

SNBI

Schweizerisches Netzwerk für Bildungsinnovation
Swiss Educational Innovation Network

ICT4VET Landscape

A tool to discuss possible approaches to reach learning your goals

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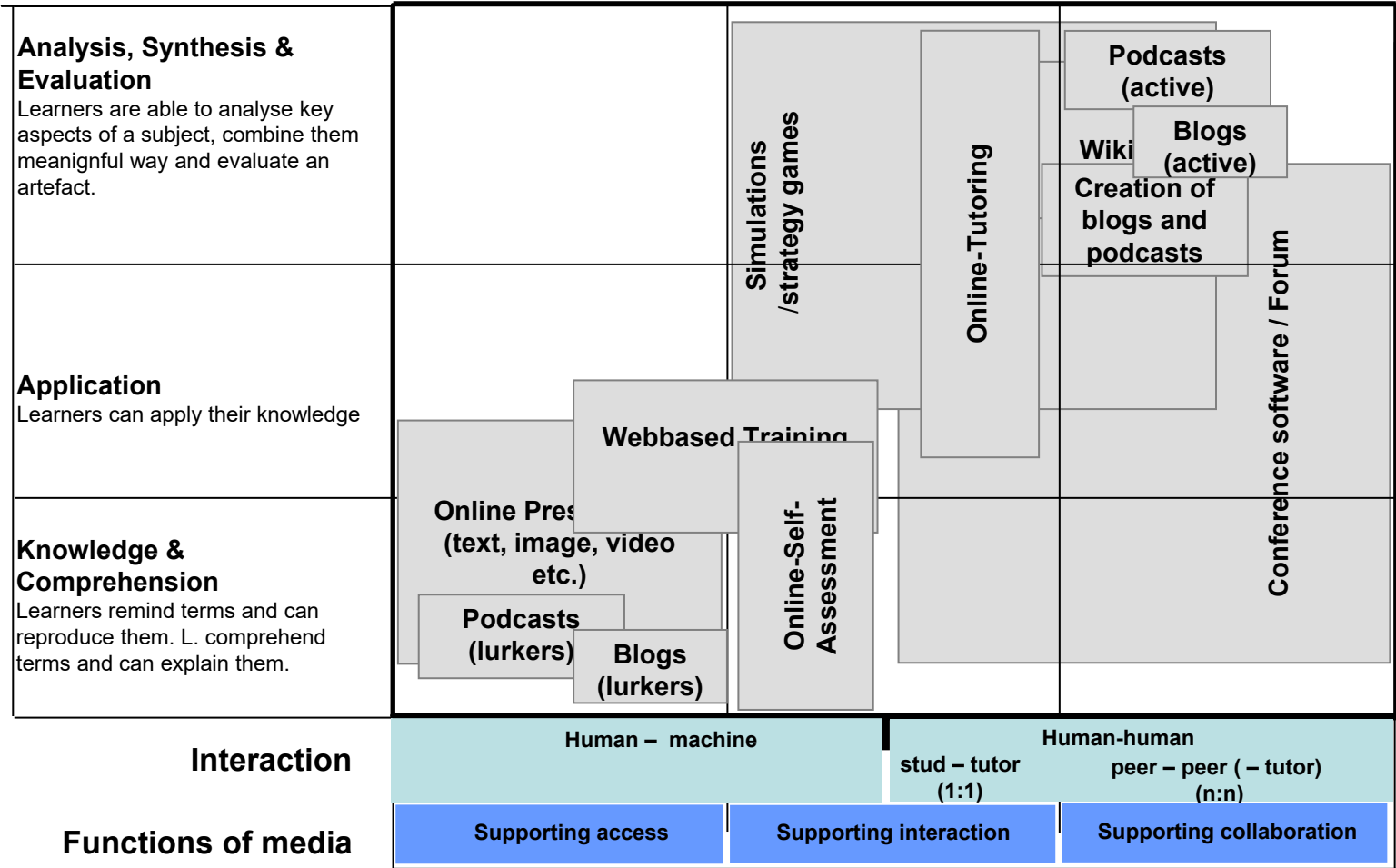
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Goal of this presentation

You are able to...

- Identify appropriate methods and media to reach different learning goals.
- Discuss characteristics of different approaches in a systematic way.
- Select the most promising approaches in your team.

<p>Analysis, Synthesis & Evaluation Learners are able to analyse key aspects of a subject, combine them meaningful way and evaluate an artefact.</p>	Self-directed learning		Cooperative learning	
<p>Application Learners can apply their knowledge</p>	Programmed Instruction		Problem based learning	
<p>Knowledge & Comprehension Learners remind terms and can reproduce them. L. comprehend terms and can explain them.</p>	Lecture		Tutorial	
<p>Interaction</p> <p>Functions of media</p>	Human – machine		Human-human	
	Supporting access		stud – tutor (1:1)	peer – peer (– tutor) (n:n)
Supporting interaction		Supporting collaboration		



Analysis, Synthesis & Evaluation

Learners are able to analyse key aspects of a subject, combine them meaningful way and evaluate an artefact.

Application

Learners can apply their knowledge

Knowledge & Comprehension

Learners remind terms and can reproduce them. L. comprehend terms and can explain them.

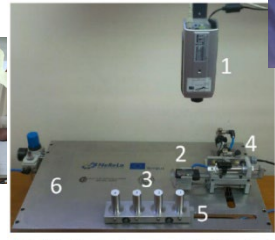
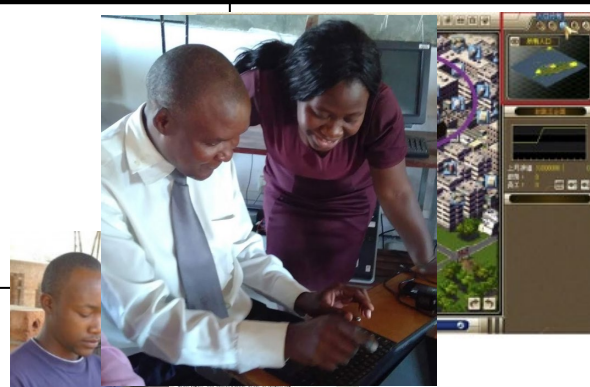


Fig 1 1. IP web camera, 2. measurement device-digital caliper, 3. measurement object axle, 4. cylinder for movement of measurement device, 5. axle cutter, 6. platform.



Interaction

Human – machine

Human-human

stud – tutor
(1:1)

peer – peer (– tutor)
(n:n)

Functions of media

Supporting access

Supporting interaction

Supporting collaboration

Examples of evidence from ICT-supported VSD

1. **Augmented reality:** improvements in the final test in an engineering subject (Cubillo et al., 2015/Spain)
2. **Computer-based game** with scaffolding and groupwork: «higher order thinking skills» in management (Yang, 2014/Taiwan)
3. **Web-based, problem-based learning:** Increased computing skills of low-achieving vocational students compared with traditional lectures (Tsai 2013/Taiwan)
4. **Virtual kitchen:** better as workbook and as beneficial as real kitchen (Brooks et al. 2002/ UK)
5. **Web-based learning** with group work & instructors' feedback: improved learning outcomes (Inayat 2013/Pakistan)

Explanation of the eLearning Landscape (in German)

Gröhbiel, U., Schiefner, M. (2006): Die E-Learning Landkarte.
Handbuch für E-Learning. 17. Erg.-Lfg. Dezember 2006, München. Deutscher
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Bibliography ICT4VET examples

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Del Fatto, Vincenzo, Gabriella Doderò, and Rosella Gennari. 2016. “How Measuring Student Performances Allows for Measuring Blended Extreme Apprenticeship for Learning Bash Programming.” *Computers in Human Behavior* 55: 1231–40.
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- Šulc, Jovan, Dragan Šešlija, Slobodan Dudić, and Ivana Milenković. 2015. “Implementation of Remote Laboratory for Measuring Linear Dimensions in the Process of E-Learning.” In *IEEE*, , 161–62.
- Yang, Ya-ting Carolyn. 2015. “Virtual CEOs : A Blended Approach to Digital Gaming for Enhancing Higher Order Thinking and Academic Achievement among Vocational High School Students.” *Computers & Education* 81: 281–95.