

Universal Design for Learning and ILIAS



From reactive accommodation to barrier-preventive design

UDL 3.0 • Accessibility • Learner variability • Agency

Richard Powers, University of Stuttgart

richard.powers@ilw.uni-stuttgart.de

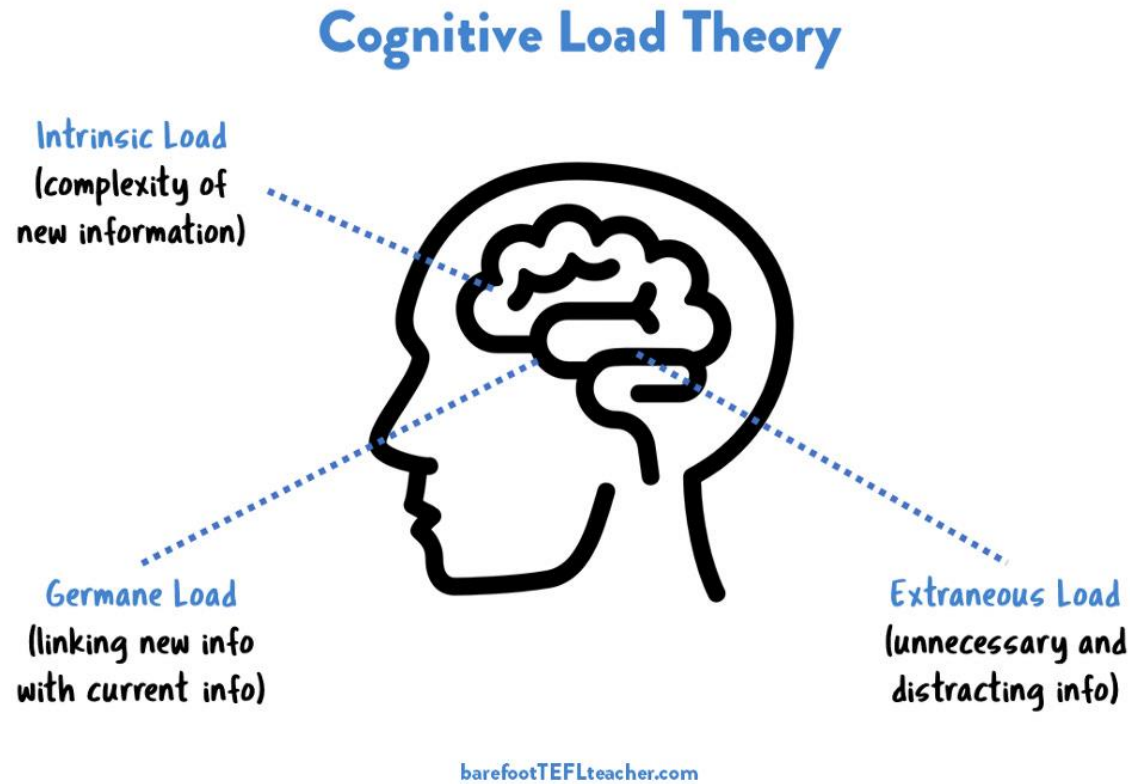
Katrin Schramm, ReadSpeaker

katrin.schramm@readspeaker.com

10 September 2026



Who is expected to adapt? The Learner or the LMS?



Design choices are never neutral.

Universal Design

From the field of architecture and design: remove barriers from the start

Accommodation



Universal Design



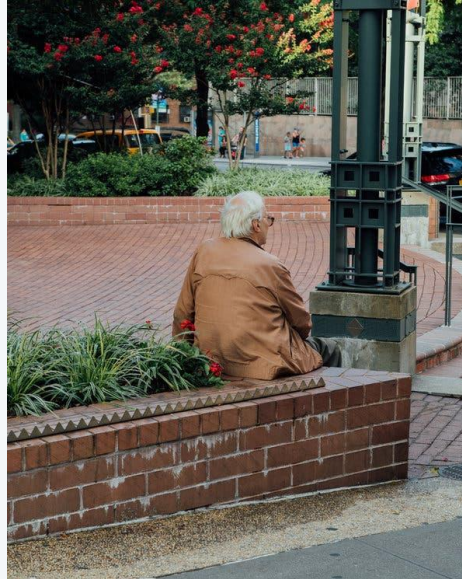
**Accommodation is not
Universal Design**

Hostile design — a useful warning

Physical hostile design deliberately restricts who can use a space — and how.

Digital learning can become unintentionally hostile through rigid pathways, inaccessible materials, unclear navigation, hidden expectations, or one permitted way **such as text** to participate.

UDL asks us to **examine the environment** before we attribute difficulty to the learner.



Examples of Hostile Design in an ILIAS Classroom

Well-intentioned design can create unnecessary barriers.



1. Information overload

Long blocks of text, no structure, and important information only in a PDF make it hard for many learners to access and process the content.

ILIAS

Repository > My Course > Introduction

Introduction to the Course

 **Course_Overview.pdf**
PDF, 2.4 MB

Welcome to the course. In this course we will explore a variety of topics related to education, society, and digital learning. Please read the attached document carefully. It contains all of the important information you need for the course, including learning objectives, weekly topics, assignment details, evaluation criteria, and technical requirements. If you have any questions, please contact me via email.



2. Inflexible assignment settings

A single submission format, a strict deadline, and no alternatives can exclude learners with different needs, time zones, or technical limitations.

New Assignment

Title *

Final Paper

Submission type

File upload (PDF only) ▼

Deadline *

31.10.2026 

23:59 

☒ Enable deadline (no submissions after this date)

Allowed file types

PDF

Other file types are not permitted.

 Late submissions are not possible.



3. One-way communication

Only text-based forums are available. No options for audio, video, or smaller group work, which can be a barrier for learners with different preferences and communication needs.

Repository > My Course > Forum

 **Course Forum**

Topics Info Settings Export

Create New Topic

Topic	Replies	Last Post
 Introduce yourself	12	21.09.2026
 Week 1 Discussion	8	14.09.2026
 Question about readings	5	10.09.2026

 This forum only supports text posts. Audio or video contributions are not possible.

Our Diverse Learners

Dyslexia

Dyscalculia

Dysgraphia

Dyspraxia

Non- verbal disabilities

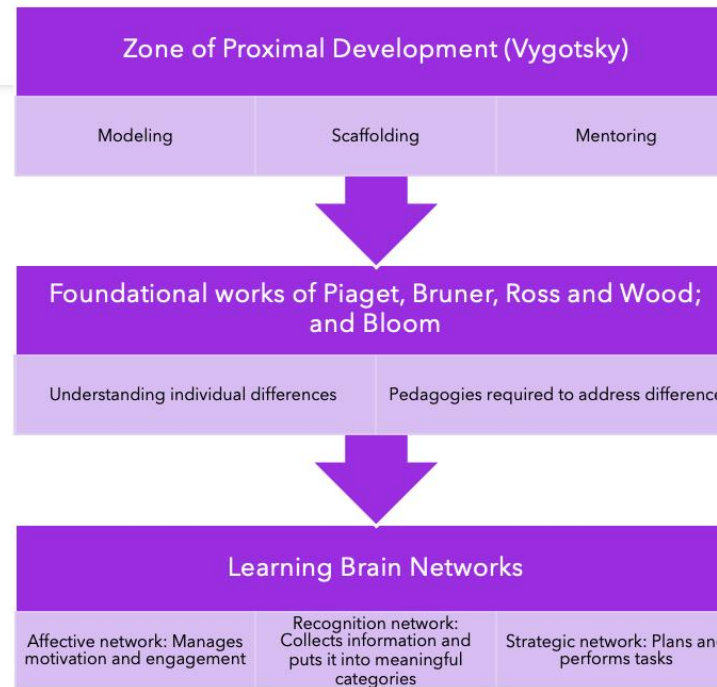
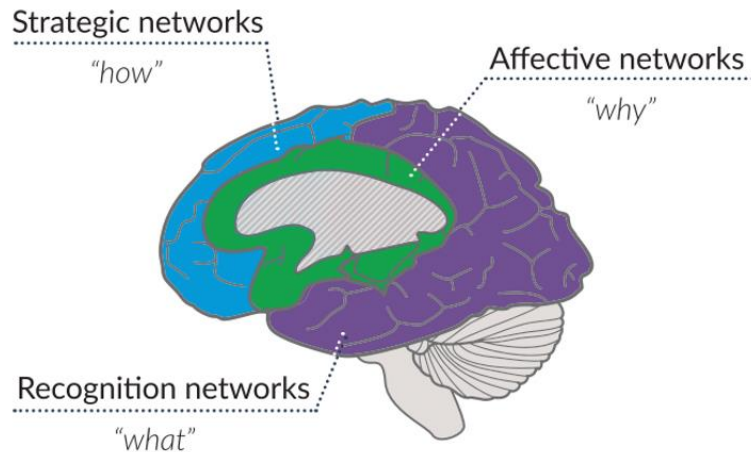
Autism

ADHD

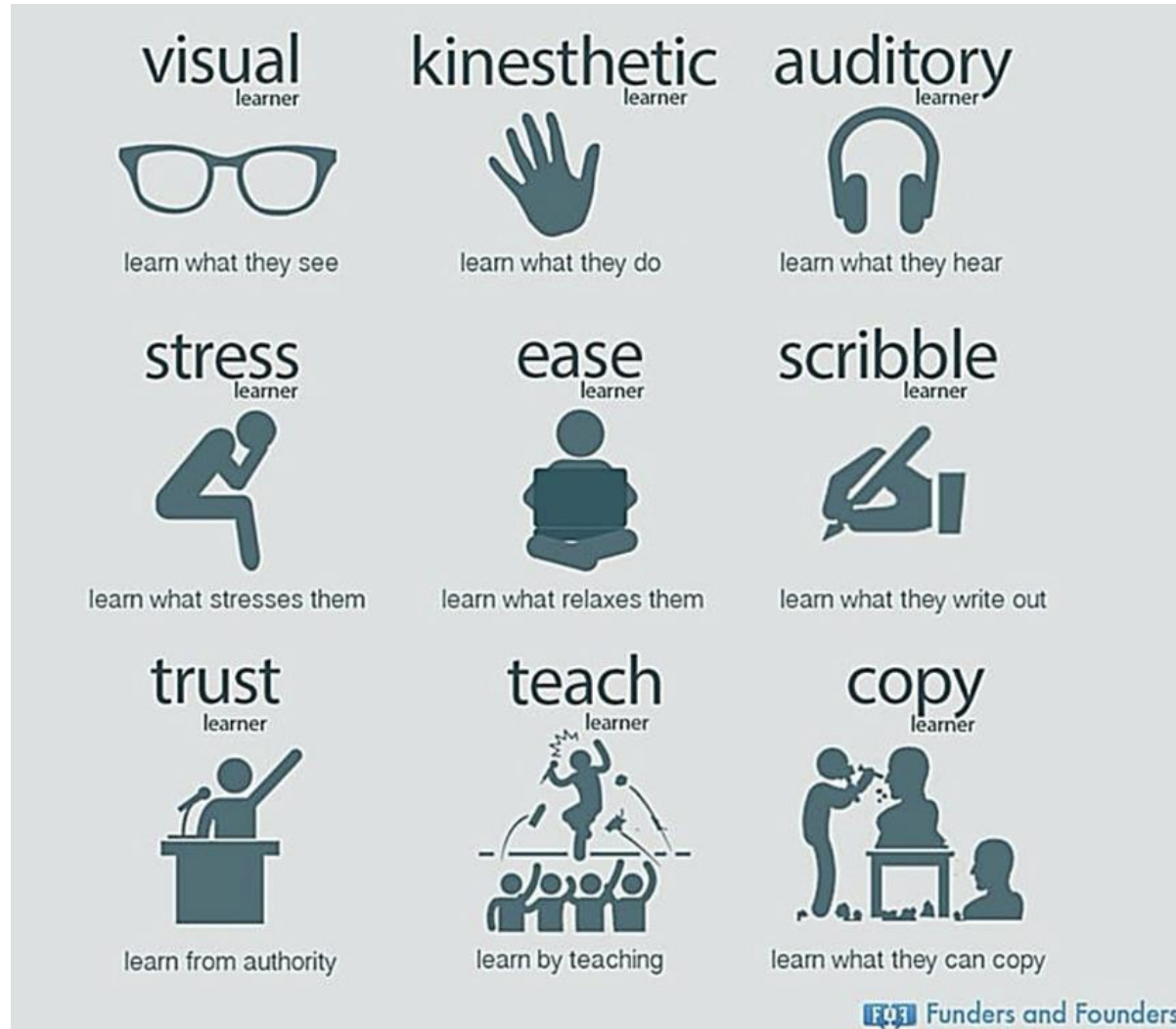
- Blind
- Hard of hearing/ Deaf
- Oral/written language disorder
- Epilepsy
- Reading comprehension deficit
- Tourette Syndrome
- Executive function deficits

CAST.org: 1984-Present

Research behind UDL



Learning Preferences

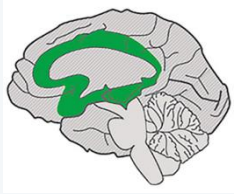


- **neurodiversity**
- **not fixed, not singular**
- **learner variability**

UDL 3.0: design for variability

ENGAGEMENT

Why?



Interest, motivation,
curiosity, relevance

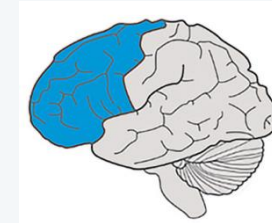
REPRESENTATION

What?



ACTION & EXPRESSION

How?

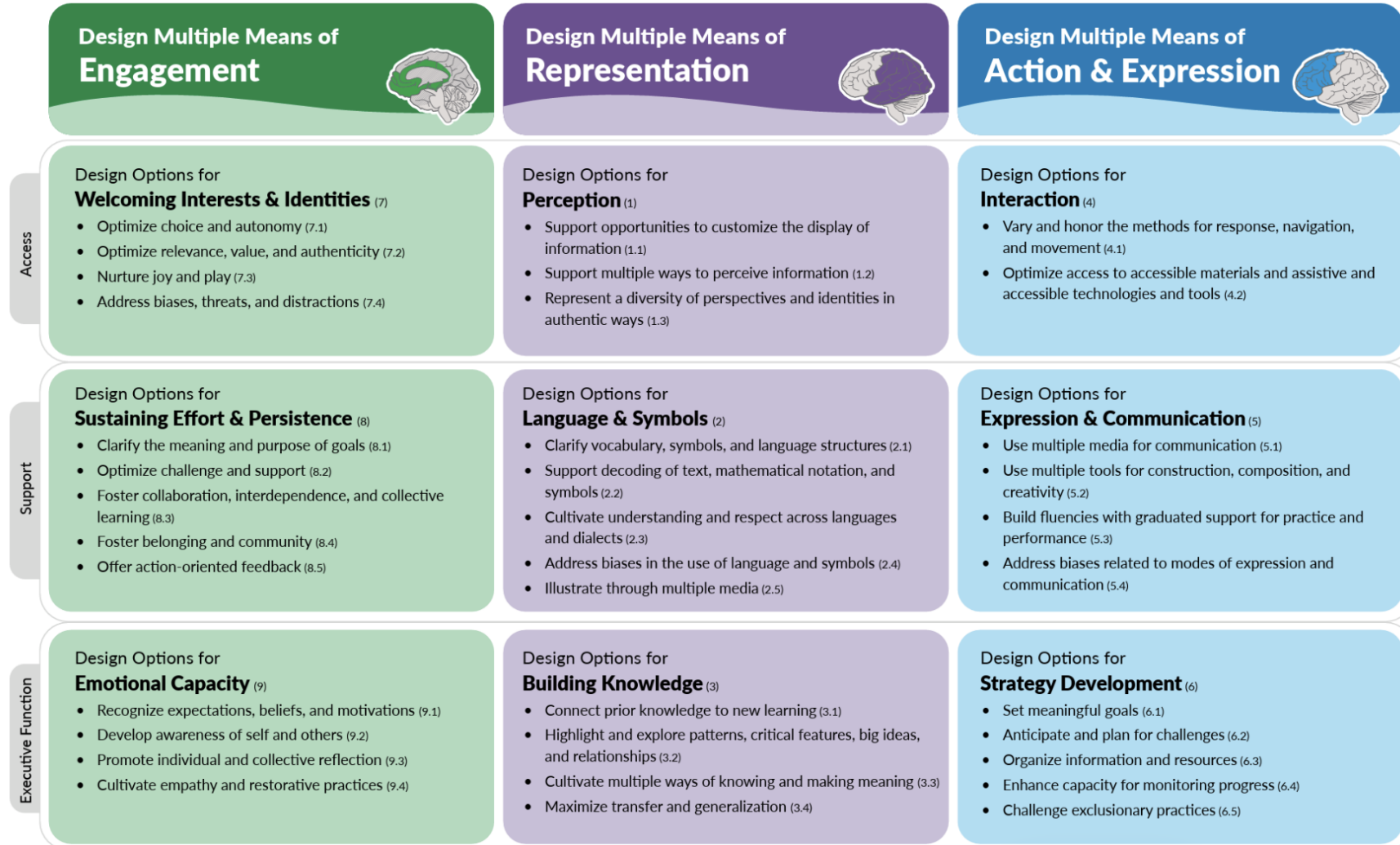


Goal is “**learner agency**”: not “**one way**” but learner-centered with options.

Metaphors: cooking a meal, traveling to a destination, building a house, solving a puzzle, crossing a river.

CAST Universal Design for Learning Guidelines

The goal of UDL is **learner agency** that is purposeful & reflective, resourceful & authentic, strategic & action-oriented.



Remove cognitive, physical, systemic, social barriers in learning design

Version 1: 2008
Version 2: 2011
Version 2.2: 2018
Version 3: 2024

Die Universal-Design- for-Learning-Leitlinien

Das Ziel von UDL sind selbstgesteuerte Lernaktivitäten, die zielstrebig & reflektiert, einfallsreich & authentisch sowie strategisch & handlungsorientiert sind.



3.0 German Translation

trans. by Thomas Müller and Stewart Campbell with feedback by Sven Hecke and Lucas Lepelt

Why Learners Need Options



**Learner
variability**



**Cultural
variability**



**Flexible
learning environments**

From accommodation to barrier prevention

REACTIVE

Barrier appears → learner struggles → accommodation is added

PREVENTIVE

Anticipate variability → remove barriers → add meaningful options

What does UDL look like in ILIAS?

ENGAGEMENT — choice, relevance, collaboration, peer coaching, clear expectations and progress

REPRESENTATION — meaningful structure, accessible text, headings, alt text, multiple ways to access content

ACTION & EXPRESSION — options for participation, practice, feedback and demonstrating learning

Not more work for the sake of more options — purposeful flexibility

UDL in ILIAS

Different tools. More possibilities. A more inclusive learning experience.



Engagement “WHY”

Provide multiple ways to engage, motivate, and sustain interest.



Badges

Recognize progress and achievement.



Groups

Enable collaboration and peer support.



Forums

Build community and ongoing discussion.



Surveys

Gather feedback and give learners a voice.



Calendar

Show important dates and help with self-regulation.



Learning Paths

Offer choice and flexible learning routes.



Representation “WHAT”

Provide multiple ways to present information and content.



Course Pages

Present key information in clear, structured ways.



Folders

Organize materials for easy navigation.



Learning Modules

Combine text, media, and interactive content.



Media Objects

Use images, audio, and video to support understanding.



Content Modules (e.g., H5P Plugins)

Provide interactive and multimedia content.



Forums

Offer information and discussion in different formats (text, images, links, video).



Learning Paths

Present content in multiple ways and sequences.



Text to Speech Plugins

Provide audio versions of text for greater access.



Action & Expression “HOW”

Provide multiple ways for learners to act, express, and demonstrate what they know.



Assignments

Allow different formats for demonstration (e.g., text, video, audio, file upload).



Forums

Enable multiple forms of participation (text, images, links, video).



Wiki

Support collaborative creation and expression.



Blog

Enable reflective and creative expression.



Tests & Quizzes

Use varied question types and settings.



Portfolio (My Workspace)

Let learners collect and showcase their work over time.



Groups

Support collaborative projects and peer learning.



Same platform. More learners. Greater possibilities.

UDL and ILIAS work together to remove barriers and create flexible, inclusive learning environments.

Variability includes culture, context and preference

- Multiple ways of accessing content
- Multiple ways of engaging and collaborating
- Multiple ways of demonstrating knowledge
- Choice that strengthens learner agency — without lowering expectations

Let's see one way that ILIAS can bring in multiple ways of engaging and accessing content.

Über mich . . .



Key Account Managerin für
Digitale Bildung & Inklusion
an Schulen, Hochschulen
und Universitäten



Katrin Schramm

katrin.schramm@readspeaker.com

08247 / 906 30 15



ReadSpeaker

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für Bildung
und Forschung



LEIFphysik



VIDIS

Bayerisches Staatsministerium für
Unterricht und Kultus



VASCO



 cirrus

its learning

Cornelsen



brightspace
by D2L



OTTO VON GUERICKE
UNIVERSITÄT
MAGDEBURG

Barrieren im Studium: Die Zahlen

Hochschulforum Digitalisierung (Fisseler, 2020)

- **29 %** haben Schwierigkeiten durch **nicht barrierefreie Lehrmaterialien**
- **24 %** erleben Probleme durch **nicht barrierefreies E-Learning**
- **24 %** berichten von **fehlenden technischen Hilfsmitteln**

best3-Studie (2021)

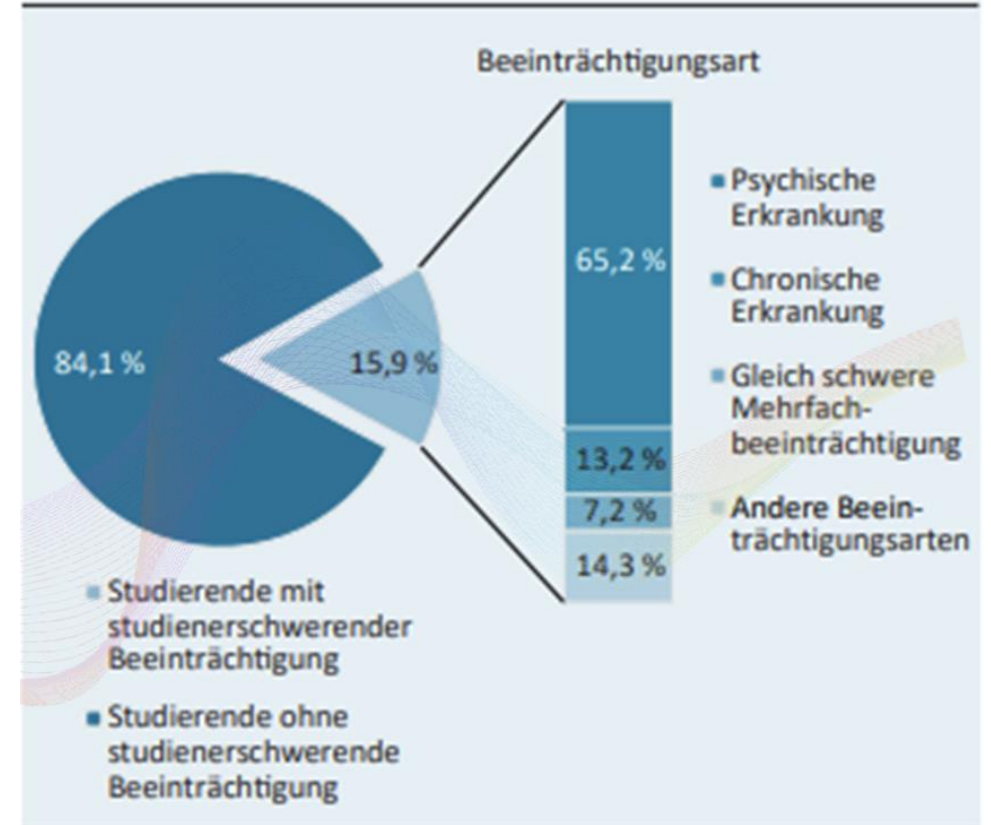
- **16 %** der Studierenden berichten eine **studienerschwerende Beeinträchtigung**
- Der Anteil ist deutlich gestiegen: **8 % (2011) → 11 % (2016) → 16 % (2021)**
- Davon haben **31 % mehrere Beeinträchtigungen**

Quellen:

[Hochschulforum Digitalisierung](#)

[Studierendenbefragung best3 Deutschland](#)

Abbildung: Studierende mit und ohne studienerschwerende Beeinträchtigung (in %)



Eigene Berechnung mit gewichteten Daten aus „Die Studierendenbefragung in Deutschland“ (2021). Die Analysen basieren auf Angaben von 179.908 Studierenden.

Anmerkung: Die Ergebnisse zu den Beeinträchtigungsarten basieren auf Angaben von 26.264 Studierenden mit studienerschwerender Beeinträchtigung. Durch Rundungsdifferenzen können Werte von 100,0 Prozent abweichen.

Entwickeln Sie verschiedene Formen der
Einbindung



Entwickeln Sie verschiedene Formen der
Darstellung



Entwickeln Sie verschiedene Formen des
Handelns und des Ausdrucks



→ **Motivation & Engagement:**
Anpassbare Einstellungen

→ Berücksichtigung
unterschiedlicher Lernstile

→ Verschiedene Formate

→ Übersetzungstools

→ Verschiedene Akzente,
Dialekte und Sprachen

→ **Darstellung:** Sinnvolle und
wertvolle Erfahrungen

→ Die Möglichkeit, Fehler zu
machen und daraus zu
lernen

→ Ein Raum, in dem sich die
Lernenden zugehörig fühlen

→ Selbstvertrauen und
Selbstständigkeit fördern

→ Eigenverantwortung der
Lernenden

→ **Handlungs- &
Ausdrucksmöglichkeiten:**

→ Verschiedene
Kommunikationsformen
wertschätzen

→ Umgang mit Hilfsmitteln für
Barrierefreiheit

→ Ideen formulieren

→ Ideen und Erkenntnisse
austauschen

→ Umgang mit einer
barrierefreien Umgebung

ReadSpeaker Solutions

webReader

**Vorlese- und Übersetzungsfunktion
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Unterstützen Sie multimodales Lernen mit Audio und synchroner Hervorhebung.



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vorlesen lassen.**



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TextAid

Lese- Schreib- und Lerntool



Speichern Sie beliebige Dokumente in Ihrer persönlichen Bibliothek und greifen Sie von jedem Browser oder Gerät darauf zu.



Tools für Notizen, Wörterbuch, Rechtschreibprüfung, OCR, Übersetzung.



Beliebiges Teilen der Arbeitsblätter mit Koordinatoren und Lernenden.

The UDL ILIAS design question

Instead of waiting for learners to struggle with the environment we have created...

What barriers can we remove — and what options can we add — before they ever encounter them?

Thank you

Design the barriers out. Add purposeful options in ILIAS.

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