Universal design for learning (UDL)

UDL is an originally American concept aiming at removing access barriers to material for learning and learning itself by addressing the variability of the learning process and supporting expert learning strategies. It shall make sure that all people have equal access to education as demanded by Acts in different countries. Although the UDL design was originally aiming at helping people with disabilities, it is applicable to all learners. The foundation of this concept consists of findings in cognitive neuroscience, digital assistive technology and universal design. According to neuroscience all people are equipped with three networks with individual development:

1. the affective network → here the "why" of learning is important.
2. the recognition network → here the "what" of learning is important
3. the strategic network → here the "how" of learning is important.

To address the affective network teachers shall offer their students multiple means of engagement to make students interested in the topic and keep them motivated during the learning process. To address the recognition network teachers shall provide multiple means of representation so that students have different opportunities to perceive and process the information provided. To address the strategic network teachers are supposed to offer multiple means of action and expression for students so that every student can use his or her preferred/suitable way to express him-/herself.

For this purpose there are some guidelines to help teachers planning their lessons:

These guidelines provide educators the chance to identify potential barriers, expand learning options, give support to students and design curriculums that take cognitive and affective aspects of learning and teaching into consideration.

Usability of the UDL and its guidelines

This concept for planning lessons really rose my attention. My field in the occupational rehabilitation is "Preparation", that means getting people ready for an occupational training. Since the demands of our students get more and more diverse we are now trying to offer various material in different ways. Therefore we are now planning to rearrange and re-organise our Learning Management System (LMS) ILIAS. Up to now we have not paid a lot if attention to disabilities like colour-blindness, low vision or hard-of-hearing. Wheres In our "classical teaching" of course we do pay attention to this, we have not discussed how provide these materials to students with these disabilities. I put this point on the agenda for the next meeting concerning ILIAS and I will also try to present the idea of UDL since I think it is very useful for this purpose. It is easy to understand and comprehensive. (Katharina)

Universal Design for Learners – Planning a Learning module for an English course in the LMS ILIAS with UDL-guidelines

	Provide multiple means of representation	**Provide multiple means of action and expression**	**Provide multiple means of engagement**
Access	**options for perception** *Present audio material with transcripts and offer opportunities to listen to written texts*	**options for physical actions** *Give students opportunities to comment on content and exercises*	**options for recruiting interest** *Offer material on different levels to give students to choose material according to their knowledge*
Build	**options for language, mathematical expressions and symbols** *Use illustrations for vocabulary + Integrate a dictionary and word list for each unit*	**options for expressions communication** *Use blogs + forums for students communication* *Use wikis for group work*	**options for sustaining effort and persistance** *Give regular feedback on performance* *Use tools like progress bars and milestone tokens*
internalize	**options for comprehension** *Use background stories for presenting grammar* *Highlight rules and mark morst important words*	**options for executive functions** *Present structure of the course and use weekly assignments with different tasks to help students planning their learning process*	**options for self regulation** *Make students using the Protfolio-function to reflect on their improvement*
Goal	**Resourceful, knowledgeable learners**	**Strategic and goal-directed learners**	**Purposeful and motivated learners**