

**SNBI**

Schweizerisches Netzwerk für Bildungsinnovation  
Swiss Educational Innovation Network

# Learning Landscape

**A tool to discuss different approaches to  
ICT-supported inclusive learning**

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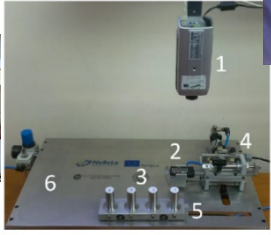
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<p><b>Analysis, Synthesis &amp; Evaluation</b> Learners are able to analyse key aspects of a subject, combine them meaningful way and evaluate an artefact.</p>	Self-directed learning	Scaffolding	Cooperative learning
<p><b>Application</b> Learners can apply their knowledge</p>	Programmed Instruction	Tutorial	Problem based learning
<p><b>Knowledge &amp; Comprehension</b> Learners remind terms and can reproduce them. L. comprehend terms and can explain them.</p>	Presentation		
<p><b>Functions of media</b></p>	Supporting access	Supporting interaction	Supporting collaboration



<p><b>Analysis, Synthesis &amp; Evaluation</b> Learners are able to analyse key aspects of a subject, combine them meaningful way and evaluate an artefact.</p>		<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Simulations</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Online-Tutoring (Facebook, WhatsApp, e-portfolio)</p>	<p>Project management software</p> <p>Social software (active)</p>
<p><b>Application</b> Learners can apply their knowledge</p>		<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Webbased Training</p>		<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Conference software</p>
<p><b>Knowledge &amp; Comprehension</b> Learners remind terms and can reproduce them. L. comprehend terms and can explain them.</p>	<p>TV, radio, video (text, image, video etc.)</p> <p>Social software (lurkers)</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Online-Self-Assessment</p>		
<p><b>Functions of media</b></p>	<p>Supporting access</p>	<p>Supporting interaction</p>	<p>Supporting collaboration</p>	
<p><b>Interaction</b></p>	<p>Human – machine</p>		<p>Human-human</p> <p>stud – tutor (1:1)</p> <p>peer – peer ( – tutor) (n:n)</p>	

<p><b>Analysis, Synthesis &amp; Evaluation</b></p> <p>Learners are able to analyse key aspects of a subject, combine them meaningful way and evaluate an artefact.</p>			
<p><b>Application</b></p> <p>Learners can apply their knowledge</p>			
<p><b>Knowledge &amp; Comprehension</b></p> <p>Learners remind terms and can reproduce them. L. comprehend terms and can explain them.</p>		 <p>Fig 1 1. IP web camera, 2. measurement device-digital caliper, 3. measurement object axis, 4. cylinders for movement of measurement device, 5. axis camera, 6. platform.</p>	
<p><b>Interaction</b></p> <p><b>Functions of media</b></p>	<p>Human – machine</p>		<p>Human-human</p> <p>stud – tutor (1:1)</p> <p>peer – peer ( – tutor) (n:n)</p>
	<p>Supporting access</p>	<p>Supporting interaction</p>	<p>Supporting collaboration</p>



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## Questions or Comments?

**Please contact us!**



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## Literature

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  
Wirtschaftsdienst, S. 1-28.



## Examples of evidence from ICT-supported learning

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)



## Bibliography of examples

Cubillo, I N, Sergio Martin, Manuel Castro, and Ivica Boticki. 2015. “Preparing Augmented Reality Learning Content Should Be Easy : UNED ARLE — an Authoring Tool for Augmented Reality Learning Environments.” *Wiley Periodicals, Inc.*: 778–89.

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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Jäger, Kathrin, Ralf Moros, Anja Geißler, and Roger Gläser. 2014. “Blended Learning – Ein Innovatives Weiterbildungskonzept Für Die Technische Chemie.” *Chem. Ing. Tech.* 86(5): 740–44.

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Inayat, Irum, Rooh ul Amin, Zubaria Inayat, and Siti Salwah. 2013. “Effects of Collaborative Web Based Vocational Education and Training ( VET ) on Learning Outcomes.” *Computers & Education* 68: 153–66.

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- 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.