinations
- Curriculum Framework
- Summary of Curriculum Framework

Competence frameworks and alignment in VET



2. Conceptual variations of the competence approach and practical examples



Three groups of competence theories

Context Pitfalls

- | | | |
|-------------------------------|-------------|---------------------|
| 1. Functional behaviourism | Training | Over-specification |
| 2. Integrated occupationalism | Education | Performatism |
| 3. Situated professionalism | Development | Over-generalisation |



Three types of competencies

1.0 – for specific tasks

Outdated curriculum



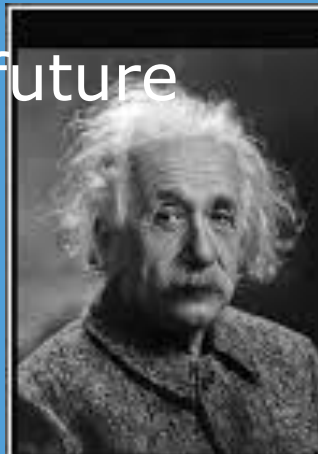
2.0 – for known jobs

Replication logic



3.0 – for the unknown future

Transformative
learning



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.

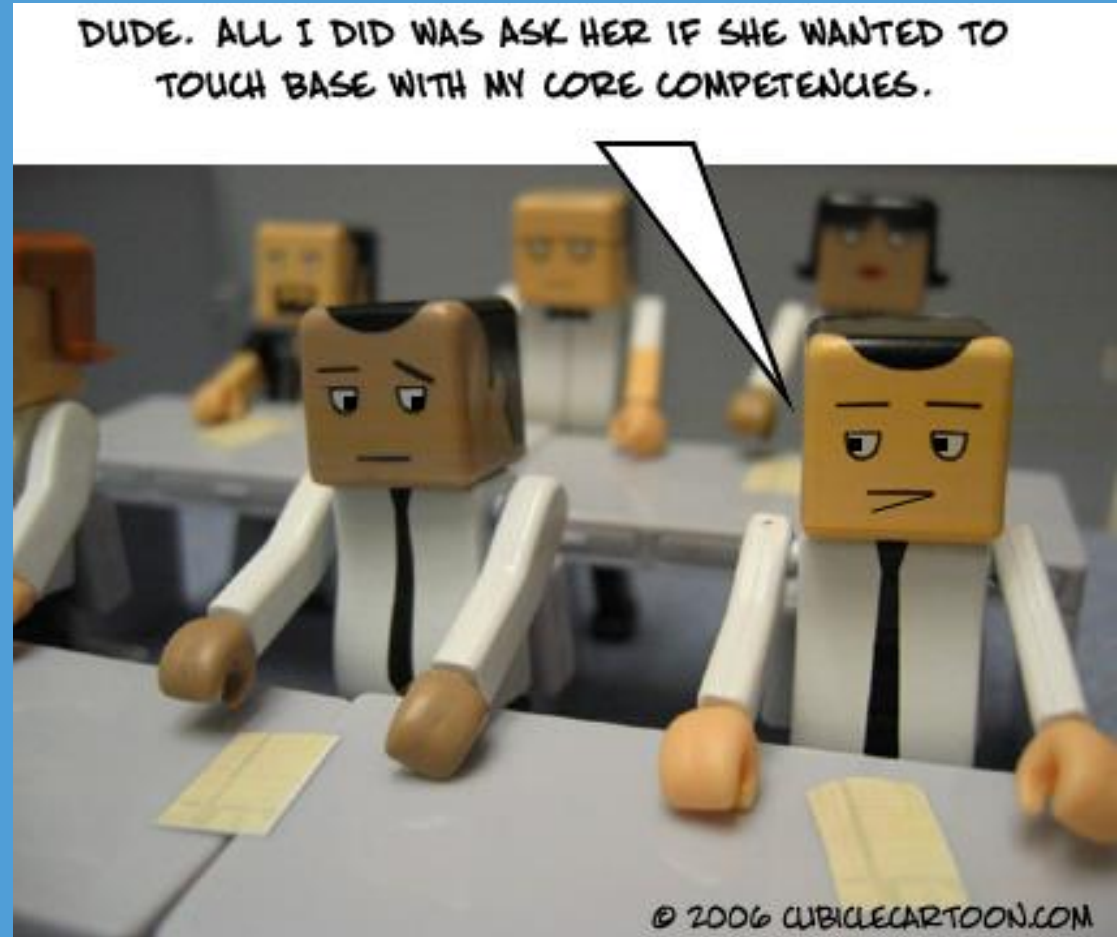
(Albert Einstein)



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Dimensions in definitions of competence

1. centrality
2. contextuality
3. definability
4. developability
5. dynamic nature
6. knowledge-inclusion
7. measurability
8. mastery level
9. performativity
10. transferability



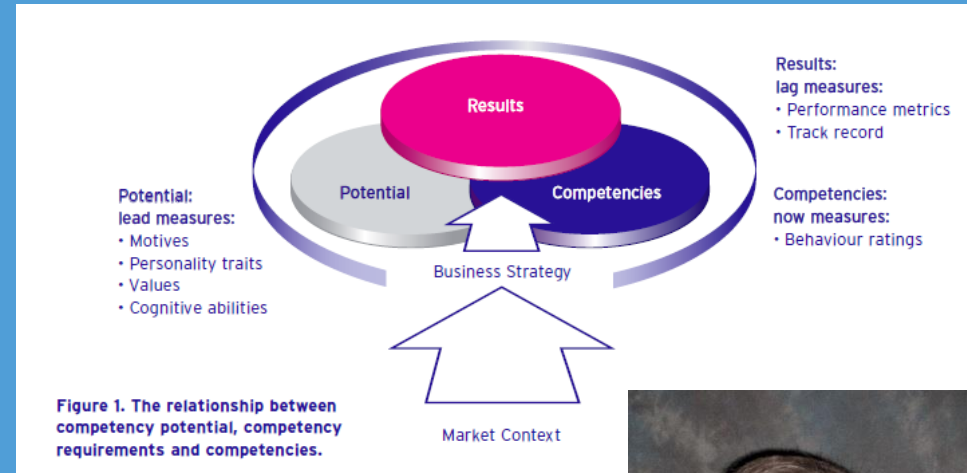
Two Meanings of Competence

- Capability to perform
 - Proficiency, mastery, ability
- Right to perform
 - Legal authority, licensure, certification
 - institutional, organizational, cultural or regulated power, approval or assignment to act, decide, (dis)approve or regulate



Bartram – The great eight Competency Framework (2005)

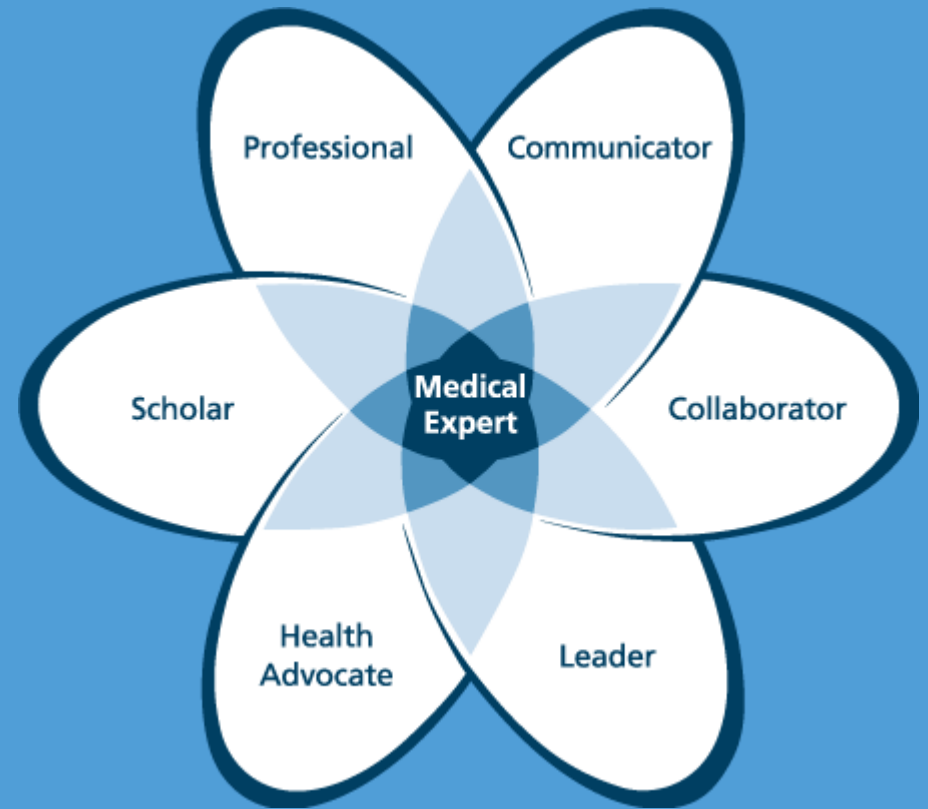
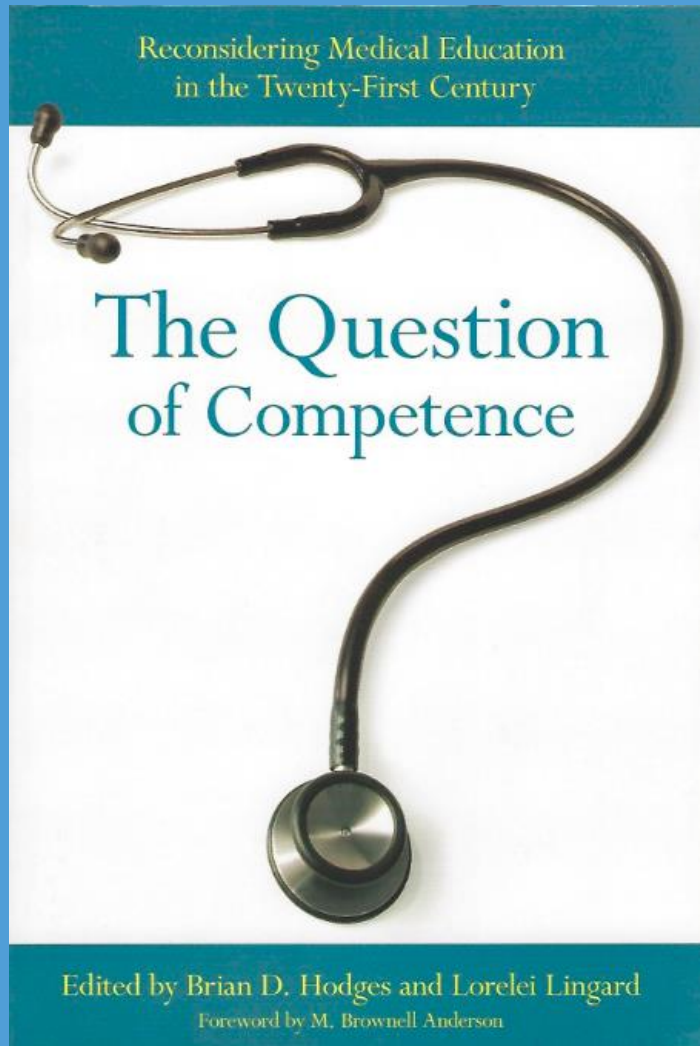
- Leading and Deciding
- Supporting and Co-operating
- Interacting and Presenting
- Analysing and Interpreting
- Creating and Conceptualising
- Organising and Executing
- Adapting and Coping
- Enterprising and Performing



Source: <http://www.shl.com/OurScience/Documents/SHLUniversalCompetencyFramework.pdf>

Competence in Medicine - Cornell Press, 2012

CanMeds Competency Framework, 2015



<http://canmeds.royalcollege.ca/en/framework>

Paradigms - learning theories

■ Social-constructivism

- Risk of too little attention for knowledge component in the curriculum
- Risk of reliability of competence assessments
- Follows the logic of work-process knowledge

■ Cognitivism

- Risk of lack of authenticity and recognition by employers
- Risk of lack of ecological validity of competence testing
- Follows the logic of scientific knowledge



Example: ROC Drenthe College

Wij helpen je graag op weg!

[Direct aanmelden >](#)

[Help mij kiezen >](#)

[Voor bedrijven >](#)

Bekijk onze werelden

- > Bouw & afbouw
- > Media & ICT
- > Proces, AOT & laboratoriumtechniek
- > TT-Instituut (Auto- en motorfietstechniek)
- > Vakschool techniek
- Werktuigbouw, elektrotechniek & installatietechniek (Engineering)

Economie & Dienstverlening

Techniek

[Bekijk deze sector >](#)

Zorg & Welzijn

DC Start



Example: ROC Drenthe College

- All ROCs have incorporated CBVE
- Legal requirement since 2011-2012
- Competencies integrated in Qualification Frameworks
- Good alignment with needs of companies
- Focus on knowledge, skills and professional attitudes
- Students are working in teams
- Gradual increase of responsibility
- Projects provided by organizations in region
- Assessment of critical job tasks by certified assessors
- Teachers act as learning coaches or guides



Roles of stakeholders in learning cycle



Example: Wageningen University



CBE Development approach

- Key competencies defined
- Competence-course matrices
- Search for overlap and white spots
- Outlining learning lines
- Formulating learning outcomes
- Revising course descriptions in Study Handbook
- Defining Assessment Strategies
- Adjusting Course Guides
- Check internal consistency by Exam Committee
- Special attention for Academic Consultancy Training





'Academic Consultancy Training' – MSc student projects



Associazione Cometa, Como, Italy



Mood boards – textile design – fabric printing – decoration – recycling furniture



Castadiva interior design and decoration



Inclusion: training of NEET students



3. Further pitfalls of the integrated CBVET approach



Competence-based VET - pitfalls

1. The competence concept
2. Standardisation
3. School and workplace learning
4. Determining learning activities
5. Assessment of competencies
6. Changing teacher roles
7. Competence-based management



4. My theoretical perspective



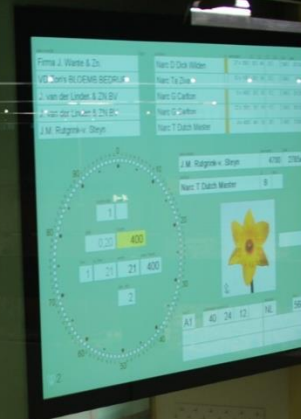
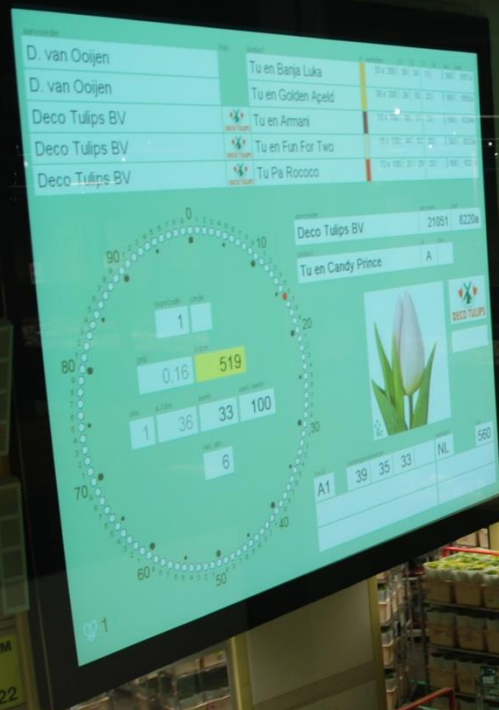
Competence in
practice; what
does it mean?



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ALARM
 92222

ALARM
 92222



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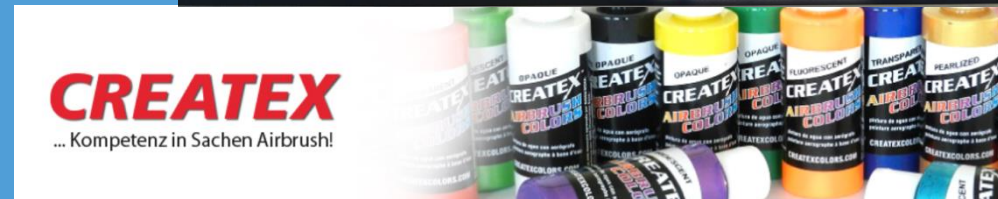
Flower traders need professional competence

- Knowledge
 - product quality
 - market
- Skills
 - multi-tasking
 - information processing
- Attitudes
 - stress-tolerance
 - feeling for sales
 - open for change



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.



Mature systems of CBE should include...

- Competence frameworks
- Implementation strategy
- Acknowledgement of prior learning
- Formative competence assessment
- Authentic summative competence assessment
- Laddering competence levels
- Competence-based school-HRM



jamk.fi Education ▾ Services ▾ Research and Development

Recognition of Prior Learning

Ensuring Competence through Authentic Assessment of Learners

Maryellen E. Gusic MD
Professor of Pediatrics
Indiana University School of Medicine



TAXATION AND CUSTOMS UNION

European Commission > Taxation and Customs Union > EU Training > EU Customs Competency Framework

HOME INDIVIDUALS BUSINESS ONLINE SERVICES ABOUT

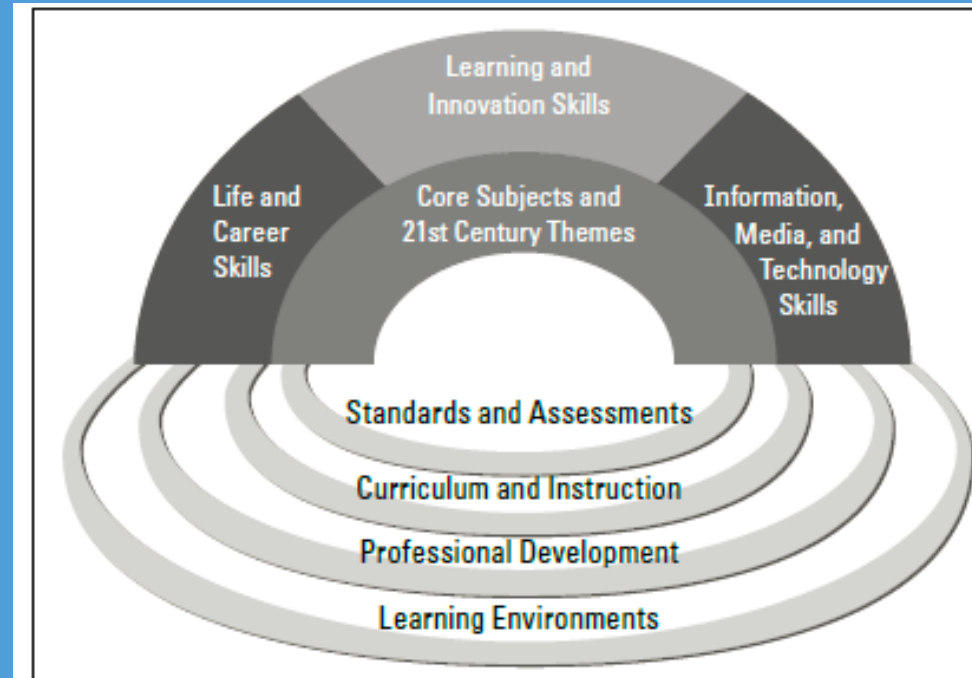
EU Customs Competency Framework

Principles of Competence-based VET

1. The competencies that are foundation for the curriculum are defined
2. Vocational core problems are the organising unit for (re)designing the curriculum
3. Competence-development of students is assessed frequently (before, during and after the learning process)
4. Learning activities take place in several authentic situations
5. In learning and assessment processes knowledge, skills and attitudes are integrated
6. Self-responsibility and (self)reflection of students are stimulated
7. Teachers both in schools and practice fulfil their roles as coach and expert in balance
8. A foundation is realised for lifelong learning of students

Models of competence for future life

- DeSeCo Model of Key Competencies (2003).
- Key competences (2006 European Union).
- 21st Century Skills (NCREL/Metiri Group, 2003).
- The Essential Learning Outcomes (AAUC, 2008).
- Seven Survival Skills for today's students (Wagner, 2010).
- P21 - 21st Century Skills Framework (2015).
- Critical Competencies For Future Leadership (Vora, 2015).



http://www.p21.org/storage/documents/docs/P21_Framework_Definitions_New_Logo_2015.pdf

Competence 3.0 – for the unknown future



Source:

<http://qaspire.com/2016/01/06/leadership-skills-for-the-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



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Competence for life



5. International Educational Development Cooperation

Project staff of Mountains of the Moon University, Fortportal, Uganda



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Project staff Bukalasa Agricultural College, Wobulenzi, Uganda



Project staff in Jimma, Ethiopia

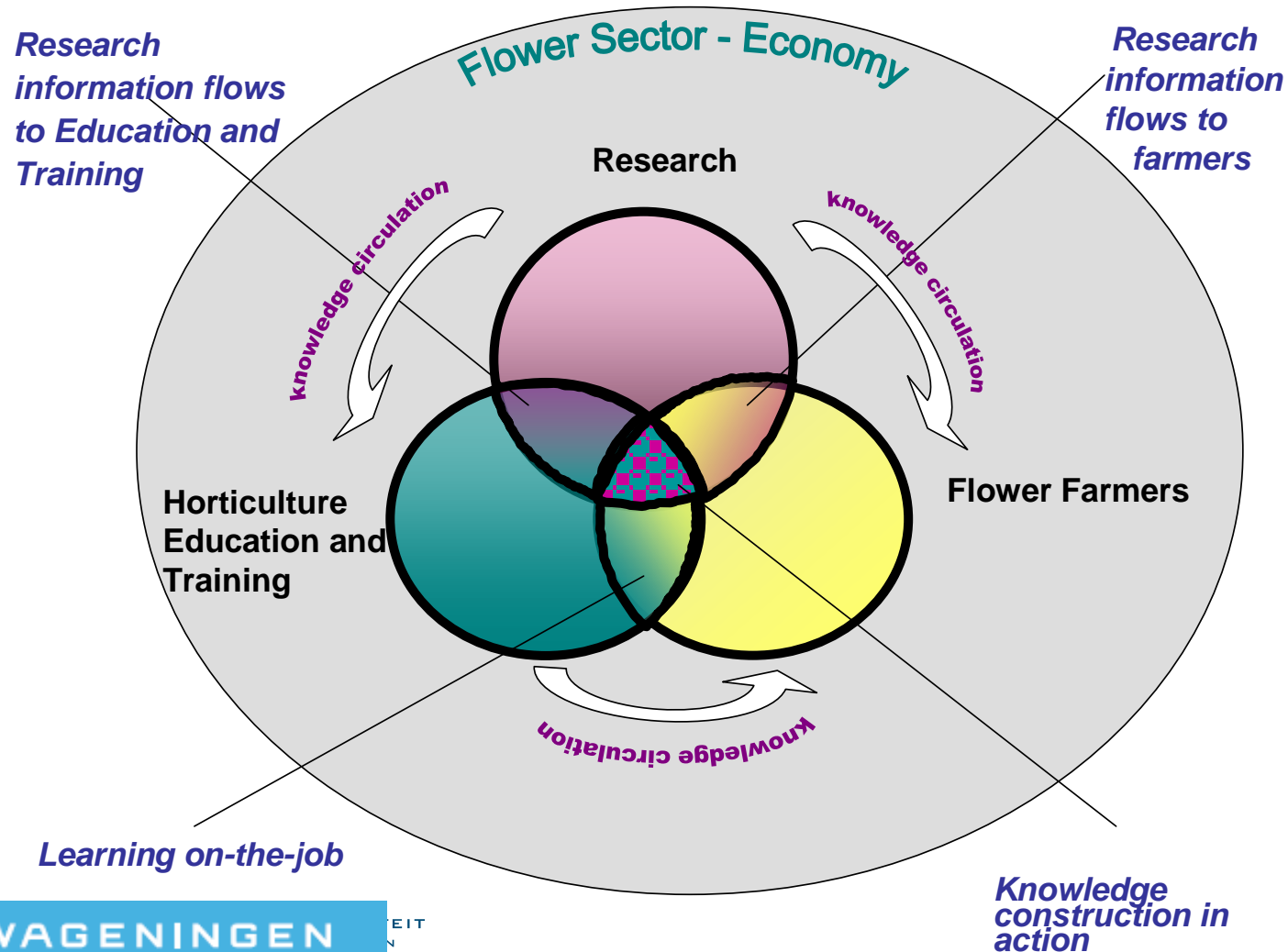


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Project staff in Nairobi, Kenya

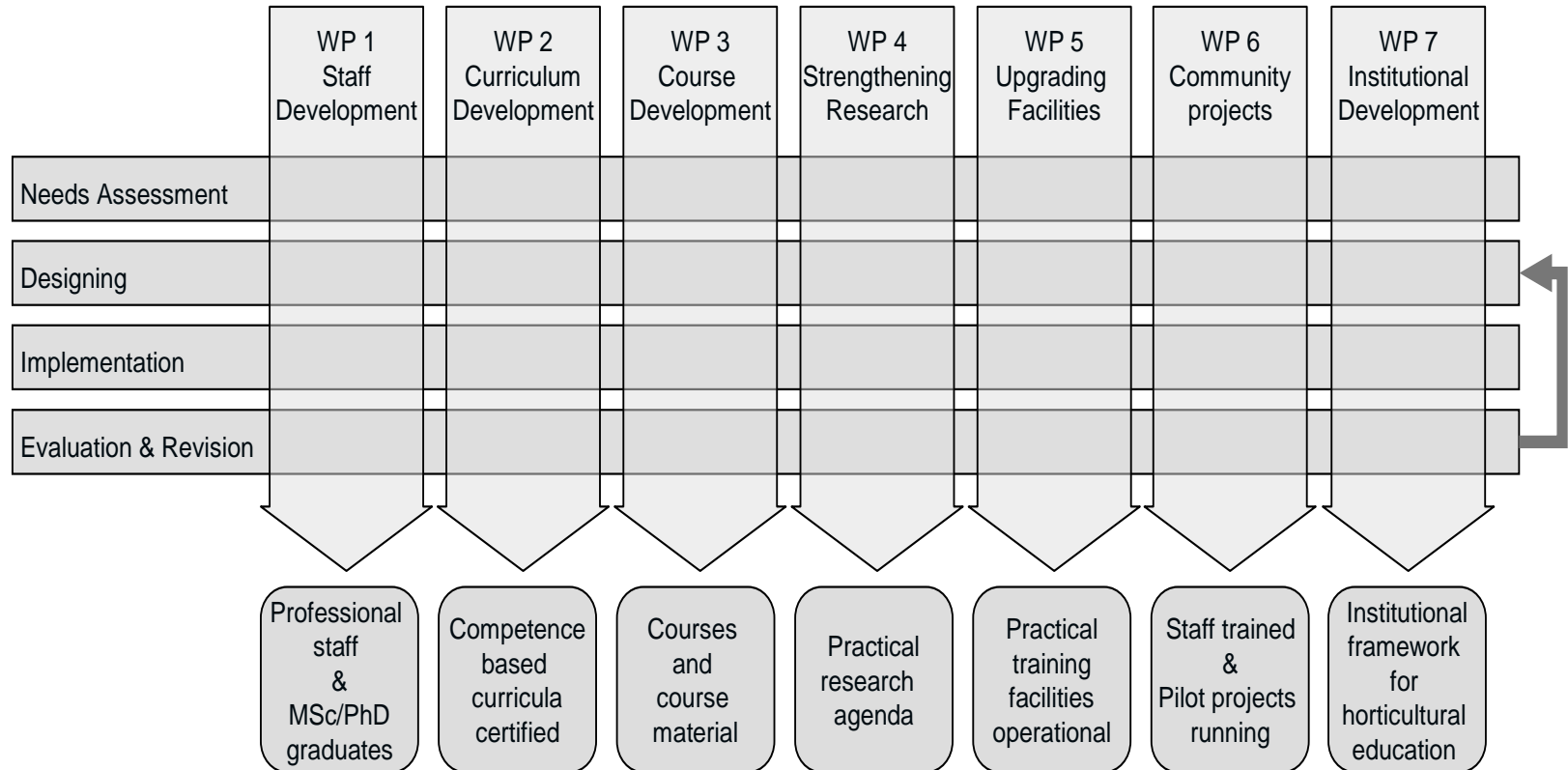


Typical conceptual framework



Schematic overview of project approach

WP 8
Project Management



Typical working packages

- Staff development (WP 1)
- Curriculum development (WP 2)
- Course development (WP 3)
- Strengthening research (WP 4)
- Upgrading facilities (WP 5)
- Community-based education and training (WP6)
- Institutional development (WP 7)
- *Gender mainstreaming*
- *HIV/AIDS mainstreaming*



Typical curriculum development activities

- Labour market analysis
- Analysis of task inventories of workers
- Development of occupational profiles
- Development of competence profiles
- Curriculum development
- Development of teaching guides



Typical curriculum development activities

- Development of learning materials
- Analysis of labour market entry of graduates
- Stakeholders' perceptions of training programs
- Competence-based education philosophy and its effects
- Sustainability analysis of the competence-based education approach



6. Lessons for policy and practice



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Governance of current VET

- Provide good examples of practice
- Provide sufficient facilities
- Support research on the efficacy of CBE
- Review experience of employers with CBE graduates

Organization and management of VET

- Develop competence framework for all co-workers at all levels
- Integrate competence management in annual performance reviews
- Make managers accountable for implementing competence management
- Give good example by committing to competence self-assessment and development



Career management of VET teaching staff

- Career perspective; role descriptions; competence framework
- Provide teaching and learning environment and resources
- Stimulate CB assessments + feedback for professional development
- Stimulate innovation, collaboration and team learning

Curriculum and learning

- Determine level of implementation of principles of CBE
- Make and realize an action plan for CB curriculum redesign
- Specify changes in the teaching-learning process
- Move towards assessment for learning and assessment as learning
- Include authentic learning experiences in the field of study



Teacher education and professional development in VET

- Redesign teacher education by making it competence-based
- Link teacher education up with schools
- Make vocational teacher education a first choice of study
- Stimulate an entrepreneurial, research and transformational attitude
- Create possibilities for teachers to keep up to date
- Focus on competence for the unknown future

VET quality assurance

- Develop and apply quality standards
- Develop and apply procedure for quality assessment
- Develop procedures to implement quality recommendations
- Monitor quality improvement progress – midterm self-evaluations



7. Conclusions

Politics: CBE is more popular than ever...



Obama Mentions SNHU and Competency Based Education



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<https://www.youtube.com/watch?v=WjNYEIRzRtI>

Movies: Skyfall (2012) James Bond suggests his new young Quartermaster is incompetent



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Music: Compétence by Sira Kouyaté (2017)

- Sira Kouyaté Compétence:

<https://www.youtube.com/watch?v=7hZGyGpY3v0>



Conclusions

- Worldwide competence-based practices are more popular than ever
- There is a wide variation in competence theories and practices
- The concept has a long history – and is now institutionalized
- Competence-based VET approaches have various pitfalls
- Many competence-based education initiatives concentrate on known tasks and present jobs
- We must further think about competence for the unknown future
- There are many recommendations for policy and practice



Thank you very much!



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- Internet: <http://www.wur.eu/ecs>
- LinkedIn: <https://nl.linkedin.com/in/profmartinmulder>
- Skype: martinmulder
- Twitter: @MartinMulder
- YouTube: <https://www.youtube.com/watch?v=0hLQTcb-93g>
- WordPress: www.mmulder.nl