Project No.: 618103-EPP-1-2020-1-PS-EPPKA2-CBHE-JP

Edu4ALL

Disability as diversity: The inclusion of students with disabilities in higher education

Deliverable D2.5.3	**Developing Training tutorials by INT@E**

Work Package (WP)	WP2: Establishing the Inclusive Education Unit at PC HEIs
WP Leader	National & Kapodistrian University of Athens
WP members	Palestine Technical University Kadoorie The University of the Basque Country Irbid National University Partners for Sustainable Development The University of Jordan Al-Ummah University College Palestine Technical College Int@E UG
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Palestine Technical University Kadoorie
Palestine
Coordinator

National and Kapodistrian University of Athens
Greece

The University of the Basque Country
Spain

Irbid National University
Jordan

Partners for Sustainable Development
Palestine

The University of Jordan
Jordan

Al-Ummah University College
Palestine

Palestine Technical College
Palestine

Int@E UG
Germany

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Contact

Project Coordinator	Dr. Eman Daraghmi, Associate Professor
Address	Palestine Technical University Kadoorie, Applied Computing Department, Kadoorie Circle 7, PS - 20030 Tulkarm West Bank, Palestine
Phone	+970-595765601
email	e.daraghmi@ptuk.edu.ps
Project Website	https://www.ptuk.edu.ps/projects/edu4all/

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INT@E
Innovative Technologies and Education

Edu4ALL

DISABILITY AS DIVERSITY: THE INCLUSION OF STUDENTS WITH DISABILITIES IN HIGHER EDUCATION

Defining delivery approaches and assessment “Use and Application of Assistive Technology in Education“

Report findings by: INT@E UG

27.06 – 01.07, 2022
Int@E UG, Leipzig, Germany

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REPORT JUSTIFICATION

This **report discuss some strategies and general suggestions for curriculum adaptation for HEIs and teaching staff**, along with regular adaptation techniques with some other examples of curriculum adaptation for the most common types of SwD.

Also **spotting some light on some noted advancements have been developed over the past years on the terms of inclusion of SwD in the related policy in the Higher education instructions in many countries**, also several regulations have been supporting the rights of SwD to inclusion with a dignified curriculum that allows them to learn, prosper, grow and have equal access to the opportunities.

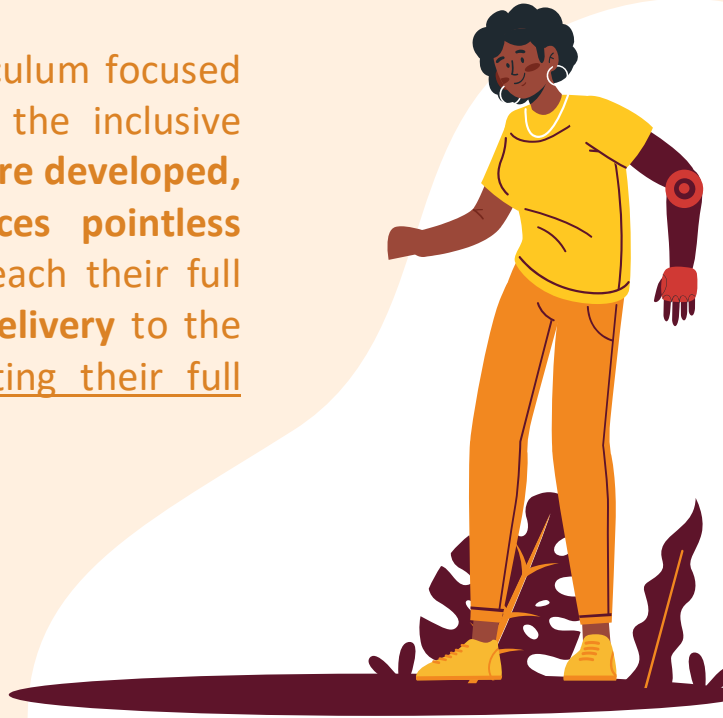
There were studies and reviews talked about the accommodations, difficulties, Equity, Accessibility, knowledge or awareness of campus resources and the campus office of disability.

INCLUSIVE CURRICULUM

According to the UNICEF “**Inclusion in education refers to a model wherein students with special needs spend most or all of their time with non-special needs students”.**
A similar definition can be drawn from the term inclusive curriculum. The ability for being inclusive **implicate the way of minimizing barriers that affect the learning process** (Morgan et al, 2011).
Hornby (2014) defines inclusive education as a **“multidimensional concept that includes the celebration and valuing of difference, diversity and consideration of human rights, social justice and equity issues, as well as the social model of disability”**

INCLUSIVE CURRICULUM

Ahn & Davis (2020) through their definition of inclusive curriculum focused on **what is included in the process itself**, mentioned that the inclusive curriculum **includes an approach in which plans of education are developed, designed, delivered and evaluated in a way that reduces pointless blockades to SwD**, in a matter that will allow all scholars reach their full capacity. Meanwhile, **if** the **curriculum** or the **means of its delivery** to the students **is not inclusive**, it will prevent SwD from indicating their full capacity and affect their intellectual growth.



INCLUSIVE CURRICULUM

The term inclusive education includes complete participation for all participants in the services being provided. A curriculum adapted inclusively acknowledge all students from the different social, cultural, physical background and mental well-being (Morgan et al, 2011).

In short, the focus is on changing mindsets by engaging users in an attempt to change attitudes towards disability (Sutton-Long et al, 2016). This can be likened to the issues faced in higher education that changing attitudes may tackle some of the inclusion issues disabled individuals encounter. Co-design is therefore useful a tool in shaping practice in the disability sector (Sutton-Long et al, 2016).

DESKTOP REVIEW

Heeding the data shown in different literature reviews and studies regarding the topic of curriculum inclusion, that the **process of inclusion faces more barriers than support for reaching a proper inclusion mechanism that supports the SwD** (Hopkins, 2011).

Hopkins (2011), also suggest that HEIs curricula have been described as their **firmness**, not by their **inclusivity**. Correspondingly, researchers are spotting that the **HEIs is not a level playing field in today's university curricula development and inclusion process**, and this effect the promises of disabled students' access to short/long term success.

Some other scholars mentioned that the concept of curriculum adaptations to support SwD by HEIs are **not common practice**, several studies agree that policy is generally reactive rather than proactive (Moriña et al., 2013; Holloway 2001; Hopkins 2011; Moswela & Mukhopadhyay 2011).

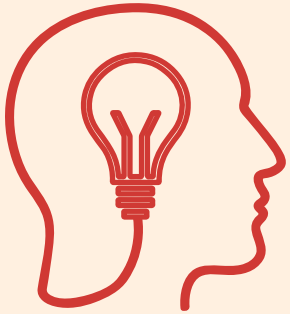
DESKTOP REVIEW

- Other studies have mentioned **substantial blockades affecting the involvement, development and achievement of SwD in the curriculum adaptation process**, this includes attitudinal and organizational barriers, or also include resources accessibility (Moswela & Mukhopadhyay, 2011).
- Likewise, research by Castellana and Sala (2006) settles that laboratory, schoolrooms do not have the required resources needed to ensure SwD inclusion and curriculum adaptation, **studies also indicated that teachers usually do not employ effective teaching methodologies to foster full participation for all students.** As a result, SwD does not have the chance to enjoy the equivalent chances compared to their peers.

DESKTOP REVIEW

- When it comes to the teaching methodologies, **the traditional lecture is the most popular and common among other teaching methodologies** that the current wide range of universities are using, **unfortunately, this approach is unattractive for SwD, who describe it as unmotivating and does not encourage participation and interactive learning**. (Pozo & Monereo 2006),
- Authors such as Hopkins and Stearns (1996) **recommend certain strategies to increase the curriculum adaptation and buildup updated healthy relationships between the students themselves and with the teachers**, some of these approaches are (**collaborative learning, peer tutoring, project-based learning and multi-level learning**). Were SwD finds these approaches increases students to become involved, to actively participate in group tasks.

DESKTOP REVIEW



Adams and Brown (2006) pointed out in their book titled "**Towards Inclusive Learning in Higher Education Developing Curricula for Disabled Students**" that using the assistive technologies in the curriculum adaptation techniques increases the SwD willingness and ability to engage more with the educational process, where many students in his research reported that assistive technologies and technological learning tools are not used as frequent and effective as it should be to meet their needs and increase their motivation.

DESKTOP REVIEW CONCLUSION

- Finally, designing and delivering a truly inclusive curriculum is essential to meet the needs of SwD; However, **previously published papers strongly believe** that this shift in classroom practices will **ultimately improve learning for all**. We never tire of emphasizing that diversity in university courses is a unique opportunity to improve universities themselves; Because of this, we need to push our limits and look for proactive, non-reactive solutions.

BARRIERS TO AN INCLUSIVE CURRICULUM

A repetitive issue that emerged all through the studies included many barriers that are facing HEIs administration and HEIs teaching staff in applying inclusive curriculum, these barriers include **time, know-how, preparation, curriculum design, and the lawful prerequisite to make sensible changes**. This shed some light on the preparation process that HEIs should invest in to deploy effective methodologies of the creation of an effective inclusive curriculum. (Moriña et al., 2013; Hopkins, 2011; Hornby, 2014; Wessel et al., 2009)

Low enrolment and high dropout can be understood as the result of **inadequate accessibility of higher education institutions**, **lack of support, adverse social attitudes and social isolation, as well as low financial capacity** (Svendby, 2020)

GENERAL SUGGESTIONS FOR INCLUSIVE CURRICULUM DESIGN GOVERNED BY HEIS

While **inclusive design requires that the HEIs be actively engaged in certifying practical regulations in the right position**, in many other cases it is essential that the HEIs to be receptive the most affected target group of their intervention. (Morgan et al, 2011). **Occasionally this can mean creation modifications to the educational methodologies and the process itself**.

Therefore, comprehensive curriculum design promotes student-centred learning and serves several diverse students. **This not only benefits students with disabilities, but also the university's diverse student community** (Stapleton & James, 2020).

GENERAL SUGGESTIONS FOR INCLUSIVE CURRICULUM DESIGN GOVERNED BY HEIS

Through different strategies that are available in this **intervention from HEIs is creating a prober incentive for the teaching staff to draw their attention about the importance of these adjustments and inclusion methodologies.**

This could be **embedded within the curriculum design process itself**, while guaranteeing the HEIs comply with its responsibilities to create a welcoming atmosphere for all stakeholders in the curriculum adaptation process to guarantee that the curriculum is adapted and inclusive for all students, and fulfils the different needs of SwD.

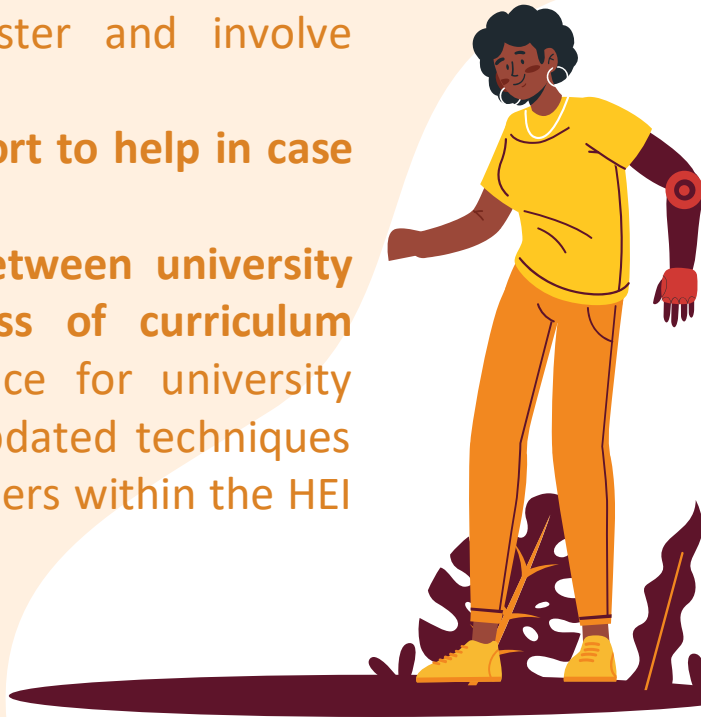
GENERAL SUGGESTIONS FOR INCLUSIVE CURRICULUM DESIGN GOVERNED BY HEIS

These responsibilities include different actions from the HEIs in order to reach a certain level to ensure that these measures aforementioned are met in the inclusion curriculum development, some actions that should be taken from the HEIs are the following;

- Ensuring to support the teachers by **removing any architectural barriers** that the SwD may face in the educational journey, includes providing access to certain laboratories and classrooms that are accessible for SwD.
- Providing a **training manual for all teachers to support their endeavour of designing an inclusive curriculum** at the start of each semester.
- **Provide the teachers with any assistive technologies** that they may require through the educational journey.

GENERAL SUGGESTIONS FOR INCLUSIVE CURRICULUM DESIGN GOVERNED BY HEIS

- The **admission department** in the HEIs should provide the teachers with a list of **SwD who declared their disabilities**, this list should be provided to the teachers at the beginning of each semester and involve consideration of students' characteristics.
- Support the teachers with any **certain means of support to help in case of certain technologies are required.**
- **Conduct a workshop at least once per semester between university teachers to share their experience in the process of curriculum adaptation**, these workshops could be a great place for university teachers to learn from each other and share their updated techniques and ideas on overcoming any shared architectural barriers within the HEI itself.



GENERAL SUGGESTIONS FOR INCLUSIVE CURRICULUM DESIGN GOVERNED BY HEIS

- Ensuring that the **workload is not a major factor that affects the HEIs staff member on developing proper inclusive adaptation to their curriculum**. Unfortunately, the workload in HEIs has been stated as a contributory factor for not adapting the curriculum to serve SwD through their educational journey. (Pivik et al, 2002).
- Important note that **HEIs should consider is a clear definition of the disability itself**, according to a study by “National Center for Education Statistics” several participants from university staff highlighted that it was easier to identify a disability if it was physical, as opposed to being hidden.
- **Allocate sufficient resources for HEI staff members and teaching staff to support them in the process of developing an inclusive curriculum**, the resources may include **time, knowledge, training material, assistive technologies, and different laboratory equipment** that could be required according to the taught model.

GENERAL SUGGESTIONS FOR INCLUSIVE CURRICULUM DESIGN GOVERNED BY HEIS

- Increasing the **incentive** of the HEIs teaching staff members towards the developing of their own curriculum adaptation through including the developing of inclusive curriculum as a **worthy section of the annual evaluation report**.
- Some studies highlighted out that the HEIs should switch their focus towards the perception of the staff members towards the SwD and maintain a solid understating that the SwD may need to be treated in a different manner that would allow them to feel more inclusive. (ANED, 2009; Lane, 2017; Stapleton & James, 2020)
- **Add a section about inclusive curriculum design in the hiring test for qualifying new staff member, this will shed some light on the importance of the topic.**

SUGGESTIONS FOR INCLUSIVE CURRICULUM DESIGN TO TEACHING STAFF MEMBERS

A recent study by Bunbury (2018), draw the point that most of HEIs teaching staff are **struggling to accommodate SwD within their classrooms**, this was rooted in many causes starting from their lack of **time, knowledge, awareness, training for certain situation that faces SwD and the absence of assistive technologies that support the execution of an inclusive curriculum**. The study recommends offering practical recommendations to ensure the HEIs include certain practices to ensure an inclusive learning process, which will pave the way towards an inclusive curriculum with the SwD.

SUGGESTIONS FOR INCLUSIVE CURRICULUM DESIGN TO TEACHING STAFF MEMBERS

Creating diversity and flexibility when it comes to **conducting an assessment**, which is considered one of the **heaviest burdens on SwD** due to their social and medical situation since they are **facing different barriers outside the HEI than the other students.** Mapping out the outcome of the educational process through **alternative assessment** could help SwD to feel included and not being aware of this information in some respects hinders participation, and as a result, excludes the disabled individual from the curriculum.

Some other studies reflected that the attendance policy as part of the assessment criteria could hinder many SwD from feeling included, and this also was reflected due to their medical and social situation.

SUGGESTIONS FOR INCLUSIVE CURRICULUM DESIGN TO TEACHING STAFF MEMBERS

Throughout the designing process of an inclusive curriculum, many considerations should be met in order to achieve the balance required, **the aim of an inclusive curriculum is to provide all participants with equivalent learning opportunities**, regardless of their gender, age, cultural background or disability. Some of these principles were mentioned as Universal Design for Learning (UDL) such as:

- **Multiple means of representation**
  - Through deploying various strategies to deliver the information to the participants through a wide rang of techniques, not focusing on one dominant methodology of teaching.
- **Multiple means of action and expression**
  - Through providing different options in contrast to exhibiting what students have realized
- **Multiple means of engagement**
  - Adjusting to students' inclinations by offering decisions of methodology, content, tools and values. Also, through motivating students by offering variable degrees of challenge and effective feedback.

USE OF ASSISTIVE TECHNOLOGY IN INCLUSIVE EDUCATION – MAKING ROOM FOR DIVERSE LEARNING NEEDS

Technology has tremendous capability in supplying access to all learners, and the potential to get admission to public education curricula. Assistive technology is a standard term that consists of assistive and adaptive devices and rehabilitation for individuals with disabilities and includes without a doubt anything that may be used to catch up on a loss of certain skills' (Edyburn et al., 2005), starting from low-tech gadgets along with crutches or a unique pen grip, to extra advanced gadgets including hearing aids and eyeglasses, to high-tech devices including computer systems with specialized software to assist humans with dyslexia to study (WHO, 2009).

Technical aids or "auxiliary gadget“ are globally designed academic technologies; it could be “any object, piece of device or product gadget used to increase, maintain or enhance the practical abilities of people with a disability, and to assist them overcome or catch up on the disability” (Goddard, 2004)

USE OF ASSISTIVE TECHNOLOGY IN INCLUSIVE EDUCATION – MAKING ROOM FOR DIVERSE LEARNING NEEDS

From a simple tool like a **magnifying glass to a complicated automated communication system**; relying on the character of use and application, assistive technology devices can be used by college students with disabilities on their own or with help, inside and outside of the gaining knowledge of outside sources. **some examples of assistive technology devices are touch controllers, alternative keyboards and mice, phrase-to-textual content phrase-recognizers, phrase prediction software, word processors, grammar checkers, scanners, CD recorders and spell checkers (Petty, 2005).**

Assistive technology bridges this gap by way of "helping" the practice of teaching students within the equal lecture room, which includes students with physical, mental, and developmental disabilities (Smith, 2011) helping them learn the educational material in a way that they could apprehend, **by casting off the obstacles that had been preventing them from being at the identical degree as their peers**

Table 01: Use and Application of Assistive Technology in Education

Characteristic	ASSISTIVE TECHNOLOGY APPLICATIONS	NEED AND RELEVANCE IN CLASSROOM LEARNING
Reading difficulties	Electronic books, Book adapted for page turning, Single word scanners, Predictable texts, Tabs, Talking electronic devices/software, Speech Software	For students having di_culty in reading and understanding written text and in paying attention to the reading assigned.
Writing difficulties	Pen/Pencil grips, Templates, Word processors, Word card/book/wall, software, Spelling/Grammar checker, Adapted papers	For students having problem in writing or composition
Math difficulties	Calculators, Talking Clocks, Enlarged Worksheets, Voice Output Measuring Devices, Scientific Calculators	For students having computational problems and confusions, and finding it difficult to perform well in Math lessons
Vision difficulties	Eye glasses, Magnifer, Screen Magni_cation, Screen Reader, Braille Large Print Books, CCTV, Audio Lesson Tapes	For students who have difficulty in seeing or lack complete vision
Hearing difficulties	Hearing Aids, Pen and paper, Signaling Devices, Closed Captioning	For students who have difficulty in hearing or are absolute hearing impaired

Table 01: Use and Application of Assistive Technology in Education

Characteristic	ASSISTIVE TECHNOLOGY APPLICATIONS	NEED AND RELEVANCE IN CLASSROOM LEARNING
Computer Access	Word prediction, Alternative Keyboards, Pointing Option, Switches, Voice recognition software	For students finding it difficult to access the computer in its standard form and have difficulty in performing academic tasks
Augmentative/ Alternative Communication	Communication Board, Device with speech synthesis for typing, Eye gaze board/ frame, Voice output device	For students having problems in comprehension of language, and lacking the ability to express it, or are unclear in speech and demonstrate delayed expressive language
Learning Disability and Attention De_cit Hyperactivity Disorder (ADHD)	Use of applications/devices depending upon the degree of disability/ difficulty, in the area of reading and writing (Dyslexia), handeye coordination, written expression and composition (Dysgraphia), difficulty in fine motor skills, Coordination (Dyspraxia), Math (Dyscalculia) and Attention (ADHD) like - Talking electronic devices, Calculators, Electric Organizers, Highlighters, Pencil Grips, Post-its, Computers, Spelling/Grammar Checker, Electronic Organizers, Recorded materials, Hand held Scanners, Print or picture schedule, Electronic Diaries etc.	For Students having problem in language development, reading and writing (Dyslexia), hand-eye coordination, written expression and composition (Dysgraphia), di_culty in fine motor skills, Coordination (Dyspraxia), Math (Dyscalculia), and ADHD.

CONCLUSION

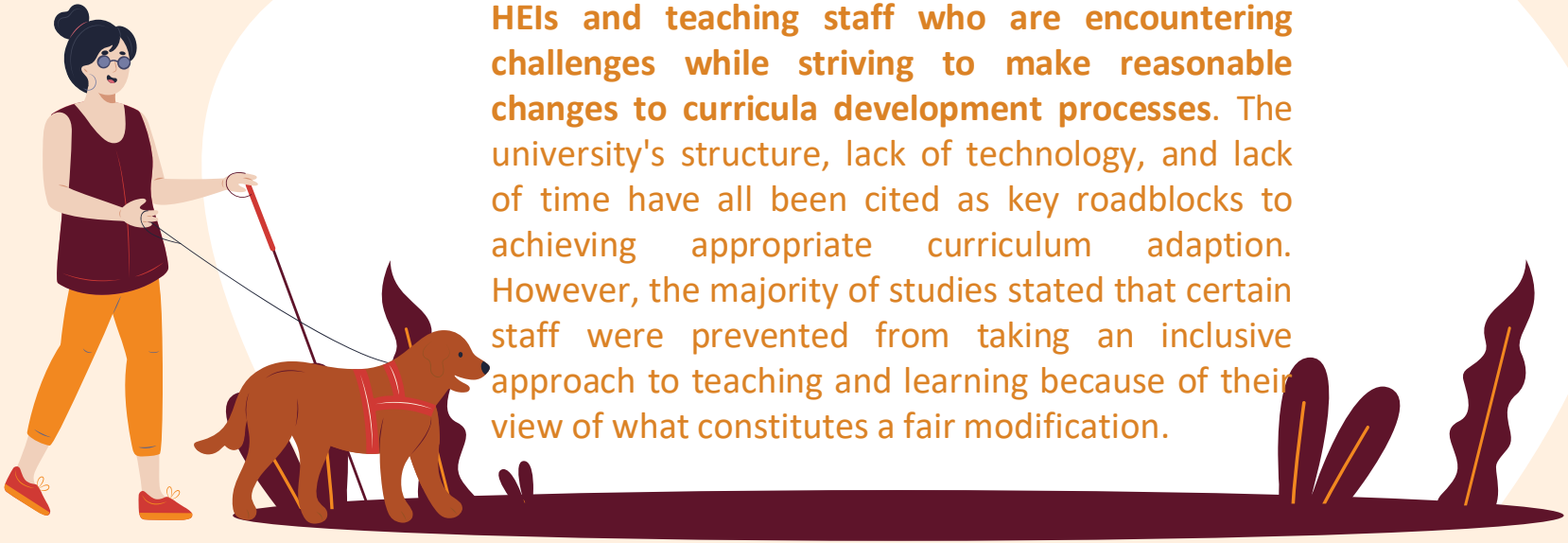
Ease of access is a recognition of variety as well as a critical aspect in ensuring that students effectively engage. Students with disabilities can learn on par with their non-disabled peers in the common classroom with good inclusive curriculum that breaks down all obstacles that impede them from receiving a decent education.

Inclusion in education has been demonstrated to increase the effectiveness in educational practice, resulting in positive educational outcomes for students with disabilities in inclusive settings. (Katz and Mirenda, 2002).

Educators should not consider assistive technology as a 'rehabilitative' or 'remedial' tool, but rather as a tool for gaining access to material and determining how to help students achieve positive outcomes (Warger, 1998).

CONCLUSION

In principle, this paper **offers recommendations for HEIs and teaching staff who are encountering challenges while striving to make reasonable changes to curricula development processes**. The university's structure, lack of technology, and lack of time have all been cited as key roadblocks to achieving appropriate curriculum adaption. However, the majority of studies stated that certain staff were prevented from taking an inclusive approach to teaching and learning because of their view of what constitutes a fair modification.



CONCLUSION

Although reasonable changes may still be required due to the complexity of various disabilities, ensuring reasonable adjustments are in place during the earliest curriculum design stages may assist in combating exclusion and promoting participation. **This would imply that teachers may need to be proactive in promoting inclusive practices across the curriculum in some circumstances**.

THANKS

Do you have any questions?
info@intate.de
+49 (0) 341-201717982
www.intate.de

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Disability as diversity: The inclusion of students with disabilities in higher education

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INT@E Innovative Technologies and Education
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Different paths to knowledge ...
supported by
Self-Organised Learning & Cooperative Learning

Speakers: Reinhild Becher
Susann Loeffler

SOL = Self-Organised Learning/ SDL = Self-Directed Learning

- SOL means the ability to organise oneself. It is an essential part of our human nature.
- Innovation, agility and creativity are key factors for future fitness.
- They cannot be instructed, but develop through a regulated self-organisation of the system. This applies equally to organisational development and human resource development as well as to **teaching** or school development.
- Self-organisation as a competence of individuals, teams and entire company departments can be specifically promoted through appropriate learning and **working environments**.

(Dr. Martin Herold & Dr. Cindy Herold)

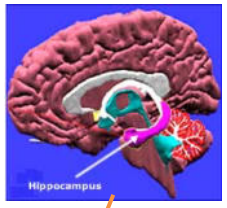
SDL = Self-Directed Learning:

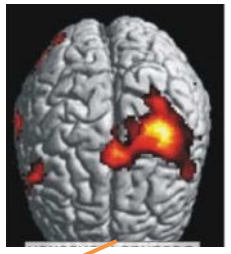
The learner decides for him/herself when to do what and how.

Cooperative Learning

- Cooperative learning is "... **a form of interaction** in which the people involved acquire knowledge and skills together and in mutual exchange. Ideally, all group members are equally involved in the learning process and share responsibility" (Konrad/Traub 2010).
- Cooperative learning provides a structure that enables heterogeneous learning groups to achieve individual and common goals in the combination of individual, partner or group work.
- The group members take equal responsibility for the individual learning process of the individual and the mutual learning in the group → e.g. functions within the group

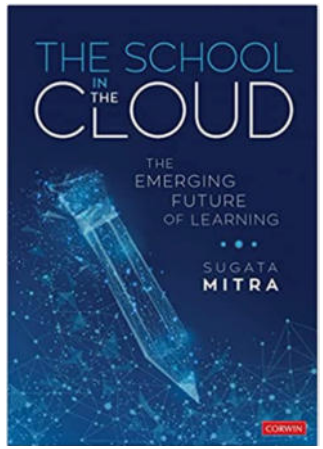
What is SOL? What not?

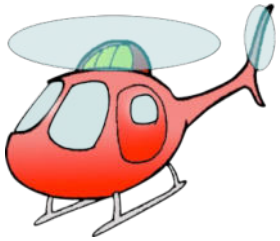




SOL the brain‘s learning principle

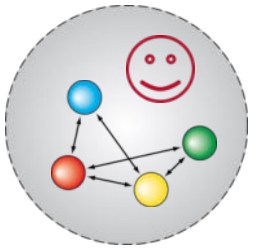
SOL is scientifically based.
SOL is constantly being further developed.

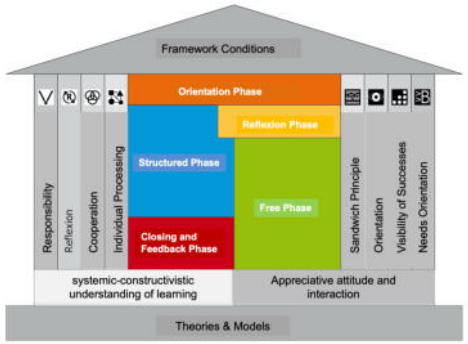


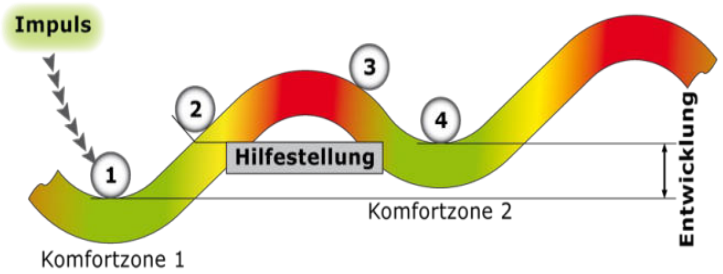


SOL is a program for a sustainable development of schools/universities

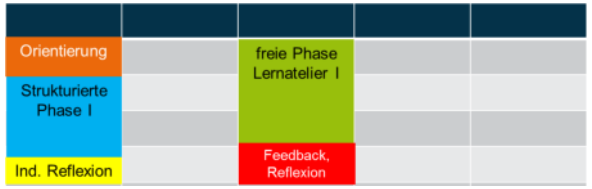
SOL is a learning model of **brain research, pedagogy a**nd **psychology**







SOL is a **system** for designing learning environments



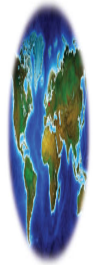
SOL is not a method of teaching!
= System of methodical elements! Didactically structured!

Reinhild Becher - Becher Beratung & Service Oelsnitz &
Susann Löffler - Loeffler & Loeffler GmbH HOT

How does learning work?

Sensors

Memory



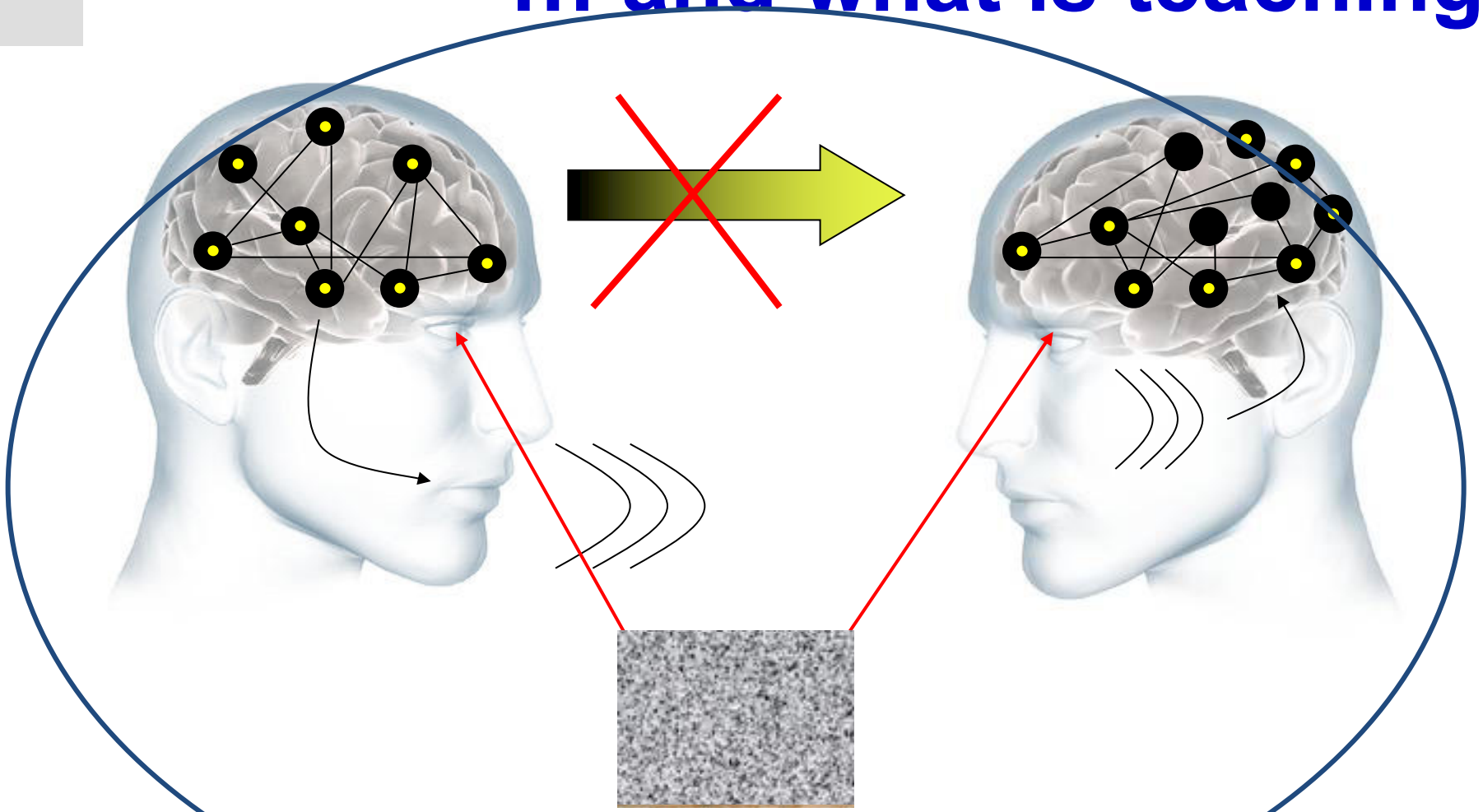
Real World

Data Transmission Lines

Image of Reality ?

Is the brain a data store?

… and what is teaching?



"Teaching" in the sense of enabling learning, creating learning occasions,
Designing the learning environment

Weaving new things into your own network

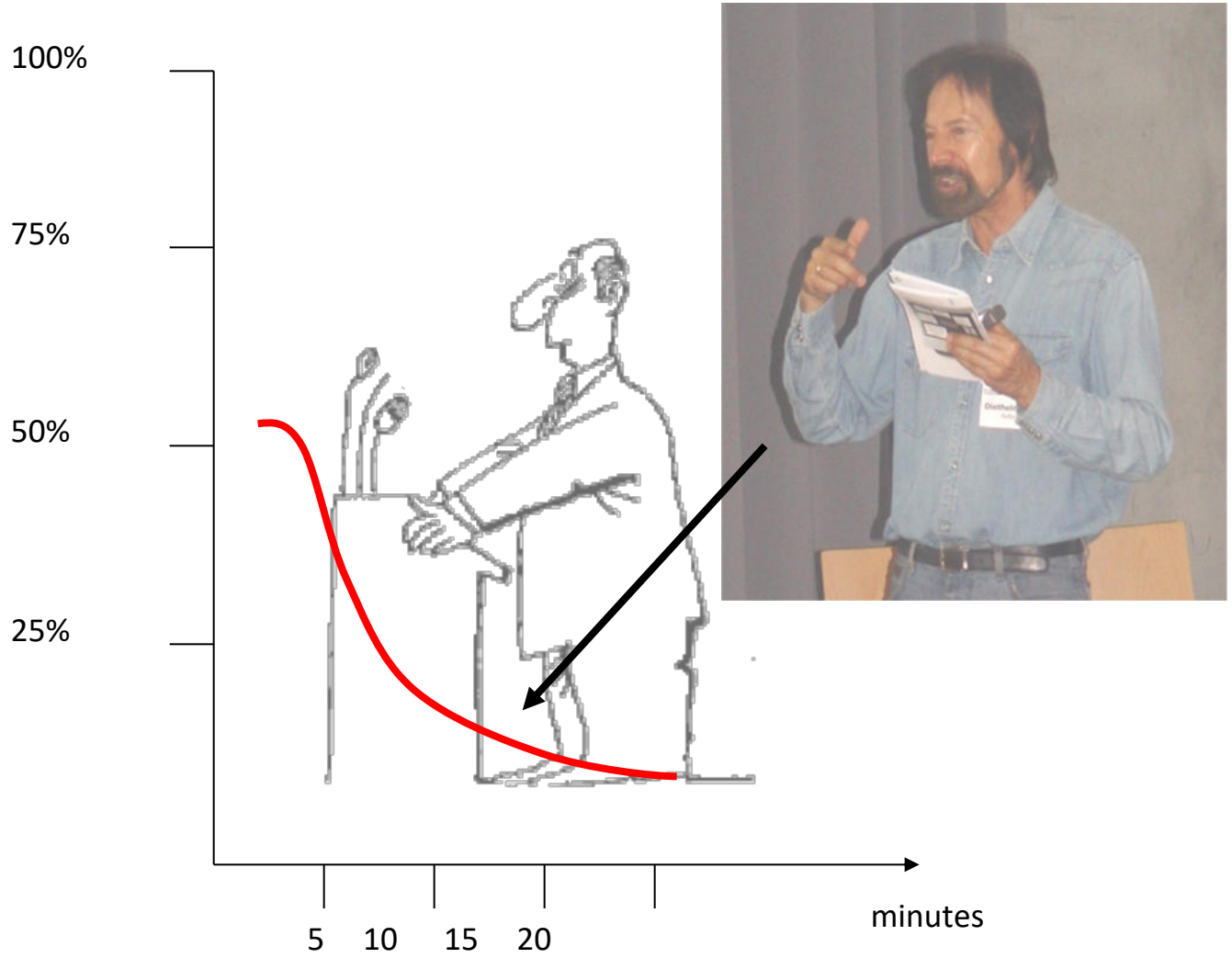
The correlation between acquisition of new knowledge and

• **prior knowledge/experience** is	**0,7**
• motivation is	0,2 bis 0,3
• intelligence is	0,5 gegen 0

Result of a study (empirical pedagogy, Weingarten 2006):

We only learn what we already know...
and a little bit more!

Attention Curve Prof. D. Wahl, PH Weingarten



Reinhild Becher - Becher Beratung & Service Oelsnitz &
Susann Löffler - Loeffler & Loeffler GmbH HOT

In SOL, the principles of natural learning are replicated:

SOL components:

Advance Organizer

Can-do-list

Sorting Task

Target Planning

Structuring Task

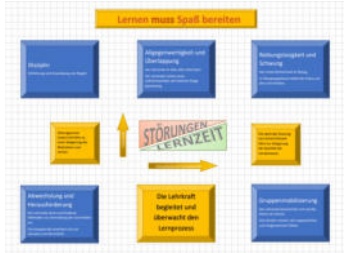
Texts on a topic

Group Puzzle in Sandwich

Noting-aid

Expert Method

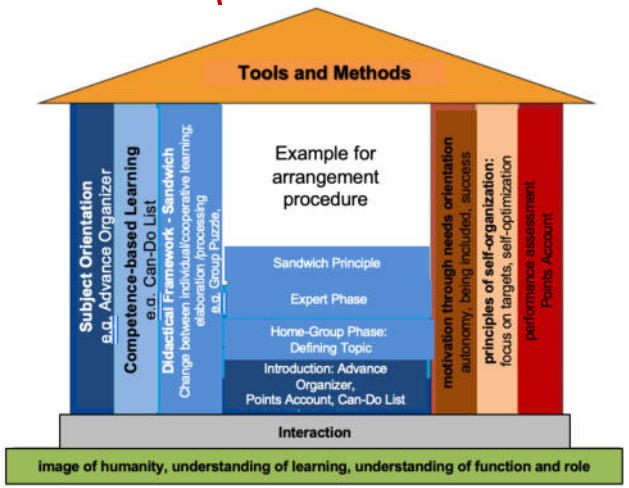
Study Poster



Points Account

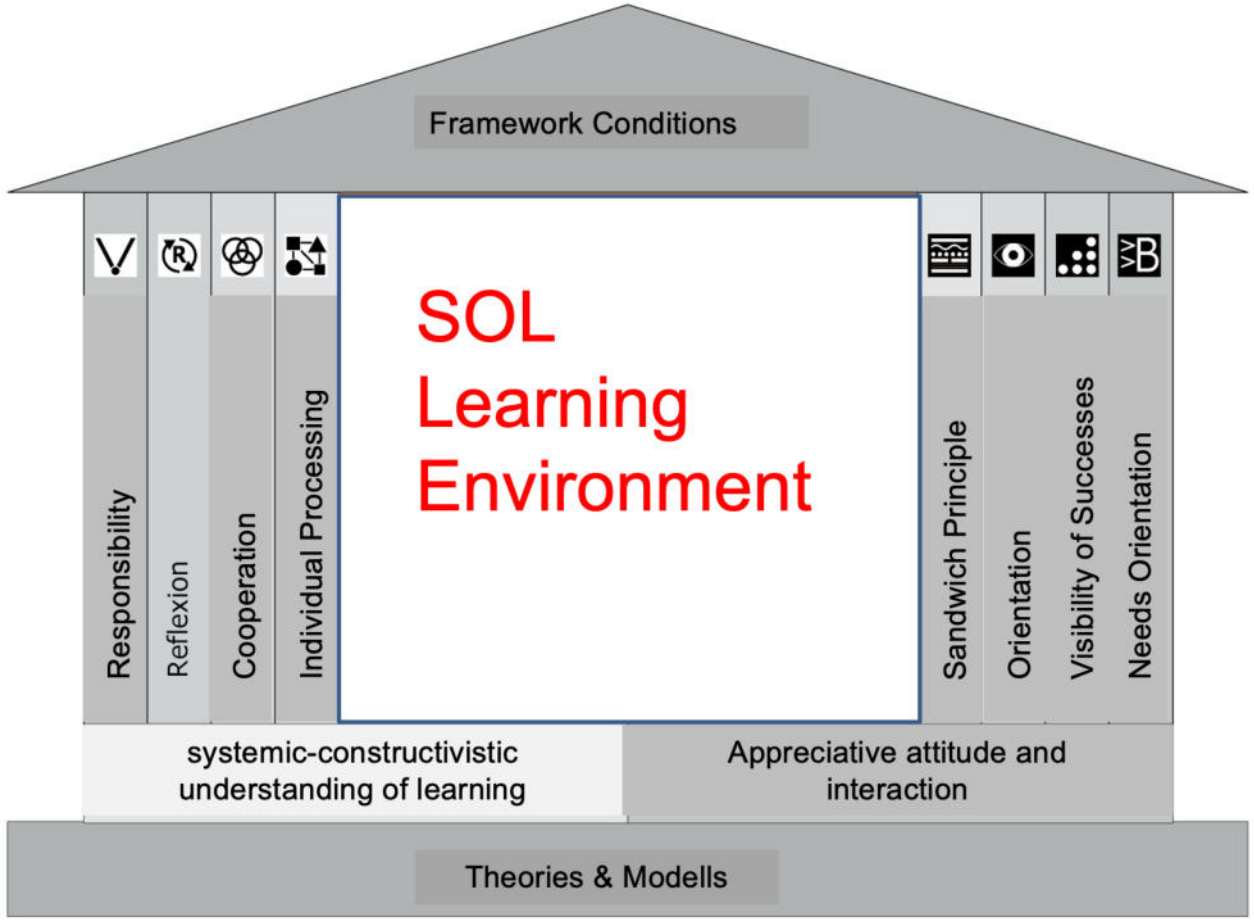
☺ 😐 ☹

Coloured Schedule



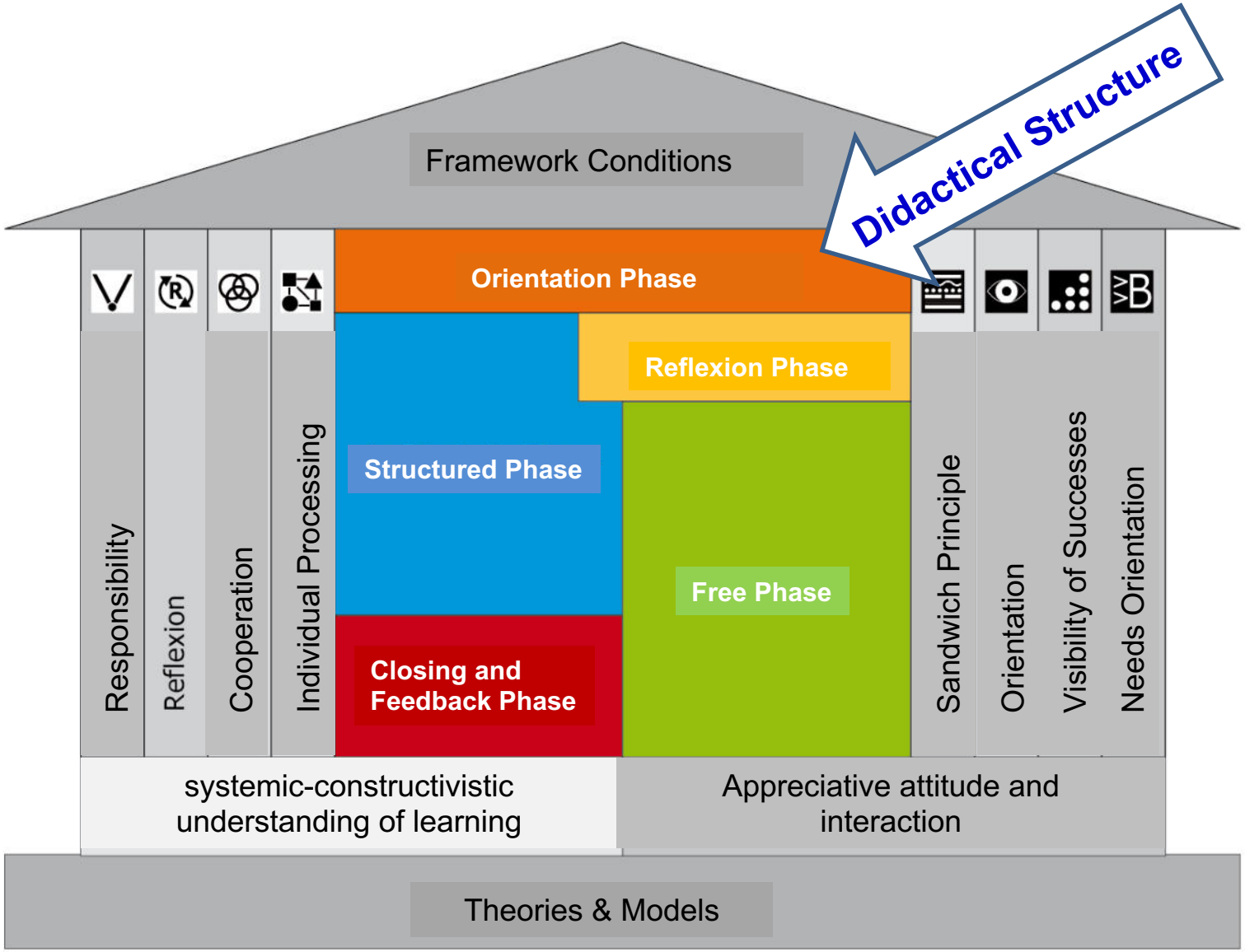
SOL lesson development/ school & university development

The 8 SOL-Learning Principles

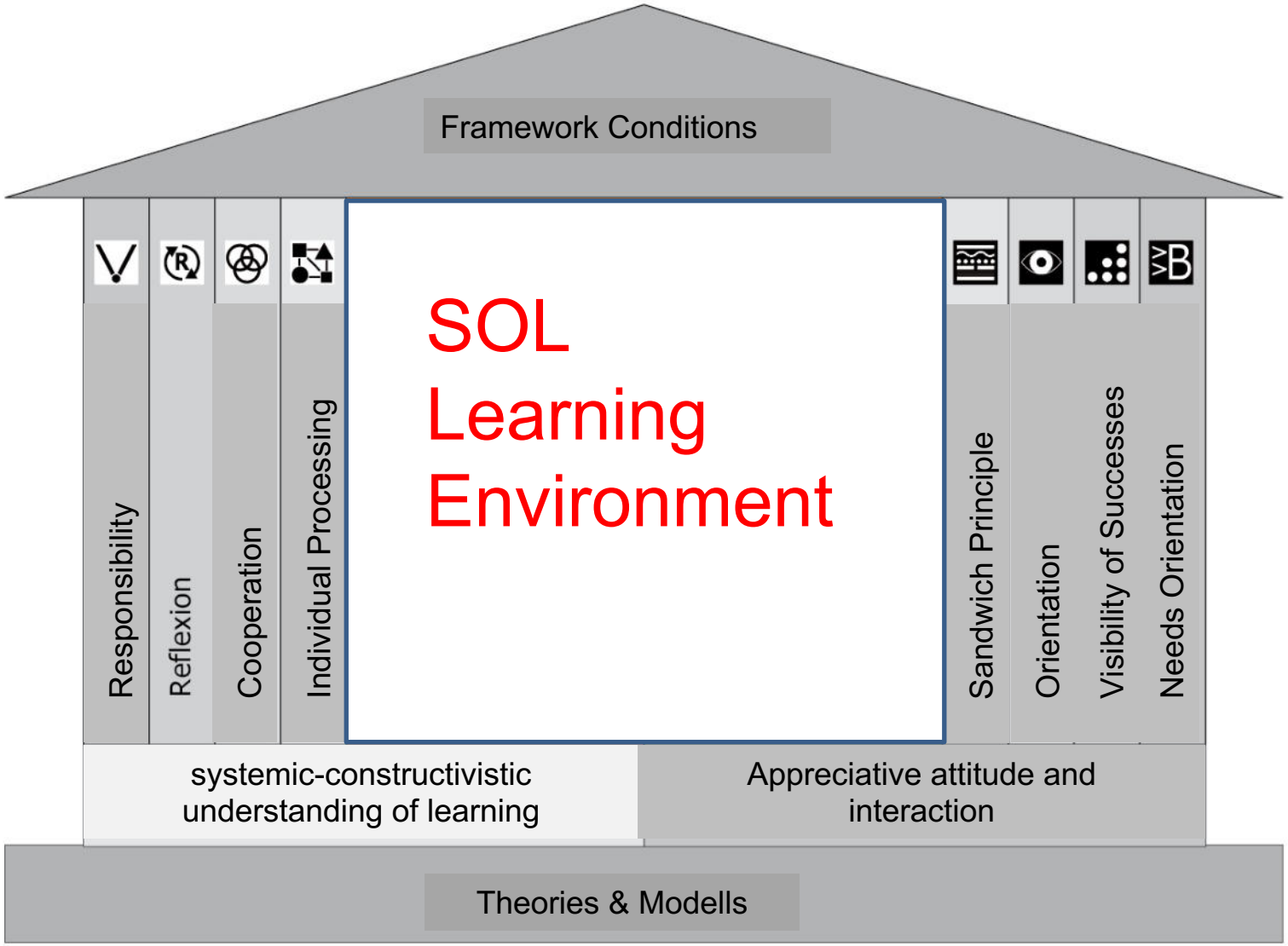


Should students be aware of these 8 principles?

- Self-efficacy: I make decisions and take responsibility for the outcome
- Target clarity through orientation
- Visibility of successes as a motivating factor
- Needs orientation: security, "closeness of the teacher", autonomy, individual counselling
- Sandwich principle: a systematic alternation between elaboration and processing phases
- Inclusion through cooperation
- Time for individual processing
- Looking at your own learning: optimisation through reflexion



SOL-House [SOL acc. Dr. Martin Herold]: Learning – a System



SOL-House [SOL acc. Dr. Martin Herold]: **Learning – a System**

SOL +

Welcome

Access
Agenda, Advance Organizer; arouse interest; Create transparency ...

Collektive Phase - Input
Explanation, lecture by the teacher;
Demonstration of an experiment, showing a film

Joint A
Hand out worksheets, distribute task sheets... ***Transition to the ...***

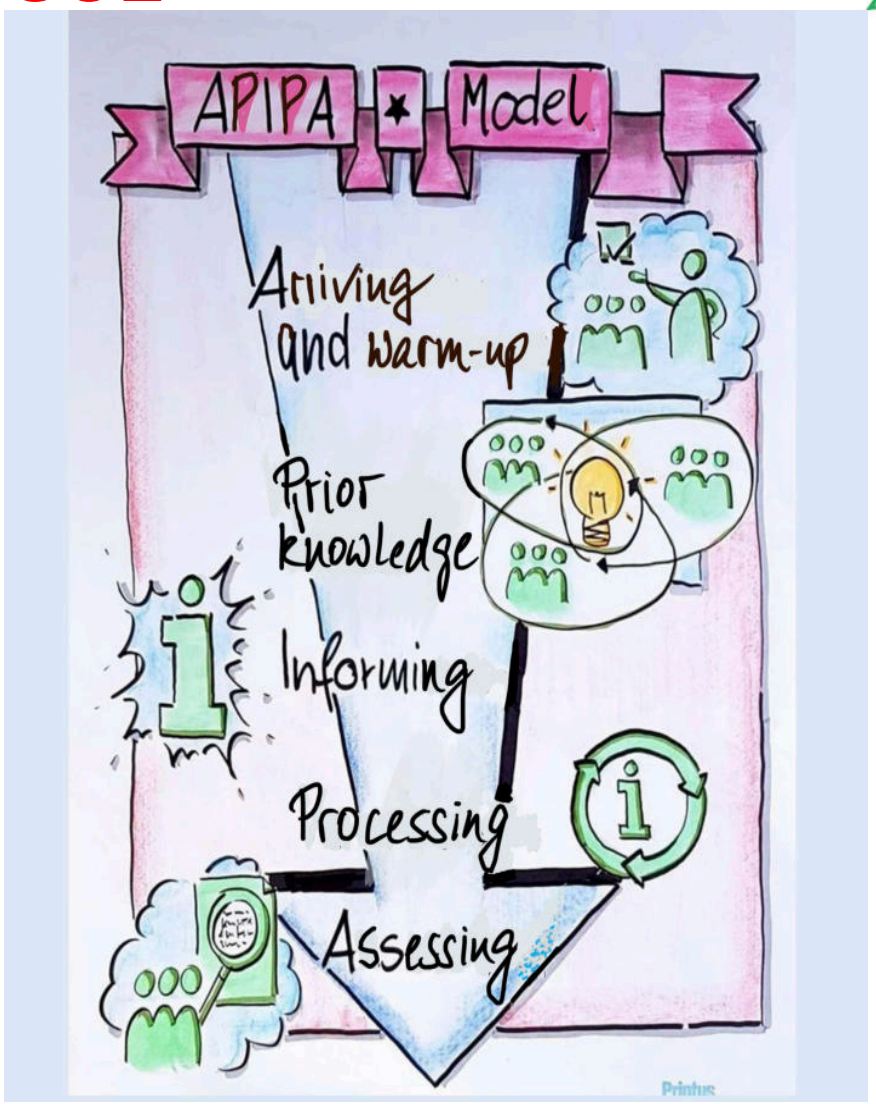
Individual learning phase:
Networking what you have learned through mind maps, structure laying techniques ...
Deepening the acquired knowledge through cooperative learning...
Individual closing of learning gaps through station work,

Joint B
exemplary presentation of problem areas and results
Transition to a collective learning phase

Collective phase - conclusion/ realization
Summary of what has been learned by teacher or learner

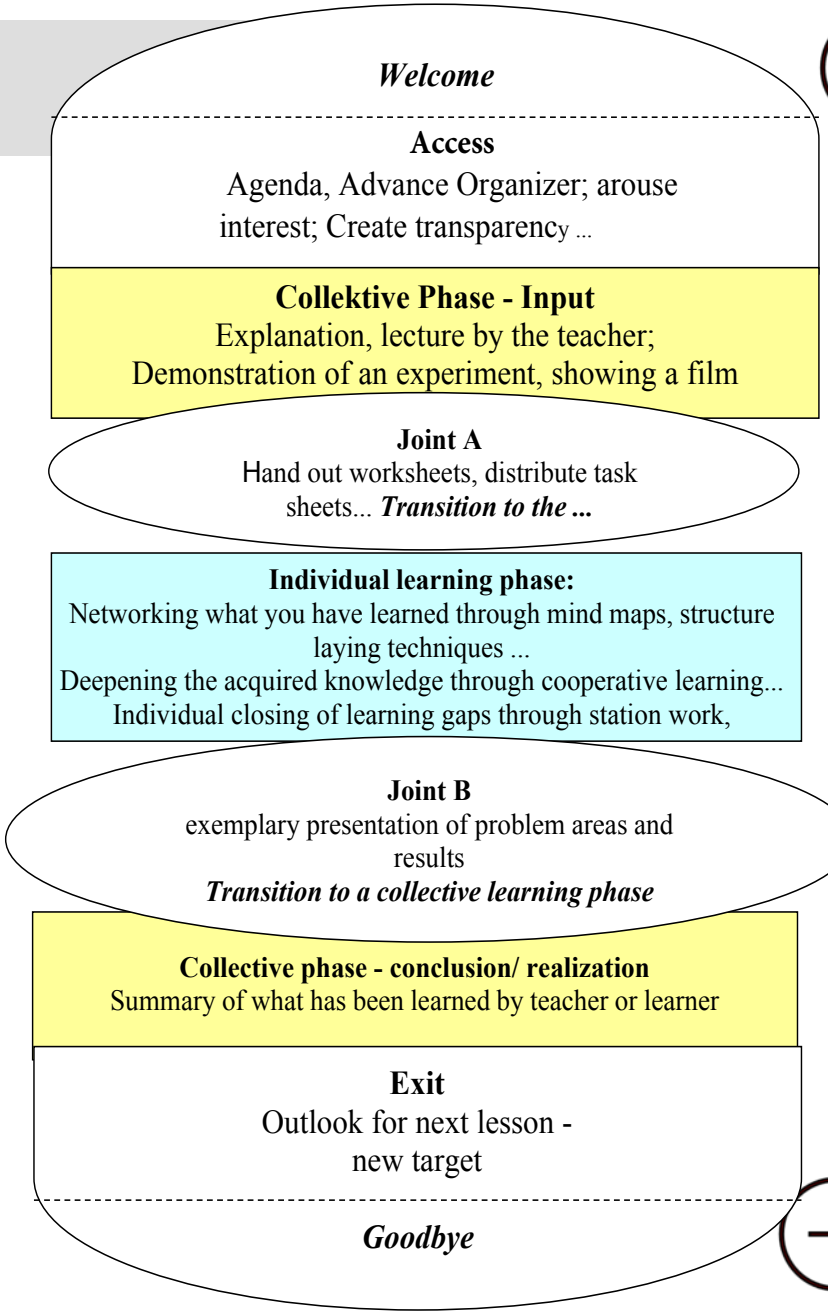
Exit
Outlook for next lesson - new target

Goodbye



Competence-oriented teaching!

SOL + APIPA – Sandwich Principle



Learning environment/atmosphere

Objectives

Previous Knowledge/ Input/ Information

Ressources: working material

Individual processing of the information → e.g. exercises

Ressources: e.g. presenting with digital media

Auswertung/ Bewerten/ Zielerfüllung prüfen

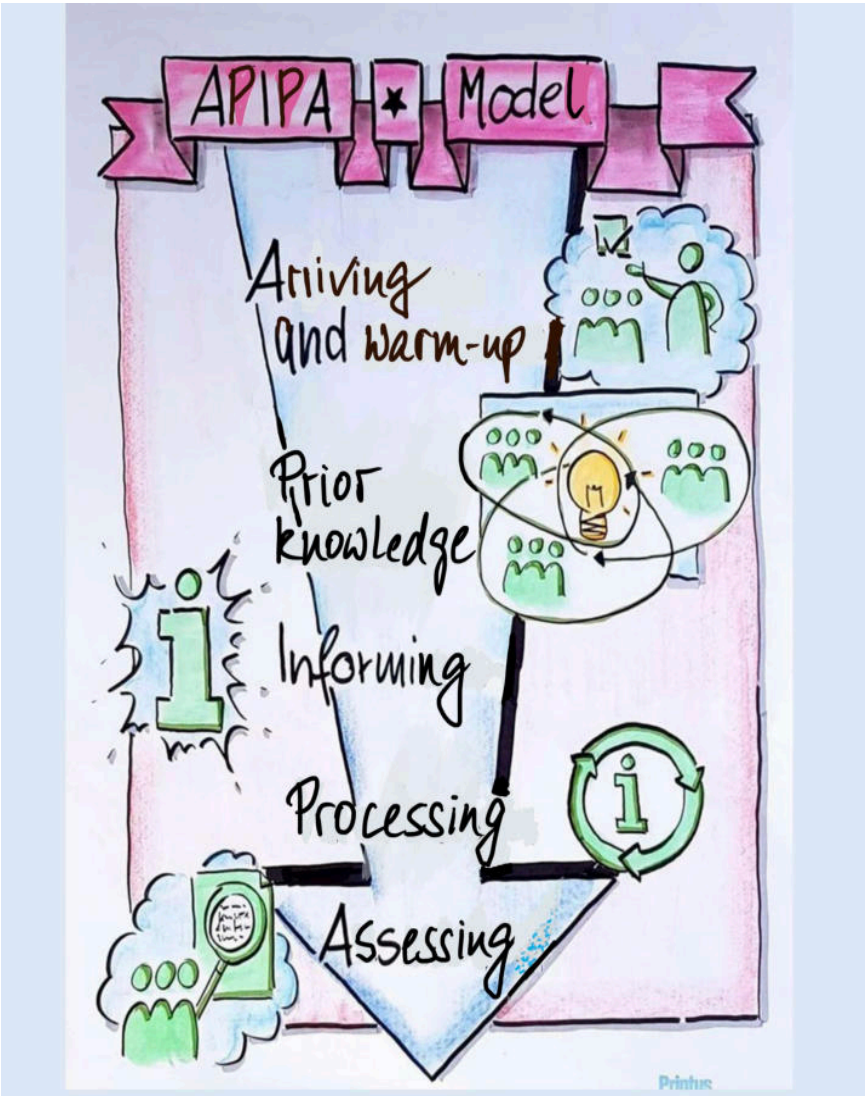
Einordnen in Lernfeld/ UE …. – neue Zielstellung

Lernumgebung/-atmosphäre

Phases of the complete action

Modell of "Complete Action"

SOL+



Competence-oriented teaching!

Basic Elements:

- **Advance Organizer = Study Map**
- **Can-Do-List**
- *Points Account*
- *Work Instructions: Home Group/ Expert Group – Group Puzzle*
- *Target Work Plan – SMART!*
- **Noting-aid/ Info Sheet**
- *List of terms for sorting and structuring task*
- Examinations (Note inclusion!)
- Feedback(form?)

Theory

Humanistic view of man

Practise

Becoming a teacher is not difficult, being a teacher, on the other hand, is very...
but great.

- Organisation — Classroom-Management
- Competences — From Curriculum to Content
- Methods — Criteria of Good Teaching
- Skills — Planning a Lesson
- Rules? CRM!!! — Dealing with Classroom Disturbances
- Students? — Feedback at School
- Marks — Measuring Performance

Visits to Classes

Colleagues/ Mentor

Own Lessons

?

Training Companies

Trainers

Parents

School Law Laws

Logopedics

Self-Management

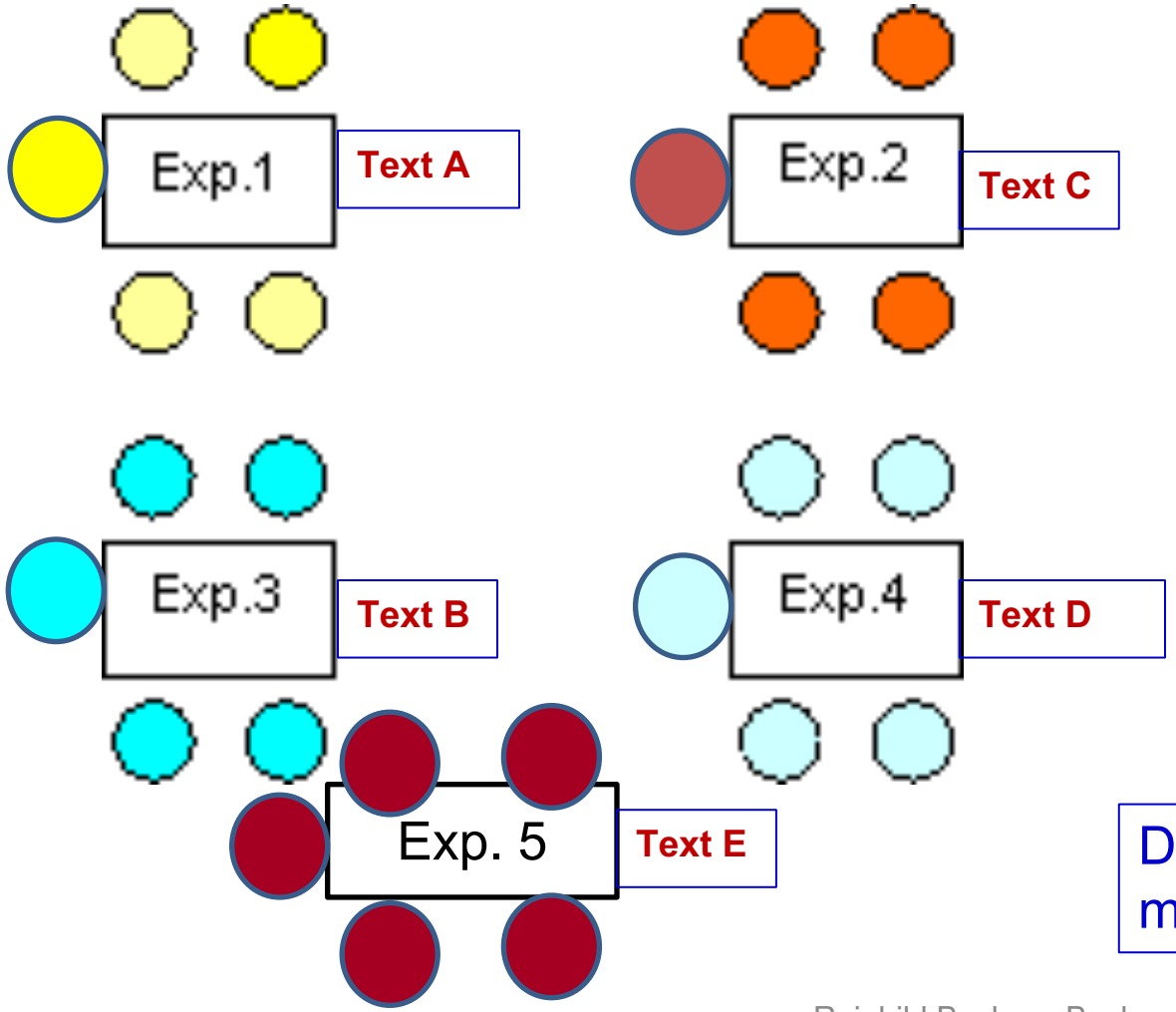
Time/ Priorities

Advance Organizer

Introductory qualification for newcomers

Expert Method

Students work on a topic with the product study poster



1. **Initial Situation:** Class of 25 students
2. Form 5 groups (A to E).
3. Each group works on a part of the text on one topic! Note time limit!) + everyone prepares their own reminder (speaking time approx. 2 to 3 minutes).
4. The group creates a study poster for the text. (The students know the procedure)
5. Hang up all posters in the classroom (spacing)
6. Count off 1 to 5 = form new groups = group 1 to 5
7. Gallery walk = the expert in the group explains the content of his poster.

Discuss the advantages and disadvantages of this method!

If I am only judged by my grades,
my true strengths will never be recognised…

THANKS

info@intate.de
+49 (0) 341-201717982
www.intate.de

Sources:

- Slides 5,6,7,8,9,10,11,12,13 - based on Dr. M. Herold, SOL Institute Ulm
- Reference to: cf. Cindy Herold, Martin Herold: Selbstorganisiertes Lernen in Schule und Beruf. Beltz-Verlag Weinheim, 2017 .

Co-funded by the Erasmus+ Programme of the European Union

Stadt Leipzig

Edu4ALL

DISABILITY AS DIVERSITY: THE INCLUSION OF STUDENTS WITH DISABILITIES IN HIGHER EDUCATION

Accessibility and social participation- City of Leipzig

27.06 – 01.07, 2022
Int@E UG, Leipzig, Germany

Stadt Leipzig

Accessibility and social participation for people with disabilities

The Commissioner for People with Disabilities

Date: 01.07.2022

Kerstin Baldin, City of Leipzig, Dezernat V, Referat Beauftragte (Commissioner's Office)

Tasks of the Commissioner for People with Disabilities

- Political mandate
- Cooperation
- Promoting more participation in the city's civil society
- Counselling and complaints office
- Information

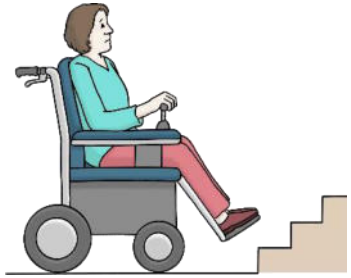
Political mandate

The Commissioner is <u>independent</u> and advocates for the rights of persons with disabilities at the political and social level.

(UN Convention on the Rights of Persons with Disabilities
Saxon Inclusion Act)

With a view to people with Disabilities:

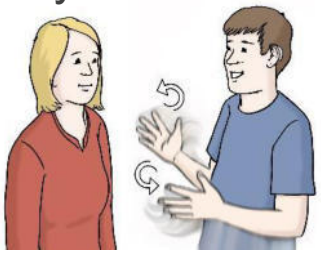
- Consider political motions
- Within the municipality itself stand up for these rights
- Support and development of the urban community



Woman in wheelchair in front of stairs

Woman in a wheelchair

Woman with guide dog



2 people talking with Sign language

Cooperation with advisory board and political work in committees

- Accompanying, advising and supporting the Disability Advisory Council
- Accompaniment and support of various working groups:
  - WG Guidance Systems for the Blind and Accessibility
  - New working group on easy language and education at the adult education centre
- Participation in concepts and updates of programmes
  - Participation plan of the city of Leipzig as the most important instrument for developing more participation of people with disabilities
  - Pedestrian Strategy
  - Cycling strategy
  - Housing policy concept
  - new digital instruments (acoustic real-time information) in public transport

Promotion of projects

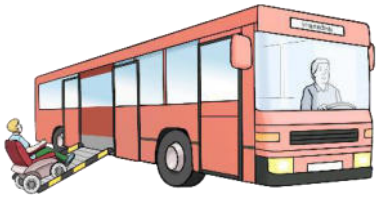
- Support programme "Favourite Places for All" 2022: € 385,000
- New: Support programme "Aktion einfach machen" for more participation of people with disabilities (communication, education, culture, sport, community involvement) www.leipzig.de

Complaints and advice centre

The Commissioner is the contact person for people with disabilities.

1 advisor for citizens:

- Information and referral to municipal services
- Mediation of special counselling services in the city



1 consultant for the planning of barrier-free road construction

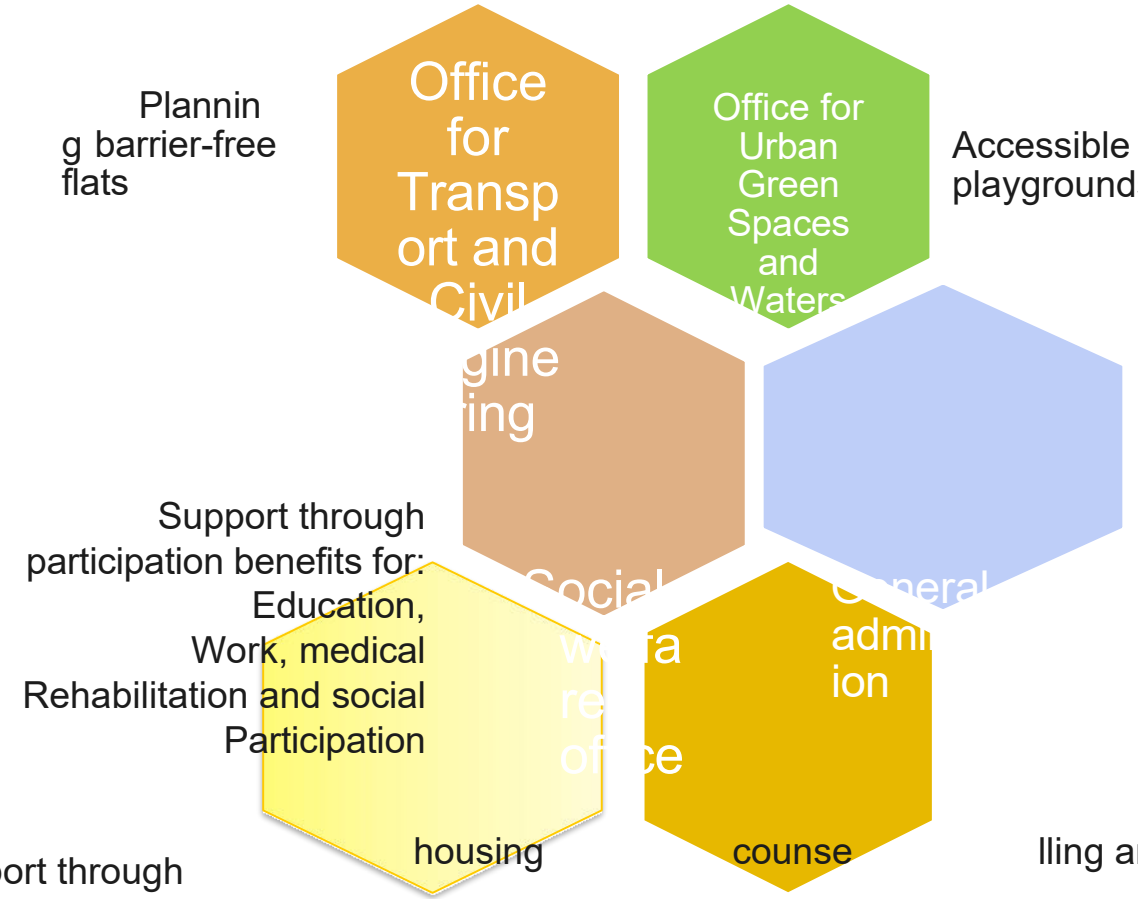
- Consultation within the municipality bi road construction projects
- Advice on the expansion of the public Local transport

Inclusion in the City of Leipzig

AccessibilitySocial participation

- All road renovations are built barrier-free:
  - With guidance systems for the blind
  - With lowered shelves for wheelchair users
  - Sample catalogue
- All new public buildings will be built barrier-free.
- Financial support through Promotion of "Open Assistance for the Disabled
- Within the municipality, work is being done on "awareness raising" - simple language or easy language should find its way in
- Co-operation and support with the associations, associations of disability aid
- Project funding + Participation Award + Meeting Day

Inclusion in the Leipzig City Administration



barrier-free conversions

Office for Housing and Urban Renewal

Support Inclusive Sports Offer

Leipzig - City of Diversity ...

Many associations and organisations in the Urban society

Accessibility and inclusion together

Private/charitable initiatives + Municipality

Achieving a goal together

https://www.leipzig.de/jugend-familie-und-soziales/menschen-mit-disABILITIES

https://www.leipzig.de/bauen-und-wohnen/stadterneuerung-in-leipzig/urban-renewal-projects/favourites-places-for-all/

Many thanks for Your attention!

Stadt Leipzig

Department V, Division
Commissioner Friedrich-Ebert-
Straße 19A 04109 Leipzig

Tel.: +49 (341) 123-6741
Fax.: +49 (341) 123-6725

E-mail: kerstin.baldin@leipzig.de
www.leipzig.de

Project No.: 618103-EPP-1-2020-1-PS-EPPKA2-CBHE-JP

Edu4ALL

Disability as diversity: The inclusion of students with disabilities in higher education

Training Materials: Checklists and Recommendations

1. Checklist for courses

Checklist courses

The following checklist shows essential points for the implementation of accessible courses.

1. **Planning**

Accessibility should be considered from the very **beginning, in** addition to the content and didactic planning of a course. This is an opportunity to **improve the** overall **delivery of the course content**. This includes the:
Digital accessible design and structuring of the course in the learning platform and the teaching materials and the barrier-free **accessibility of** the venue.

Share **accessibility information about the** course ahead of time and allow people to **contact** you to make adjustments based on the needs of the participants.

Before the start of the course, **ask the** participants for concrete **requirements** regarding accessibility (anonymously). In case of further requirements, please refer to the representative for students with disabilities / chronic illnesses at the Central Student Advisory Office.

The multi-sense principle is ideal for teaching events. Conveying information through **different channels** (e.g., spoken and text) helps all participants. **Alternating forms of work** (e.g., plenary discussion and small group discussion) appeals to different **learning styles.** These teaching concepts help all participants.

Select the **digital platforms and media** to use accordingly.
Create the **digital teaching materials barrier-free**. If materials are not accessible, try to provide the information in another form.

Instructions for creating accessible digital materials can be found in the corresponding sections.

Accessible **presentations**: Microsoft PowerPoint
The Microsoft Word *. docx file format is suitable for accessible documents.
Creating accessible PDF documents can be labor-intensive depending on the type of content.

- Use a clear structure
- Use style sheets and the tools for tables and lists of the respective application
- Give graphics alternative text descriptions
- Use sans serif fonts, pay attention to contrast and colors

Videos should have subtitles. Audio should be provided with transcript (transcription).

2. **Implementation of the course**

A U-shaped **arrangement of the tables is** suitable for **seminars**. This enables direct **eye contact between** participants and lip-reading for people with hearing impairments. If necessary, create space for wheelchair users.

Make sure that the lighting conditions are appropriate.

Source: https://www.uni-potsdam.de/de/digitale-barrierefreiheit/barrierefreie-lehrveranstaltungen/checkliste-lehrveranstaltungen

Use a microphone. In **discussions, the microphone** should be passable to other speakers.

If the speakers agree to automatic voice processing that does not comply with data protection regulations, the use of the platform Webcaptioner (https://webcaptioner.com/captioner) is recommended. It enables free live transcription of what is said and can be projected onto a wall using a projector. The text can be made available to the participants afterwards as a transcript.

Clear rules of conversation help in **discussions:**

Show desire to speak by visual hand signal
Let other participants speak out
Determine in each case the spokesperson and possibly a moderator with a named address
When taking over a word, the speaker should always say his name briefly
Avoid patronizing each other and exercise patience

Create a result or progress log of **the discussion for** later sharing. This can also be done by participants.

Presentations should include an **agenda.** Persons with visual impairments are helped by brief **explanations of** what is visible in informative **graphics.** The currently **visible** page should be verbalized by indicating the **page number of** the presentation or literature. Presentations by participants should also be digitally accessible when shared.

When using **flip charts** or **whiteboards,** write **large and clearly** and try to have them **face the audience** for participants with hearing impairments.

If technical aids are needed to assist with accessibility, contact the Student with Disabilities Representative.

A short 5-minute break helps the continued following of a 90-minute course. Use this time for a short airing.

3. Follow-up

Provide the participants with newly created and modified **materials,** and the **discussion protocol** after the course (on the learning platform) digitally accessible.
Take into account the **rights** received from the participants regarding **sharing**.
Review and consider content for **copyright** before sharing materials.
Ask yourself the following question: Can all participants use the event's offerings without outside help?

Inclusion starts in the head!

Digital accessibility enables the participation of a wider range of users, improves the transfer of information and communication among them.

Source: https://www.uni-potsdam.de/de/digitale-barrierefreiheit/barrierefreie-lehrveranstaltungen/checkliste-lehrveranstaltungen

2. Checklist for creating accessible PDF documents from PowerPoint

TECHNISCHE UNIVERSITÄT CHEMNITZ

Accessible PDF documents: Formatting hints

Checklist for creating accessible PDF documents from PowerPoint

Detailed instructions: Link to the instructions for formatting in PowerPoint For questions and problems: support@hrz.tu-chemnitz.de

- Each slide needs a **slide title**, which is created with the title master provided in the template (not as a text field). The slide title should be unique and duplications should be avoided, as this is important for navigation. A check is possible via the outline view.
- Each object (images, diagrams, logos, photos, etc.) on a slide needs an **alternative text** to concisely describe its purpose and content. This is done by right-clicking on the object and "Format graphic/diagram area" by entering it under "Description". Alternatively, an object can be marked as decorative, i.e. only if it conveys information, an alternative text is necessary.
- **Links** must be activated (blue marking). For better accessibility, information about the link purpose should be provided under "Text to be displayed" in the "Edit hyperlink" dialog (see example above) instead of just copying the www address. The tooltip is also mandatory and contains a short description about the link for the mouseover effect).
- **Language changes** (e.g., English-language words or quotes in other languages) must be marked so that speech output systems read these passages correctly.
- All content elements on a slide are stored in a specific order and read out in this order by a speech output system. If new content is inserted on a slide at a later point in time during creation (e.g. a text field), it is stored at the end of the sequence. Therefore, the **sequence of the content elements** must be checked and changed finally: This is done in the "Start" tab > Arrange under "Drawing" > Selection area. The lowest element is read out first, the top element last! Accordingly, the object that is to be read out first (e.g. the slide title) must therefore be at the bottom of the list. The reading order can be changed by positioning the corresponding element correctly with the two arrow keys.
- The presentation needs a **document title**. This information helps users of a speech output to find and assign files. This is done in the "File" tab under Information, where a meaningful title is entered under the "Properties" area on the right side.
- Finally, **the** PowerPoint presentation should be **checked for accessibility**: Go here in the "File" tab > "Information" > "Check for problems" > "Check accessibility". Errors (must be corrected), warnings as well as hints for improving accessibility are displayed.

Text content		
1	All important information is included in the text.	
2	Only descriptive headings are used.	
3	Paragraphs are short and there is little text on each page. With longer texts, there is a table of contents of the topics at the beginning.	
4	Consistent fonts are used throughout the content. The fonts used are clear, sufficiently spread and easy to read. Tip: Verdana is very good for the text and Trebushet MS for the Headings	
5	No punctuation marks are used at the end of headings, list headings, etc. (Some screen readers "stumble" over this and do not continue reading the following text).	
6	The text is left-aligned. (Centered text or justified text is harder to read).	
7	For all lists consisting of more than three items, numbers and no other bullets are used.	
8	All relevant links are listed at the end of a paragraph or section so that learners do not have to read the entire text to find the links.	
9	It was written according to the Plain English Campaign style model to maintain clear, concise, dyslexia-friendly text and avoid the overly formal style of business traffic.	

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Colors & Backgrounds		
10	There is a good contrast between background color and text color, and the Users can select the background color.	
11	Color is not the only element in the presentation of information. (Learners with certain visual impairments cannot absorb the information conveyed by color). Tip: Both color and text content can be used next to the element to be described, for example, like this: "Press the red button next to the word 'Record'".	
12	No textured or patterned backgrounds are used, and no background images.	

Images		
13	Descriptive titles and brief descriptions are provided for all figures.	
14	All large illustrations are also available in a smaller format[6].	

[6] Large images: File size > 200KB or resolution > 72dpi or at least one edge length > 800

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Multimedia (video, audio, animations, etc.)		
15	All videos and animations have short text descriptions or links to transcripts right next to them.	

16	No flashing text, distracting sounds, or videos with flashing content are used[7]. No animated or moving graphics are used unless they are necessary to illustrate important information. In this case, an animation will start only when clicked; transitions within the animation should be slow.	
17	No background music is used unless learners can choose to turn it on.	
18	Activities with time limits are avoided unless learners can turn off or change the time limit.	
19	For all content that starts automatically, there is an option to stop it, to pause or hide.	

[7] Videos with a higher blink rate than 3 per second have been shown to trigger seizures.

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Websites		
20	Any web functionality can be controlled by the keyboard.	
21	There is text-to-speech functionality on the website.	
22	There are descriptive titles for all web pages.	
23	There are consistent and predictable layouts and formats for all pages of a Website. There are also a number of predefined view variations for both high and low contrast from which learners can select their preferred views. Technical tip: Use cascaded stylesheets to define Headings, bullet formatting, color schemes, etc.	

24	The website is easy to navigate, there are small icons for each of the main pages, provided with short alternative text. It is also possible to navigate by keyboard. Technical tip: Instead of alternative text you can also use the 'alt" tag.	
25	There are no components that would require significant changes to the content of would cause, that could lead to the disorientation of the learners.	
26	There is the possibility for the learners, who can find on many websites to hide the repetitive side navigation bars.	

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27	The language used is explicitly defined programmatically for each individual website so that it can be recognized by screen readers. Any parts of a website in other languages are also defined accordingly. Technical tip: For example, use the HTML tag lang="en".	
28	The use of correct and complete HTML code has been verified. Technical Tips: Check for, unique ids, duplicate attributes, complete tags, etc. Use an automatic tool for this, for example http://validator.w3.org/.	
29	Frames are avoided. If they have been used anyway, there is an alternative without frames.	
30	The use of CAPTCHAs is reduced to the minimum. When using them, their purpose is described in the text and there is more than one way to use them, for example, image and sound CAPTCHA).	
31	For embedded content - Flash videos, for example - there are clear instructions, how to return to the main content of the page.	
32	Longer articles on a topic are presented on a single web page for easier printing and offline reading.	
33	For websites that require user input, there are detailed instructions, and in case of input errors, there are detailed explanations in text form that describe the errors and also what to do to fix the errors. Tip: Instructions must not only address sensory characteristics. Example: Instead of "To get to the next section, click the blue button", write: "To get to the next section, click the blue button that says 'next'".	

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Conclusion - Our recommendations

① Mindset: Disability is ONLY ONE FACTOR of Diversity
⇒ make studying successfull for EVERYBODY
} Text 1 29th June 2022

② Get familiar with
Forms of Impairment
and Recommendations for Action
} Texts
Expert Method
28th June 2022

③ Create structural accessibility
(aids, tools, audio, tachile materials etc.)

④ Keep your curriculum content!
Use what you already have!

⊕ 1. Adapt
your materials
e.g. WDAG-Checklist
or PowerPoint Checklist
(Texts 3+4 29 June 2022)

⊕ 2. Adapt your
classroom
- introduce rules
for communication
- have breaks etc.
(Text 2 29 June 2022)

⊕ 3. Apply Universal
Design for Learning
Guidelines in
your lessons
(30th June 2022)

⊕ 4. Add elements
of SoL to your teaching
eg. · Can-Do-List
· Sorting/Structuring Task
· Expert Method
⋮
↓
Communication
Collaboration
Critical thinking
Creativity
(PPP SoL)

+ 5. Adapt your exams
- time
- breaks
- various forms (large font, tachile etc.)
- Focus on competences rather than
on mere knowledge
- Remember "Learning"
Reproduction + Reorganisation + Transfer + Problem Solving

Project No.: 618103-EPP-1-2020-1-PS-EPPKA2-CBHE-JP

Edu4ALL

Disability as diversity: The inclusion of students with disabilities in higher education

Training Materials: Studying with Disabilities and Chronic Illnesses - Information and Didactic Advice for Teachers

Studying with Disabilities and Chronic Illnesses - Information and Didactic Advice for Teachers

Students with disabilities and chronic diseases

In 2012, as part of the 20th Social Survey of the German Student Union, 7% of all students stated that they were restricted in their studies by a health impairment. One in four of them even felt very strongly impaired in their studies. The largest proportion of students with impairments that make studying difficult are students with mental illnesses (42%), followed by students with chronic somatic illnesses (34%). Students with impairments that make studying more difficult can be found in all disciplines. They are all dependent on disadvantage compensation and support.

These numbers make it likely that every higher education faculty member will, at one time or another, teach students with disabilities and chronic illnesses.

However, students with disabilities and chronic illnesses are often not perceived as students with special needs; this is especially true if their impairment is not directly visible, for example, they are hearing impaired or suffer from an internal illness. However, the fact that an impairment is not visible does not mean that students have the same opportunities for regular academic progress as their non-impaired peers. For example, a hearing-impaired student may not register important information in seminars, and a visually-impaired student may not be able to recognize a blackboard image because of the small font. The limitations vary greatly from individual to individual.

Signal readiness for support

In order to support students with disabilities and chronic illnesses in courses, it is particularly important that the instructor indicates a willingness to address any special needs that may exist and encourages students to express their respective needs. This can take the form of a brief note at the beginning of the first course of the semester, for example. If instructors offer in the course that students with disabilities and chronic illnesses can tell them about their needs in conversations following the course or in a office hours to communicate their special needs, this preserves student privacy and provides an opportunity to discuss needs on an individual basis.

In such a discussion, the students can show the lecturer what - often very simple - measures can be taken to improve the learning and working situation. Students with disabilities and chronic illnesses are best able to provide information about the limitations they experience, and they are experts in finding the best way to compensate for disadvantages. If certain problems arise that cannot be solved within this framework, the following can be done
The representatives for students with disabilities and chronic illnesses at the

universities may be able to help, for example, if the university administration has not provided a suitable, accessible room for the event. Some universities also have special counseling centers for students with disabilities and chronic illnesses that can help with problems.

Obstruction due to structures of the university environment

The limitations of students with disabilities and chronic illnesses in everyday university life and thus their special needs often result solely from the way in which the 'university lifeworld' is structured. For example, the course of study of students who use a wheelchair to get around is not impaired by the fact that they cannot cope with the demands of study, but rather by the fact that they cannot reach the seminar room, for example, due to a lack of an elevator, or cannot visit a certain section of the library because the door is too narrow. Similarly, hearing-impaired students are not able to attend certain lectures and seminars if there is not a sufficient number of trained sign language interpreters available.

Such structural environmental limitations prevent equal opportunities for students with disabilities and chronic illnesses from being realized. However, with the support of faculty, many of these limitations can be limited and the measures taken to address the concerns of students with disabilities and chronic illnesses at the university help to ensure that further steps are taken toward equal opportunity for all students.

In the following, some measures will be pointed out by which the learning situation of all students can be improved, but which, especially for students with disabilities and chronic diseases, are partly indispensable conditions for the successful completion of a study program.

Literature lists / Paper topics

For all students, having the literature lists and paper topics for seminars and lectures available as early as possible is important. For blind and visually impaired students, however, who need to have their literature converted into a form they can read before it is processed, this is a necessary condition for the course to be successful.

They will only be able to carry out seminar preparation and seminar work optimally if they know in good time which books they need to have converted, since the conversion of literature into Braille or large print, the reading of texts or the scanning of materials takes a lot of time. In some cases, copyright issues even have to be clarified with publishers and authors. The compiled and announced literature should therefore not be changed at short notice, because blind and visually impaired students would be disadvantaged in the procurement of literature. Since blind and visually impaired students are already used to dealing with texts and literature from their entire schooling, they have developed working techniques to make the necessary information accessible to them. However, the use of these techniques is only possible if the students have the required literature in time.

Other students who require longer processing times, such as students with certain chronic illnesses or certain physical disabilities, also rely on timely notification of literature to be processed and unit topics.

Early announcement is also necessary for hearing-impaired students, as they rely more heavily than other students on preparing for classes to avoid missing important information in lectures and seminars, as unfamiliar vocabulary and technical terms present greater difficulties in understanding for them than for students without hearing impairments.

Written materials

Written materials for lectures and seminars - such as lecture notes or detailed thesis papers - make it easier for students to prepare for and follow up on courses. This is especially important for students who have writing difficulties due to a physical impairment or illness and for deaf and hearing-impaired students.

In lectures and seminars, deaf students usually work with sign language interpreters who translate oral communication into the language of the deaf, which in German-speaking countries is mainly German Sign Language. However, it is not possible for the deaf students to follow the visual signs of the sign language interpreters and sign language interpreters at the same time as taking a transcript of the lesson. Therefore, they need transcripts, which are partly provided against payment by study aides and study assistants, often fellow students from the same or higher semesters.

Especially when highly specialized vocabulary is used in lectures, the work of the sign language interpreters and the understanding of the deaf students is facilitated by materials provided by the lecturers at an early stage, since the unknown terms - and thus also corresponding signs - can be clarified before the event. Just as interpreters for English or French need to prepare for their respective assignments, so too do sign language interpreters. Written materials provided by the instructors can assist the sign language interpreter in working for the deaf students. In addition, deaf students become more independent of the quality of transcripts and translations.

For hearing-impaired students, written materials provide an opportunity to review issues not acoustically understood in class and, if the materials are available before the class, to better prepare for class so that acoustical difficulties are less of an issue.

For blind and visually impaired students, it is a significant help if lecture notes, thesis papers, etc. are made available on data carriers. Computers with special output devices allow them fast and equal access to all materials presented in barrier-free digital form. Thesis papers for seminar sessions should ideally be made available in a seminar folder or similar a few days before the relevant session so that blind and visually impaired students have the opportunity to convert the documents into a form they can read before the event so that they can use the text during the event in the same way as non-visually impaired students.

Spatial requirements

The rooms in which lectures and seminars take place should be accessible to all students, as should the seminar and university libraries. For mobility-impaired students, however, the problem at most universities is that certain rooms are not accessible to them or are only accessible with extreme difficulty. This can be the case, for example, if there are no ramps or elevators or if the door frames are too narrow for wheelchair-using students or students with walking disabilities.

For students who use wheelchairs, free-standing tables of sufficient height that can

be moved under with a wheelchair are much more convenient than fixed rows of chairs and tables, which they may not be able to use. In lecture halls with fixed rows of chairs and tables, there should at least be a sufficient free area as a standing area for wheelchair-using students that is accessible by wheelchair.

In the case that mobility-impaired students can only reach event rooms with great difficulty or not at all, lecturers should therefore be prepared to change the seminar or lecture room. If mobility-impaired students arrive late for the lecture, this is often due to detours that have to be made between different lecture and seminar rooms for wheelchair-using students, for example if there is no elevator in individual parts of the building or if necessary entrance ramps are missing.

For students with sensory impairments, good lighting in the event rooms is important. Care should therefore be taken to ensure that the lighting is switched on as required. On the one hand, this serves to make it easier for visually impaired students to recognize blackboard images and take notes, but on the other hand, it also enables hearing-impaired students to read the lips of lecturers and fellow students more easily.

If a microphone is available to provide a broadcast of the lecture or talk, this should be used in large rooms to provide better intelligibility of the lecture for hearing-impaired students.

Laboratories

In no case should it be assumed that certain exercises or seminars characterized by practical work in the laboratory cannot be successfully taken by students with disabilities and chronic diseases. People with disabilities and chronic illnesses pursue academic careers in the natural sciences, often even without or with little additional equipment, since their activities often do not require the manual performance of experiments. Therefore, students with disabilities and chronic illnesses should not be denied the opportunity to qualify for such occupations.

With the help of technical aids and study assistants, even severely physically disabled and sensory impaired students can perform laboratory work. How participation in such courses can be organized in such a way that the impaired student benefits from the course in the best possible way can be discussed by the lecturers with the students.

Excursions

If field trips are associated with a course, mobility impaired and blind and visually impaired students should be involved in the selection of field trip destinations and transportation options so that their needs can be accommodated.

Lecture

During oral presentations in lectures and seminars, it is important for all students that the lecturer speaks particularly clearly. Hearing-impaired students often sit in the front seats of lectures not only for acoustic reasons, but also to be able to read the lecturer's lips better.

In any case, it is necessary that the teachers do not speak with their backs to the students. This often happens, for example, when explaining board pictures, or while

writing on the board. For deaf students who use sign language interpreters, it is also more beneficial if the speed of speech is not too high, otherwise problems with translation may occur. In order to be able to read lips, hearing-impaired students are also dependent on the lecturer not standing directly in front of the window or other light sources if possible, as then the face is in shadow and lip movement and facial expression are difficult to perceive.

When questions or contributions come from the audience during lectures, it is important for hearing-impaired students that the speaker repeats the question or comment again so that the hearing-impaired students can follow the discussion. Especially in large rooms, where the lecture is also transmitted via microphone, this is also essential in the interest of all other students.

Blind and visually impaired students run into an information deficit where blackboard pictures and graphics are used. They benefit considerably if the contents of the resulting blackboard pictures and at least the statements of the graphics used are verbalized by the lecturer.

Discussions / Seminar events

In discussions and seminar events, deaf and hearing-impaired students are mostly at a severe disadvantage. On the one hand, the translation of the sign language interpreters is slightly delayed compared to the course of the seminar. As a result, deaf students may be delayed in speaking. In addition, problems arise from the fact that the participants often do not speak loudly and clearly enough and sometimes do not wait until the previous speakers have spoken. This is extremely problematic for hearing-impaired students as well as for students who are dependent on the translation of the interpreters.

The lecturer should therefore make every effort to ensure that the discussion in the seminar is conducted in an orderly manner. This is ultimately not only in the interest of the hearing-impaired students, but also of all other students who feel bound to a fair style of discussion.

Problems also arise in discussion sessions for students who are speech impaired. These may be physical impairments of the vocal cords and respiratory system, but also about various forms of stuttering. Deaf students who communicate through speech may also be difficult for a new environment to understand at first because they cannot control intonation and volume in the same way as hearing students. All students should have the opportunity to finish speaking without being interrupted. Under no circumstances should an attempt be made to complete sentences or words for the students involved. Lecturers support the students by guiding the discussion and making sure that these rules are observed.

While overall in seminars the addressing of students by name by the lecturers can help to improve the seminar atmosphere, severely visually impaired and blind students depend on being addressed directly by name.

When deaf students participate in a seminar with a sign language interpreter, seminar participants should always look at the students themselves when talking, not at the interpreter. Not only is it polite but it allows the deaf student to make eye contact of their own choosing. Also, care should be taken in seminars to make eye contact before addressing hearing impaired students.

Overall, all students will benefit if the most important discussion results are summarized in writing, for example on the board, on transparencies, or on a laptop. For hearing-impaired students, these summaries are particularly valuable and can help compensate for acoustic disadvantages.

Use of didactic aids

In lectures and seminars, teachers use various didactic aids that make it easier for all students to absorb the material. Students with disabilities and chronic illnesses can particularly benefit from this, as long as the media are used in a user-friendly manner: The use of media such as blackboards, presentations and flip charts makes it easier for hearing-impaired students to absorb the material being taught. This is especially true for all those types of projection that allow the lecturer to remain facing the students even while writing, so that hearing-impaired students can continue to lip-read. In particular, important dates should also be listed in some form of writing to ensure that all students receive the information.

However, such visual aids cannot replace the lecturer's explanations, but should support them. Teachers and students should always describe diagrams, tables, etc. for fellow students with visual impairments so that no necessary information is lost. When instructors refer to information that on the board or screen, it is important to verbalize them again, i.e. not to say: "This" and "What you see here, ..." and "There". Not only do visually impaired students benefit from verbalization, but connections become clearer for all other students. Possibly other students can be called upon to describe the pictures and in this way also show their understanding of the relationships presented. The font for blackboard pictures and slides should be sufficiently large.

However, if deaf students attend with sign language interpreters, they should also be given time to look at charts and tables without speaking at the same time, since deaf students cannot look at the chart and follow a conversation or translation at the same time.

If available, films that are shown should be subtitled to enable hearing-impaired students to pick up the words spoken in the film. If blind or severely visually impaired students are in a class, it may be possible, if important information is conveyed through the image alone, to discuss it again following the screening, verbalizing what has been seen.

Student aids

Teachers should be comfortable supporting students with disabilities and chronic illnesses through the use of assistive technology devices that students bring with them. These may include, for example, microport devices, i.e., portable transmitter/receiver devices that connect to a hearing aid and amplify spoken language for hearing-impaired individuals. Hearing-impaired students using such systems rely on the instructor to wear the transmitter device with the microphone. Noise generated by the use of assistive devices, such as portable computers used by visually impaired students, should also be tolerated.

Exams

In order to ensure equal opportunities, it may be necessary for lecturers to grant individual disadvantage compensation to students with disabilities and chronic illnesses in examinations. Such disadvantage compensation is already provided for in many state examinations and is also included in the General Examination Regulations.

However, in addition to exam examinations, it should also be possible to discuss disadvantage compensation on an individual basis as early as semester examinations, when preparing term papers, and during oral midterm examinations.

For example, a different form of examination may be administered as a compensation for disadvantage: for hearing-impaired and speech-impaired students, for example, a written examination may be administered instead of an oral examination; for blind and severely visually impaired students an oral examination instead of a written examination.

In addition, the use of technical aids can help compensate for disadvantages. This is the case, for example, when visually impaired students are allowed to use a computer to write their exams. In some cases it is important that students are allowed to use their own computer, since the equipment of computers varies greatly and additional problems may arise for the students with an unfamiliar computer. If the use of certain reference works is generally permitted in examinations, blind and visually impaired students should be able to use these reference works on data carriers.

Students with physical impairments and chronic illnesses may require time extensions on exams due to writing difficulties in order to have the same opportunity on the exam as their non-disabled peers. Students with sensory impairments may also require time extensions on exams. Students with motor or sensory impairments may not be able to complete assignments and papers in the same amount of time as other students, as literature research and editing may take longer due to the impairment.

Students with reading/spelling disabilities may also need compensatory accommodations. With this form of disability, errors occur when recording and/or writing texts. They should not be taken as an indication of poor intellectual ability on the part of the writer. If necessary, an extension of time may be required for these students to compensate for the difficulties in recording and/or drafting text. Also, oral examinations or possibly the use of a computer with a spelling aid may serve to compensate for disadvantage.

Difficulties with composing written texts may also be experienced by deaf students. For people who are deaf since birth or deafened before language acquisition, German is not a native language, but is learned as a first foreign language. Certain grammatical subtleties of expression are therefore sometimes not inherent to deaf students. Corresponding errors, just as in the case of students with reading/spelling difficulties, do not indicate a lack of intellectual ability, but arise in a similar way to errors that someone with a very good knowledge of a foreign language would also make in that language. They should therefore be corrected, but without being grounds for a general devaluation of the student's performance.

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Edu4ALL

Disability as diversity: The inclusion of students with disabilities in higher education

Training Materials: Forms of impairment and recommendations for action

3 Forms of impairment and recommendations for action

3.1 Mental illness

Mental illnesses relate to a person's behavior and experience, the latter affecting, for example, the areas of perception, attention, feelings, thinking, learning and memory. However, not every deviation in behavior or in what is considered normal experience is to be classified as a pathological mental disorder, and the individual level of suffering can also be very different. When mental disorders manifest themselves, they should be treated therapeutically. Their course can be phasic
mental illnesses thus often occur episodically. Mental illnesses are often not visible to teachers and are associated with very different symptoms. These include difficulty concentrating, lack of drive, loss of interest, reduced performance, avoidance behavior, social withdrawal, and even loss of reality. Side effects of medication are also conceivable causes.

Mental illnesses are often experienced as doubly limiting, on the one hand because of the respective personal symptoms, and on the other hand because of stigmatization and exclusion. "Stereotypes about mental illnesses are widespread in the general population, distance is generally established from people with mental illnesses, and people do not talk about their own mental illnesses" (Gaebel/Ahrens/Schlamann 2010, p. 4). There are many reservations and prejudices, such as mentally ill people are self-inflicted, weak in character or unstable; moreover, stereotypes can be erroneous or distorted. This not only affects the course of the illness, but also prevents an open approach or early recognition and, not least, can lead to discrimination. It should be emphasized that mentally ill students are generally capable of taking up and completing a course of study.

Examples of mental illnesses include:

- Adjustment disorder: reaction to certain stressful life events or life changes, which is accompanied by affective symptoms or abnormalities in social behavior; other phenomena may develop from it
- Affective disorder: clinically significant change in mood and drive, including, for example, manic episode, depressive episode, bipolar disorder, recurrent depressive disorder.
- Phobic disorder and other anxiety disorder (including social phobia, panic disorder, agoraphobia): disproportionate fear of certain objects or situations.

Source: Barrierefrei lehren - barrierefrei studieren. Ein Leitfaden für Lehrende zum Thema "Studierende mit Beeinträchtigungen". Technische Universität Chemnitz. 2019.

- Addiction: psychological and/or physical dependence on psychotropic substances (e.g. alcohol, tobacco, opioids, cannabinoids).
- Obsessive-compulsive disorder: persistently recurring, unwanted obsessive thoughts or actions (e.g. cleaning and washing compulsion, control compulsion, repetition and counting compulsion, order compulsion, collection compulsion).
- Behavioral disorder with physical disorders and factors: e.g. eating disorder (anorexia nervosa/anorexia, bulimia, etc.)
- Schizophrenia, schizotypal or delusional disorder with delusions, loss of reality, auditory hallucinations, thought disorders, or sensory delusions
- Somatoform disorder: persistent medical complaints for which no physical cause could be determined by medical examinations (pain, dizziness, digestive or respiratory problems, etc.).

During acute phases, it is often not possible for mentally ill students to continue their studies appropriately, attend classes and perform. Many generally have less energy and little drive to study during these phases of deterioration. In addition, the ability to concentrate is impaired and mood swings are highly prevalent. Students with mental disorders are less able to cope with change and are less able to cope with stress, especially in acute stress situations; exam periods therefore represent a risk factor for an acute phase.

Generally valid recommendations for action cannot be formulated due to the different disturbance patterns and the concrete personal symptoms. It is important that you as teachers do not make a diagnosis and are in no way trained for or responsible for therapeutic measures.

<u>Opportunities for support at a glance:</u>

1. Be as discreet as possible and respect the fact that many students are reluctant to talk openly about their illness and problems. Take psychological impairments seriously, react without prejudice and avoid negative stereotypes or trivialization ("that's no reason..."; "it'll be okay").
2. Due to the different types and manifestations of mental illness, a personal, confidential discussion is recommended if certain behaviors seem conspicuous to you (tears during office hours, blackouts, long processing times). Be specific in naming what you have noticed. Ask guardedly if you are unfamiliar with a particular

mental health disorder but maintain privacy. Signal understanding and avoid accusations. Anticipate that there will be students who refuse to talk, are embarrassed, or do not want to open up.

3. Make students aware of disadvantage compensation for examinations, which is approved by the examination board of the degree program under certain conditions (cf. section 5). These can be, for example, separate examination rooms, time extensions for homework or final papers, or flexible examination dates.

4. Offer students your support in terms of study skills and strive for individual (study organization) solutions. In doing so, stay in your role as a teacher, i.e. do not offer courses that are beyond your capabilities or that overburden you. Through encouragement and semester planning in small steps and realistic goals, students can regain confidence and overcome isolation. Refer students to other professional counseling services (see Section 8).

5. Enable a gradual re-entry after a longer interruption of studies due to therapies or hospitalization. This includes an individual study schedule or the offer of special tutorials for the follow-up of courses.

Provide teaching materials and literature lists. These make it easier for students to prepare for and follow up on missed courses. Clear structuring of courses (dates, outline, deadlines, summary) and transparent performance expectations for exams also help students.

Excursus: What to do in case of acute danger to self or others (suicide, amok, violence)?

An important threat with an urgent need for action exists in the case of concrete announcements, intentions, preparations and actions aimed at inflicting violence on oneself or others. General feelings of anger, annoyance, disappointment, weariness of life, senselessness, hopelessness, which are not accompanied by concrete ideas and possibilities of implementation, are to be distinguished from this.

If in doubt, ask directly whether and to what extent there are concrete suicidal or violent intentions and to what extent preparations have already been made to carry them out (How?, Where?, When?). Clearly state your concern by name. In general, the more concrete and realizable the thoughts, the greater the danger and the greater the need for action. If you have the impression that a student is about to kill/harm him/herself or others, call 911.

Source: Psychotherapeutic Counseling Center for Students, Studierendenwerk Karlsruhe, www.sw-ka.de/en/beratung/psychologisch/psychotherapeutische_beratungsstelle_karlsruhe/informationstexte/

Source: Barrierefrei lehren - barrierefrei studieren. Ein Leitfaden für Lehrende zum Thema "Studierende mit Beeinträchtigungen". Technische Universität Chemnitz. 2019.

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3.2 Chronic somatic diseases

Chronic somatic diseases are physical illnesses that persist permanently or for a longer period of time. The illness can be episodic or uniform. They are also usually not visible to outsiders and can also trigger prejudice and stigmatization.
Examples of chronic somatic diseases are:

- Allergy
- Respiratory disease (e.g. asthma)
- Epilepsy
- Diseases of the musculoskeletal system
- Skin disease
- Cardiovascular disease (e.g. hypertension)
- Paralysis(s)
- chronic lung disease
- Gastrointestinal disease (e.g. Crohn's disease, ulcerative colitis)
- Multiple sclerosis
- Muscle disease
- Rheumatism
- Thyroid disease
- chronic pain
- Metabolic disorder (e.g. diabetes)
- Tumor disease
- Central nervous system

Accordingly, there are a large number of chronic-somatic illnesses with very different effects on everyday study life, which occur permanently or in particular during an illness flare-up. Also possible, for example, are mood fluctuations and side effects of medication. In addition, affected individuals are usually restricted in their course of study, as they have to adapt their daily study routine to their special life situation. This may include time-consuming doctor's visits or hospital stays or a special diet.Students are also frequently tied to (specialist) doctor's appointments. This can make regular attendance at courses difficult to implement due to illness. In some cases, interruptions to studies are also necessary, for example during hospital stays (operations, etc.) or therapy measures.

Source: Barrierefrei lehren - barrierefrei studieren. Ein Leitfaden für Lehrende zum Thema "Studierende mit Beeinträchtigungen". Technische Universität Chemnitz. 2019.

It may be difficult to participate in internships or field trips on certain dates.
In addition, medications may need to be taken regularly, students may need regular rest breaks in their daily routine, or they may need to use the restroom more frequently - and they may need to do so during classes or exams. Since the illnesses are often very strenuous and require a lot of energy, the ability to concentrate and pay attention, as well as performance and learning speed, may be (temporarily) reduced. Likewise, due to the course of the disease and due to acute phases of the chronic disease, exam dates may be canceled at short notice.

Opportunities for support at a glance:

1. Offer students your support in terms of study skills and make an effort to find individual (study-organizational) solutions in a personal conversation. In doing so, stay in your role as a teacher, i.e. refrain from making offers that are beyond your capabilities or that overburden yourself. Through encouragement and semester planning in small steps and realistic goals, students can regain confidence and achieve study goals. Refer students to other professional counseling services.
2. Make students aware of disadvantage compensation for examinations, which is approved under certain conditions by the examination board of the degree program. These can be, for example, breaks in examinations, flexible or individual examination dates or time extensions for homework or final papers.
3. Enable a gradual re-entry after a longer interruption of studies due to therapies or hospitalization. This includes an individual study schedule or the offer of special tutorials for the follow-up of courses.

Finally, it is important to note that students with chronic illnesses may find it uncomfortable and very emotional to talk about the illness and its accompanying symptoms at all. Just as with mentally ill students, chronically ill students also find themselves in a dilemma: in order to reconcile their studies and their illness, it is often necessary to talk to teachers, advisors or administrative staff (individual solutions, compensation for disadvantages), but at the same time they fear negative consequences or a lack of understanding. It is therefore fundamental that teachers, among others, show a confidential, sensitive and objective approach to chronically ill students. Students should be encouraged to be able to communicate their personal situation without fear. Support and advice is dependent on this first step by the students!

Source: Barrierefrei lehren - barrierefrei studieren. Ein Leitfaden für Lehrende zum Thema "Studierende mit Beeinträchtigungen". Technische Universität Chemnitz. 2019.

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3.3 Movement and mobility impairments

People with mobility impairments are usually limited in their mobility, dexterity and/or endurance. The impairment or disability relates to specific parts of the body and does not always have to be visible.

Examples of movement and mobility impairments:

- Spinal affections, these include spinal changes and diseases
- Paresis or plegia (paralysis)
- Dsymelia: such as amelia (missing an entire limb from birth), phocomelia (malformation of the hands or feet), or amputation of limbs.
- Muscle diseases such as muscle atrophy (muscle wasting), among others.
- Neurological diseases, including multiple sclerosis, Crohn's disease, Parkinson's disease, polyneuropathy, etc.
- Osteoarthritis (degenerative joint disease)
- Arthritis (inflammatory joint disease)

Students with mobility impairments primarily have problems with structural barriers related to steps or stairs, uneven or smooth surfaces, or inclines. Defective elevators, lack of automatic door openers or doors that are difficult to open, long distances between venues, movement areas that are too small, narrow or blocked hallways and rooms, or lack of ramps at entrances can present difficulties. Some students use wheelchairs, walkers, or prosthetic devices, but this does not affect all mobility-impaired students.

In some cases, there are also motor restrictions due to the movement impairment. For example, taking notes in lectures, writing exams and term papers, giving presentations or working in laboratories can be problematic. Sitting for long periods (e.g. in the library or in a course) can cause pain.

<u>Opportunities for support at a glance:</u>

1. Make sure your office is accessible. If necessary, inform students in wheelchairs about the best way to get to you (elevator, etc.). Organize an alternative room if your office is not accessible by wheelchair.

Source: Barrierefrei lehren - barrierefrei studieren. Ein Leitfaden für Lehrende zum Thema "Studierende mit Beeinträchtigungen". Technische Universität Chemnitz. 2019.

2. Provide relevant literature early, as obtaining it from the library can be difficult for students who are mobility impaired.
3. Accept the use of technological aids (laptop for transcripts) and a writing assistant as needed in courses and exams. Allow group work, as fellow students can then support each other.
4. Make students aware of disadvantage compensations for examination performances, which are approved by the examination board of the study program under certain conditions (cf. section 5). These can be, for example, writing extensions for exams or breaks that are not counted towards the processing time.

Talk to students to find out if you need help and how you can specifically support them.

Source: Barrierefrei lehren - barrierefrei studieren. Ein Leitfaden für Lehrende zum Thema "Studierende mit Beeinträchtigungen". Technische Universität Chemnitz. 2019.

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3.4 Hearing impairment and deafness

Students may be deaf, deafened or hard of hearing. Depending on the degree and onset of hearing impairment, speech may also be impaired. In the case of hearing impairment, there are gradations depending on the residual hearing capacity, which is assessed medically and in terms of pension law (official determination of the degree of disability).

Examples of hearing impairments:

- Deafness refers to a hearing loss of more than 120 dB (no hearing), which is congenital or hearing was lost before the acquisition of speech in the first years of life.
- In the case of (late) deafness, hearing was lost at a later age, for example due to an injury to the eardrum or a hearing loss. They were able to learn the spoken and written language before deafness (postlingual hearing loss).
- Residual hearing loss is a hearing loss of about 90 decibels or more (a hearing loss bordering on deafness).
- A distinction is made between conductive hearing loss, sensorineural hearing loss and combined hearing loss. The degree of hearing loss is classified as follows (see https://www.hno-aerzte-im-netz.de/krankheiten/schwerhoerigkeit/stadien-der-schwerhoerigkeit.html):

- Low-grade hearing loss (deviation above 20 dB, i.e., the ticking of a wristwatch or the rustling of leaves, for example, can no longer be perceived acoustically. The affected person can only hear sounds with a sound intensity of 25 to 40 dB).
- Moderate hearing loss (from a hearing loss of 40 dB, this corresponds approximately to the basic sounds in residential areas. The affected person can only hear sounds with a sound intensity of 40 to 60 dB).
- profound hearing loss (occurs at a minimum of 60 dB, a conversation partner at normal speaking volume can no longer be heard)

For students with a hearing impairment or deafness communication poses the greatest challenge in everyday study. The language of hearing-impaired, especially deaf students is sign language. Their most important sensory organ is then usually the sense of sight. The spoken language is partly learned like a foreign language by

reading lip movements. As a result, the vocabulary is often smaller and spoken as well as written language can be faulty. For deafened students, their ability to speak depends strongly on the time of their hearing loss. The later a person becomes deaf, the more undisturbed language acquisition can be. For deaf students, spoken language may be the preferred means of communication. Students who are hard of hearing usually do not simply hear more quietly, but hear differently. They may hear distorted, only certain pitches, or fragmented. Hearing aids often compensate for this only to a limited extent, and hearing remains altered. Similar to deaf students, hearing-impaired students also frequently use spoken language as a means of communication. Inadequate acoustic transmission of information (too quiet, too unclear, too fast, in dialect, etc.); information that is too complicated and/or too long; lack of visual information; lack of technical aids (microphones, induction systems, FM transmission systems) and lack of communication aids (sign language interpreters, written interpreters) can generally prove to be problematic.

Hearing impairments particularly affect the perception of acoustic information. During their studies, hearing-impaired students have difficulties following lectures, presentations, conversations or discussions within a lecture or seminar because they have to maintain eye contact with the person speaking or they are dependent on communication assistance or technical aids. In addition, you can hardly take notes. Students may not understand your questions correctly or incompletely, so announce questions ("I now have the following question for you...").

<u>Opportunities for support at a glance:</u>

1. Always face students when speaking, do not cover your face. Speak directly to students, even if sign language interpreters are present. Speak clearly, at a normal volume and medium pace. Use a microphone if possible. Check with students to make sure they understand you. Conversely, ask fellow students if a contribution by hearing-impaired students was understood, as their language may sound unfamiliar.
2. Support your verbal statements with gestures, visual information and written material (e.g. presentations). Always write key points, foreign or technical words on a blackboard, flipchart or similar. Make sure that acoustic material

(e.g., a film clip) is subtitled. Structure your event by providing interim summaries, orientations, and an overall summary.

3. Ensure good lighting and a quiet environment, minimize disturbing noises (close windows and doors, conversations, etc.). In seminars in particular, make sure that the seating is arranged in such a way that ideally everyone can make eye contact with each other. Otherwise, repeat contributions from the plenum. Ensure orderly discussions so that, for example, no two people speak at the same time.
4. Accept the use of assistive technology and communication aids (hearing aids, sign language or written interpreters) as needed in courses and exams. Report appropriate needs to the Inclusion Coordinator. Allow group work, as fellow students can then support each other.
5. Keep a written record of all relevant information and important announcements (e.g., deadlines).
6. Make students aware of disadvantage compensations for examination performances, which are approved by the examination board of the study program under certain conditions (cf. section 5). This can be, for example, the conversion of oral to written examinations or a writing extension for examinations (reduced written language competence, limited vocabulary).

Source: Barrierefrei lehren - barrierefrei studieren. Ein Leitfaden für Lehrende zum Thema "Studierende mit Beeinträchtigungen". Technische Universität Chemnitz. 2019.

3 Forms of impairment and recommendations for action

3.5 Partial performance disorders

A partial performance disorder is when deficits occur in individual performance areas despite sufficient intelligence and basic cognitive skills, regular support, and physical and mental health. This leads to certain learning disabilities or below-average performance and/or behavioral problems compared to the age norm. They are usually diagnosed in childhood (school years).

The following basic forms are distinguished:

- Reading and spelling disorder (dyslexia, especially impairment in the development of reading skills)
- Isolated spelling disorder (impairment in the development of spelling skills).
- Reading ability disorder (dyslexia, slow and non-fluent reading pace, comprehension problems of words or the text read).
- arithmetic disorder (dyscalculia, difficulties with basic arithmetic tasks and with regard to number and quantity comprehension, independent of mathematical-logical abilities)
- Combined academic skills disorder (disorders with significant impairment of numeracy, literacy, and spelling skills).
- Attention Deficit Hyperactivity Disorder (ADHD) or Attention Deficit Syndrome (ADD) as significant impairments in the ability to concentrate and sustained attention, impulse control disorders as well as hyperactivity or inner restlessness. This is often accompanied by problems with self-organization, an unsystematic way of working or a lack of sense of time.

Also, partial performance disorders are not directly visible to teachers and those affected often suffer from stigmatization. They simply often need more guidance and additional time for assignments and learning. In addition, the medication to be taken can have an impact on performance and behavior.

<u>Opportunities for support at a glance:</u>

1. Show understanding and interest in the student's problems. Keep in mind that students with reading and spelling difficulties read a text correctly, yet often cannot grasp the meaning or cannot grasp it as quickly.
2. Structure your course clearly and concisely (dates, outline, deadlines, summary), always provide guidance on content. Make short breaks as regular

as possible. Transparent performance expectations for exams help students. Ensure that the atmosphere during your course (and during exams) is as calm and non-stimulating as possible.

3. Give especially clear work orders and instructions. Another possibility are auditory formats (voice output, MP3), which would also be helpful for the visually impaired. Avoid long, complicated sentences. Write down important information, technical and foreign words in a clearly legible font. Read out text passages that are on your beamer presentation.
4. For blackboard images and worksheets, a clear, uncluttered typeface is recommended. In consultation with students, texts can be designed (text transposition in terms of font, font color, line spacing) to support reading and comprehension. Avoid exposures by having students come to the board (e.g., to recite) or read aloud.
5. Allow the use of technical aids in courses and exams. This includes the use of a laptop/PC (spell checker, voice input, read aloud function, etc.) or special software. Allow group work, as fellow students can then assist each other.
6. Make students aware of disadvantage compensation for examination performance, which is approved by the examination board of the degree program under certain conditions (cf. section 5). Dyslexia as well as dyscalculia have been confirmed as a disability by the jurisprudence on examination law, whereby it is not a matter of an impairment of the intellectual performance competences to be determined in examinations, but this merely concerns the ability to present knowledge and the technical implementation of the existing mental abilities. This can be, for example, an extension of time for examinations and homework or final papers, a separate examination room or the approval of aids (laptop with spell check function, calculator). Certain compensations for disadvantages are not granted if error-free spelling is part of the examination performance (e.g. English studies, English as a studied subject in the course of study for a teaching degree at elementary school). This applies analogously in the case of a calculation disorder, if the calculation performance is part of the examination performance (e.g. mathematics examinations in mechanical engineering courses).

Source: Barrierefrei lehren - barrierefrei studieren. Ein Leitfaden für Lehrende zum Thema "Studierende mit Beeinträchtigungen". Technische Universität Chemnitz. 2019.

3 Forms of impairment and recommendations for action

3.6 Visual impairment and blindness

It is also true for visual impairments that they are very diverse in their causes and manifestations and that they are also associated with an individually very different residual visual and perceptual capacity and coping strategies.
Visually impaired students have reduced vision or are blind. The most important sensory organs for them are the sense of hearing and the sense of touch, which vary in intensity depending on the time of blindness or visual impairment.

Examples of visual impairments:
These are uncorrectable visual impairments (caused by glasses, contact lenses) which are either congenital or due to an accident or disease affecting the optic nerve, retina, lens, cornea, etc.

- Blindness: vision is less than or equal to 2 percent (even one fiftieth, 1/50), affected persons can in fact see nothing, light perception may be present
- severely visually impaired is someone who has a visual acuity (Visus) of less than 5 to 2 percent
- Substantially visually impaired is someone who has a visual acuity of less than or equal to 10 percent.
- Visually impaired is defined as having less than or equal to 30 percent vision.

A central topic area is the local orientation on the university campus. Finding one's way around a new environment at the beginning of a course of study can take a lot of time for visually impaired students. Blind students need personal assistance here.
The second main aspect concerns the predominantly visually prepared teaching scripts and study materials. Visually impaired students must first convert all visual documents into a form they can work with. Various aids are available for this purpose, such as magnifying vision aids, programs for speech output, tactile Braille, etc. However, this requires a great deal of time in addition to the normal study requirements must be performed. An implementation of original documents concerns the reading aloud of text, text files as well as variants in large print or braille. Blind students use screen readers with speech output and/or text output, which is why special requirements for websites and accessible PDF documents (scripts, information) must be observed here. Since there is no or hardly

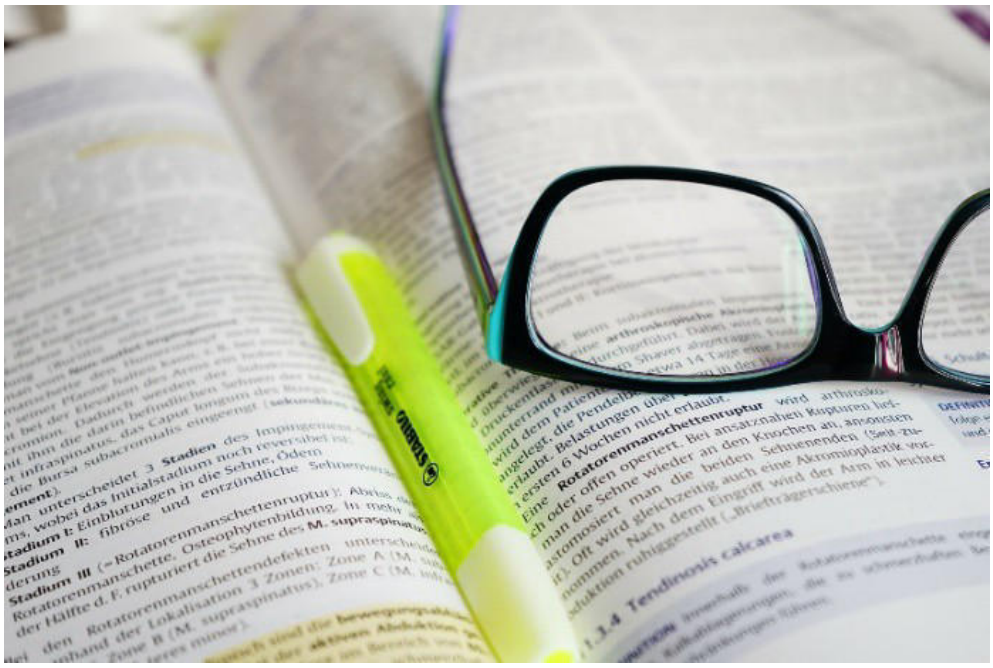
any visual perception, there are concrete difficulties for studying and everyday study. Among the greatest challenges in this context are fonts that are too small, contrasts that are too low, and too little tactile or acoustic information. Some students with visual impairments can be extremely sensitive to light, while others need strong lighting to be able to recognize anything. In some cases, affected students have difficulty grasping large-scale board images, determining colors, or identifying details. Non-verbal communication components are also not perceived equally.

Opportunities for support at a glance:

1. Signal your willingness to provide support regarding visual impairment in your studies in order to clarify individual needs. You are naturally dependent on assistance in certain situations, so you should also offer this. This includes wayfinding and orientation for unfamiliar environments (e.g., to visit your office hours), make you aware of obstacles such as stairs or constrictions. Make sure that paths in hallways, entrances, offices and function rooms are not obstructed.
2. Written documents, texts or graphic representations (illustrations, blackboard pictures) are to be converted into audio information, spoken information or tactile surfaces and writing (Braille), as they cannot be used directly by the students. Ensure accessible documents (use of style sheets, alternative text, etc.). Strive for large, clear, legible font for whiteboard images, etc.
3. Use a microphone if available and articulate as clearly as possible. Ensure that the environment is as quiet as possible, that the acoustics are good and that the room is well lit without glare. Avoid imprecise (location) indications such as "here"; even nonverbal signals such as a shake of the head or a smile are not perceptible to blind students. Indicate distances and directions as accurately as possible ("The form is now directly in front of you..."), and the clock hand system also helps ("... at 12 o'clock").
4. Design your presentations and teaching materials with high contrast, if necessary in enlarged form and with clear contours. Pay attention to accessible documents (use of format templates, alternative texts, etc.).

Source: Barrierefrei lehren - barrierefrei studieren. Ein Leitfaden für Lehrende zum Thema "Studierende mit Beeinträchtigungen". Technische Universität Chemnitz. 2019.

5. Accept the use of technological aids as needed in courses and exams (e.g., magnifiers, lighting devices, readers, note-takers, screen readers). Allow group work, as fellow students can then assist each other.
6. Announce relevant literature early, as it can be costly to obtain and implement. Point out particularly relevant information and important announcements (e.g., deadlines) in a targeted manner. Allow audio recordings of your event.
7. Make students aware of disadvantage compensations for examination achievements, which are approved under certain conditions by the examination board of the degree program (see section 5).
8. Point out to students the special workstations for the blind and visually impaired at your university. Report further needs for technical aids to the Coordinator for Inclusion.



Source: Barrierefrei lehren - barrierefrei studieren. Ein Leitfaden für Lehrende zum Thema "Studierende mit Beeinträchtigungen". Technische Universität Chemnitz. 2019.

3 Forms of impairment and recommendations for action

3.7 Speech or language impairments

Speech impairments include voice, articulation and speech rhythm impairments, the causes of which in turn can be very diverse and which cause problems in communication.

Examples of speech or language impairments:

- Articulation disorder: Pronunciation problems
- expressive language disorder as a disorder in expressive development or language development delay (active vocabulary and sentence structure comprehension limited, difficulties in generating long sentences)
- receptive speech disorder as a lack of understanding of speech
- Speech or phonological disorder: restricted use of speech sounds; errors in the production, presentation, and/or use of certain sounds.
- Speech flow disturbance due to blockages, interruptions, pauses or repetitions etc. (e.g. stuttering, stammering)
- Aphasia: acquired language disorder resulting from brain damage (stroke, head injury, tumor, etc.), loss of skills related to speaking, understanding, reading, and/or writing.
- Voice disorder or dsyphonia: prolonged hoarseness, limited resilience of the voice, pain and/or a foreign body sensation in the larynx with functional (high vocal load) or organic (such as vocal cord paralysis) causes.

Students with language impairments often experience communication difficulties. This is mainly due to the stigmatization of their impairment. Speech impairments carry a great deal of shame, and those affected often worry about the reaction of those around them. Speaking in front of several people is often perceived as uncomfortable, although this must be distinguished from mental illness (e.g. phobia). Thus, participation in classes and oral examination performance can be very difficult for students with speech and language impairments. In addition, speech impairments can also be associated with uncertainty on the part of listeners if they do not know how to behave towards the person in question.

Source: Barrierefrei lehren - barrierefrei studieren. Ein Leitfaden für Lehrende zum Thema "Studierende mit Beeinträchtigungen". Technische Universität Chemnitz. 2019.

Opportunities for support at a glance:

1. Give the students enough time to formulate their statements, do not interrupt and do not complete the sentences yourself. Avoid well-intentioned advice, such as "take your time," "take it easy," etc. Maintain eye contact and remain patient until the person has spoken. Make it clear that you are interested in the content of what is being said, not the way it is being said. Ask questions if you have not understood something.
2. Speak normally, no more clearly or slowly than you normally do. Do not ignore affected students, but actively involve them as well. Fellow students should also not react in a derogatory manner; encourage respectful interaction in your course. A speech or language impairment has no correlation to a student's intellectual ability.
3. If needed outside of a course, clarify how to handle speaking engagements and signal your general willingness to assist.
4. Accept the use of technological aids as needed in courses and exams (e.g., speech computers). Allow group work, as fellow students can then support each other.
5. Make students aware of disadvantage compensations for examinations, which are approved by the examination board of the study program under certain conditions (see section 5). This can be, for example, an extension of time for oral performances, the use of a manuscript for presentations.

Source: Barrierefrei lehren - barrierefrei studieren. Ein Leitfaden für Lehrende zum Thema "Studierende mit Beeinträchtigungen". Technische Universität Chemnitz. 2019.

4 General guidance on the basic attitude toward students with impairments

It is important to see students with impairments for what they are first and foremost - students of a particular discipline. Do not be more cautious or reserved than you would otherwise be, because the greatest possible normality in your studies is what many students with impairments want. An approachable and positive attitude toward all students is the best approach here.

Signal openness to the topic of impairments in studies and offer support. Students deal with their impairment in very different ways. Some are very open about it, others prefer to keep their impairment to themselves - often because they fear stigmatization. Respect the individual way of dealing with the impairment, but encourage students to talk to you personally. Many things can be clarified more easily and directly this way.

Do not be afraid of contact for fear of misbehaving. If you are unsure how to behave, feel free to ask. Students are experts on themselves and are usually best able to tell you what they feel is appropriate and what makes them uncomfortable.

Take the concerns of students who approach you seriously and respond with respect to the issue raised. There are no universal rules for dealing with students with impairments, as each person is individually different. Be as flexible as possible and work with students to find individual solutions and arrangements that are appropriate and workable for everyone involved.

Opportunities for support at a glance:

- Show openness and interest toward the student and personal situation and offer willingness to support
- Address uncertainties on both sides
- Search together for case-specific solutions

Source: Barrierefrei lehren - barrierefrei studieren. Ein Leitfaden für Lehrende zum Thema "Studierende mit Beeinträchtigungen". Technische Universität Chemnitz. 2019.

Project No.: 618103-EPP-1-2020-1-PS-EPPKA2-CBHE-JP

Edu4ALL

Disability as diversity: The inclusion of students with disabilities in higher education

Training Materials: Handout for the creation and implementation of accessible documents in teaching

Handout for the creation and implementation of accessible documents in teaching

Objective of this handout:

In the course of their studies, students have to deal with an abundance of texts, scripts or books that have to be read and processed. Blind and visually impaired students face specific challenges in absorbing these strongly visually oriented sources of information. Nowadays, so-called screen reader software, which usually offers speech output and/or text output via an electronic Braille display, offers students the possibility of acquiring digitally available documents themselves. However, this requires that the corresponding documents such as scripts and seminar literature are available as digital files on the network - for example, on learning platforms such as ILIAS - and can be accessed by students. On the other hand, navigating through a digital text using reading software requires that it has a clear text structure. Only when these requirements are met can one speak of an accessible text.

The aim of this handout is to enable lecturers at Philipps-Universität Marburg to make their teaching materials available digitally with as little effort as possible and to check them for accessibility criteria. This handout offers assistance in digitally editing and reworking teaching materials in such a way that they meet the minimum requirements for barrier-free teaching.

These guidelines for the design of accessible documents should not be understood as a request that all files must always be created perfectly. On the one hand, this is technically hardly possible, and on the other hand, it is not always feasible on the part of the teachers due to resource constraints. Rather, the aim of the handout is to make the topic of accessible literature conversion in the field of teaching more widely known and to sensitize teachers to the need for accessible teaching. At the same time, teachers can improve the quality of their teaching by considering the accessibility of their teaching materials.

Content

1. Accessibility - Conceptual basics

On May 1, 2002, the Disability Equality Act (BGG) came into force. This law describes accessibility as follows:

> "Barrier-free are structural and other facilities, means of transport, technical Commodities, Systems of the Information-processing, acoustic and visual Information sources and Communication facilities as well as other designed living areas, if they are accessible for disabled persons in the generally usual way, without special difficulties and basically without external assistance.
> are accessible and usable."[1]

1.1. Requirements for teachers

For you as a teacher, it is not always obvious that blind and visually impaired students also participate in your courses. Visually or otherwise impaired students are not readily identifiable by external characteristics alone. Ideally, these students will approach you directly in personal conversation about literature use and implementation so that you can respond accordingly. In order to truly create a learning environment that is as equal as possible for all participants, generally accepted rules should be followed when creating instructional materials that do not go significantly beyond the basic principles of structured work. A well-structured and accessible document should therefore be regarded as the product and evidence of a professional approach to teaching.

2. Accessible documents - What does it mean?

When preparing the documents relevant to your teaching (usually primarily presentation slides and source texts), the aim is to prepare the texts in such a way that they can be processed by blind and visually impaired learners using assistive devices. It is important to note that it makes a difference whether the document is "only" made accessible for blind and visually impaired students or whether it is actually implemented in an accessible manner.

A document is *accessible readable* if the content is output by assistive devices (e.g. screen readers) in such a way that the meaning of the information it contains can be understood. However, if the implementation of readability is only rudimentary, the assistive devices usually have no or incorrect information about the text structure. In such a case, the software does not recognize headings, lists, tables, indentations, or highlighting, and the users cannot specifically search for information in the text or jump to certain places, as is usual for the reading behavior of sighted people.

Accessible documents, on the other hand, provide such information about the text structure. The headings of the individual text levels are recognized and can be "jumped to" directly. Lists and tables are identified as such and it is considerably easier to navigate through them and grasp their structure. An accessible implementation of a document allows blind and visually impaired users to understand the overall structure of the text and thus simplifies learning considerably.

Note: The barrier-free implementation of teaching materials has a concrete benefit not only for blind and visually impaired students. Improved digital navigation and the ability to have texts read aloud using general read-aloud software, for example, on a train ride, benefit all students and ultimately the quality of your teaching.

3. Creation of accessible documents

3.1. Literature scanning

If your texts are not yet available to students as digital documents, they must be scanned and thus made digitally editable. Almost all scanning software now has a text recognition function (optical character recognition, or OCR for short) that makes it possible to recognize the scanned text to the letter and output it accordingly. Text that has been scanned without the OCR function is merely an image file and cannot be edited digitally.

Examples of text recognition software

- FreeOCR (free software)
- Abbyy FineReader (fee required)
- Omnipage (fee required)
- Adobe Acrobat Professional (fee required)
- Scanner-specific software

Before scanning your literature, you should be aware of the format in which the documents will be output. The two most common formats are pdf and doc. Basically, it is advisable to prefer the doc format to the pdf format, provided that the scanner has the function to convert the scanned texts accordingly. Conversion to doc format makes it much easier to implement the necessary post-processing steps. In addition, the doc format is usually post-processed with the software Microsoft Word or Open Office, which can be found on almost all computers at Philipps-Universität Marburg. The post-processing of a pdf-format, on the other hand, requires the software Adobe Acrobat Professional, which is usually not available by default and has to be purchased.

- output format of scanned texts: **.doc** or **.pdf**
- If possible: Scan to **.doc format**, for easier postprocessing
- Recommended programs for follow-up:
  doc format: Microsoft Word or Open Office
  pdf format: Adobe Acrobat Professional

3.2 Word 2010/2013

The following process steps for preparing documents in an accessible form refer to the version Microsoft Word 2010/2013 in this handout, as this version is the current standard at Philipps-Universität Marburg. The procedure for other versions of Word is basically similar, but may differ in individual steps.

3.2.1. General notes

When converting texts into an accessible form, care should generally always be taken to ensure that the words are marked with a correct language markup. This enables the screen reader to read out German words with a German accent as well, while an appropriately modified accent is applied to foreign language words and texts. As a rule, the language is already set to German and recognizes foreign language words automatically. However, if foreign language words are not recognized in the text, you can also change the language marking manually by marking the corresponding places and clicking on "Language" under the "Check" tab. Under the option Set language for correction aids you will find a list of languages that you can select. Alternatively, you can also find an DeepL access in the lower document bar.

Texts in accessible documents should best be displayed in left-aligned continuous text. Special attention should be paid to the layout of paragraphs. Since screen readers also output each blank line, you should definitely avoid creating paragraphs by pressing the Enter key multiple times, as this creates a significant reading and hearing burden in the long run. Create paragraphs by pressing the Enter key once or with the appropriate tools of Word. Thus you will find under the tab
"Page Layout" and "Page Setup" the button "Insert Page and Section Breaks". This allows you to insert different types of text breaks, which are also recognized by the software accordingly.

Furthermore, you should refrain from automatic hyphenation, since the hyphens are output as "dashes" by screen readers. The option to switch off hyphenation can be found under the tab "Page layout", "Page setup" at the button "Hyphenation".

- ☐ Set correct language
- ☐ Continuous text (left-aligned, if possible)
- ☐ No unnecessary paragraphs
- ☐ Disable automatic hyphenation

3.2.2. Style sheets

For a clear and logical outline structure of a text, it is necessary to mark the individual text modules (heading levels, body text, highlights, long quotation passages, etc.) accordingly. This is done by using the style sheets. Under the tab
"Start" you will find a list of quick style sheets under "Style sheets". For a better overview, you can also click on the small arrow at the bottom right to display all available style sheets in compact form.

3.2.3. Fonts and sizes

Generally, sans-serif fonts are preferred for accessible documents, as they are easier to read when enlarged. Typical sans-serif fonts are Verdana or Arial, while Times New Roman is a font with serifs and should therefore not be used.

If possible, the font size should not be smaller than 12 points so that it remains legible even with screen magnifiers.

- ☐ Sans serif font: e.g. Arial or Verdana
- ☐ Font size: at least 12 points

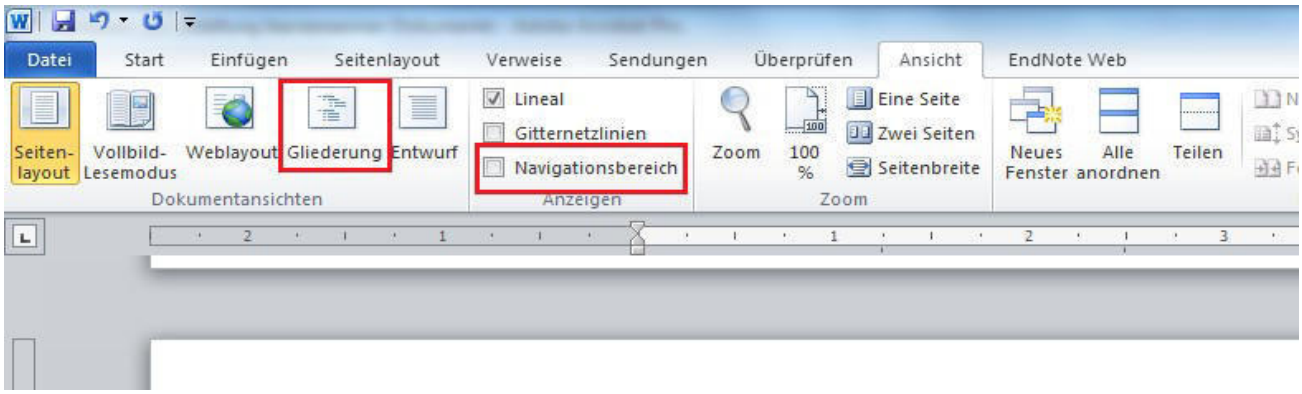
3.2.4. Headings

In general, headings have the function of dividing texts into meaningful sections and levels to facilitate text navigation. They are indispensable for screen reader software, as this is the only way they can recognize the structure of the text and enable users to work through the text accordingly. For an accessible document, it is crucial that headings are not simply formatted in bold, but that they are structured according to the respective level by using the "Heading" style sheets. By using the styles, the program creates an internal outline structure that is recognized by the software.

To create an internally logical outline structure, you should format the title of the text with "Heading 1". The "Title" style sheet should not be used, as it will not be recognized correctly when it is later converted to pdf format. Accordingly, the template

"Heading 1" is also used only once in the entire text. The other styles "Heading 2" and so on should now be used to reflect the logical structure of the document. Consequently, "Heading 2" reflects the top chapter level, "Heading 3" the next following level, and so on.

It is possible to view the current outline at any time by clicking the "Outline" button under the "View" tab. Alternatively, you can also get a quick overview by checking the corresponding box at
"Navigation Area" in this same tab.



A clear structure of the heading levels now also makes it possible to insert Word's automatic table of contents if required. This can be found under the "Links" tab in the "Table of contents" group. The automatic table of contents is based on the heading levels you have created and can be used to quickly jump between individual chapters.

3.2.5. Listen

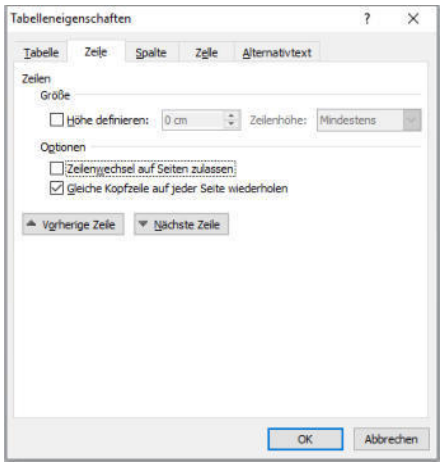
Enumerations in list format are a common means of clearly grouping and presenting relevant information. Usually this is done using bullets (e.g., indents) or sequential numbering. In order for such a list to be registered as such by screen readers, the corresponding function in Word should be used. You will find the formats
"Bullets" and "Numbering" under the "Start" tab in the Paragraph group. There you have the possibility to choose between visually different list elements.

3.2.6. Tables

Tables are often used in teaching to present data in a clear way. For this to succeed, the table must follow a structure that can be understood by the reader. This is usually ensured by corresponding column and row headings. The necessity of structure recognition is especially important for blind and visually impaired students. The visual highlighting of columns or rows - for example, by bold words or underlining - have little or no influence on the digital reading ability and can even make it more difficult.

Screen readers usually navigate through a table line by line, starting in the top column. Accordingly, the structural design of a table should be such that the content can be understood when it is read out line by line. In addition, there should always be the same number of columns per line, since otherwise it is considerably more difficult to assign columns to the correct column headings in each case.

The first row of a table should always contain the column headers. However, in order for the column headings to be recognized as such not only visually, but also by the screen readers, an appropriate assignment is required. To do this, click in a
any field of the first table row and open the context menu with a right mouse click. Click on "Table properties" and then on the "Row" tab. Here, check the option "Repeat same header row on every page". This will mark the first row of the table as a header cell. Marking a column in the same way is currently not possible in Word.



However, if the document is subsequently converted to pdf format, it is possible to create column headers using Adobe Acrobat Professional.

In addition, you can create alternative texts that give a brief description of the displayed table and thus facilitate reading comprehension when entering the content. To do this, select the table and open the context menu with the right mouse button. Under "Table properties" you will find the "Alternative text" tab, where you can create a title for the table as well as the alternative short description.

3.2.7. Alternative texts for images, graphics and diagrams

Any image used in the text to convey information (such as a graph, model, or diagram) requires a description using the alternative text feature. Such an alternative text aims to convey the contents of a representation to the reader without using visual stimuli. The descriptions should be formulated as concisely and clearly as possible. Please note that also so-called "SmartArts" are to be regarded as images and should also be assigned an alternative text.

To create an alternative text, right-click on the corresponding image and then select "Format graphic". In the window that now opens, under "Alternative text", you will find the option of populating the image with a title as well as an alternative text that you have written yourself. The alternative text is retained even when the image is converted to pdf format.

3.2.8. Links

Links in the text that lead to external websites are usually recognized automatically by Word due to their specific structure (www.uni- marburg.de). Alternatively, you can also set up such a link manually. To do this, mark the corresponding text section and then right-click on the marked section. Under "Hyperlink" you now have the option to create the link under "Address:". In addition, you should make sure that a meaningful wording is created under "Text to be displayed". The often used "Click here" is often confusing for screen reader users. Therefore, the displayed link description should always be clearly formulated, for example: "Clicking on this link will take you to the website of the University of Marburg".

3.3. PDF conversion

Converting a doc format to a pdf format is straightforward in Microsoft Word 2010. Under the "File" tab, select the option
"Save as". In the following menu, select the pdf format under "File type". Keep in mind here that changes to the document in a pdf format are only possible through appropriate paid software such as something Adobe Acrobat Professional. The conversion should therefore ideally only take place when the changes to the document have actually been completed.

3.4. Checking for accessibility

3.4.1. MS Word

In Microsoft Word 2010, you have the option to check your document for accessibility. To do this, please take the following steps:

1. Click on the "File" menu item at the top left of the program and then on "Information".
2. Click to now the button "On problems problems" and then click on "Check accessibility".
3. You will now return to your document and the results of the check will be displayed on the right.

Checking PowerPoint slides is possible in the same way. Any problems detected by the review are output as an error, warning, or tip. While errors mark problems that make it difficult or impossible for people with visual impairments to read your document, warnings indicate mild to moderate problems that do not prevent reading but should ideally be fixed. Tips are displayed in documents that pick up minor aspects that could make the document even more understandable and clear.

3.4.2. Adobe Acrobat Professional

With Adobe Acrobat Professional software, you have the option to check documents in pdf format for accessibility. To do this, click "Input and Output Help" in the "Tools" section, and then click "Full Check". Then confirm the input with a click

on "OK". Again, a report will now be generated indicating any potential accessibility issues.

3.4.3. PAC

Under the link http://www.access-for-all.ch/ the free software "pdf Accessibility Checker" (PAC) can be downloaded. This software creates a test report based on 14 test points, which uses a preview function to clearly and quickly point out possible problems with regard to the accessibility of a document. However, the program does not offer suggestions for correcting the identified problems. However, it is suitable in any case for a quick check with regard to the accessibility of a document.

4. Checklist

- ☐ Scan texts with character recognition
- ☐ Use style sheets
- ☐ Set font and size (e.g. Arial 12)
- ☐ Format headings
- ☐ Insert lists
- ☐ Insert tables
- ☐ Mark links
- ☐ Designing paragraphs efficiently
- ☐ Create automatic table of contents
- ☐ Set language
- ☐ Create alternative texts for graphics
- ☐ Accessibility testing with MS Word
- ☐ Convert to PDF format

5. Further sources and links

Federal Competence Center Accessibility (BKB)

Here you will find, among other things, official guides and brochures on accessibility topics:

Link: http://www.barrierefreiheit.de/ (accessed 17.05.2016)

Handout on barrier-free university teaching for blindness and visual impairment

This handout provides an overview and initial orientation to issues related to dealing with students who are blind or visually impaired in the context of your own course.

Link: http://www.uni-marburg.de/studium/behinderte/sbsbroschuere

[1] Extract from the Disability Equality Act (BGG), §4. Online: http://www.gesetze-im-internet.de/bgg/ (as at: 21.06.2016)

Contact:

Philipps University Marburg
Department of Education (FB 21) Adult
Education/Continuing Education Bunsenstr. 3
35032 Marburg
https://www.uni-marburg.de/fb21/ebaj

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Edu4ALL

Disability as diversity: The inclusion of students with disabilities in higher education

Teaching Methods for ALL

APIPA - Sandwich_ Methods

APIPA – Sandwich Principle

+ Self-organisation & Cooperation

Welcome

Access
Agenda, Advance Organizer; arouse interest; Create transparency ...

Environment/Atmosphere

Target/Orientation = AO

Collektive Phase - Input
Explanation, lecture by the teacher;
Demonstration of an experiment, showing a film

Prior Knowledge/ Input/ Information = Lecture/ Group Puzzle/ Expert Method

Joint A
Hand out worksheets, distribute task sheets... ***Transition to the ...***

Ressources: work material – Questions/ Murmuring

Individual learning phase:
Networking what you have learned through mind maps, structure laying techniques ...
Deepening the acquired knowledge through cooperative learning...
Individual closing of learning gaps through station work,

Individual Processing of the Information → e. g. Exercises / Working on tasks / Individually / Tandem/ Project

Joint B
exemplary presentation of problem areas and results
Transition to a collective learning phase

Ressources: Presenting with (digital) media– Securing results
→ Sorting Task/ Structuring – Questions from the groups

Collective phase - conclusion/ realization
Summary of what has been learned by teacher or learner

Evaluation/ Assessment/ Check achievement of objectives - e.g. Test/ Feedback

Exit
Outlook for next lesson -
new target

Classification in learning field/ lesson .... - new objective - perhaps homework

Goodbye

Environment/Atmosphere

Project No.: 618103-EPP-1-2020-1-PS-EPPKA2-CBHE-JP

Edu4ALL

Disability as diversity: The inclusion of students with disabilities in higher education

Teaching Methods for ALL

Example Sorting-Structuring-Task

repeating	learning processes	organising	university
learning environment	school	critical thinking	learning strategy
creativity	ability to read	cooperation	problem solving skills
interaction	prior knowledge	training	communication

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Edu4ALL

Disability as diversity: The inclusion of students with disabilities in higher education

Teaching Methods for ALL

Expert Method_Description

EXPERT METHOD/ GROUP MIX METHOD

For larger topics, this method is called group expert rally.

Description:

The technique named as group mix method by W. Mattes (2002), F. Müller (2014) describes it as expert method:
The method consists of **two** group work phases. In the **first phase,** the groups (up to five students) work on **one** (or more) work assignments, which can range from the elaboration of a text, to a topic-oriented discussion, to creative tasks with the goal of making decisions (e.g., in a role play) or creating **a study poster**.

In the **second work phase,** new groups are formed, each consisting of at least one student from a group from phase 1. The student from the first group now acts as an **'expert' who** teaches his/her group about the results from phase 1. The new group now consists of students who are all experts.

The new group now works on a more advanced assignment that requires the information of each expert to complete. OR: The **study poster is explained by the experts to the others in the new group.**

It is possible that in phase two each group has a different assignment to present to the class at the end. If all groups have the same assignment, there is no need to present the result.

Use:

The group mix method/the expert method can always be used "when building blocks of a subject area complement each other in a meaningful way" (W. Müller), especially when a lot of knowledge is to be made transparent in a short time or a quick overview of different topics (e.g. religions, persons, events) is to be given.

Advantages:

By requiring each student to be the sole expert in phase two, this exercise gives the opportunity to gain a high level of topic-centered communication and attention from the students. If one student opts out, the whole group's outcome is at stake. Students can further develop their ability to separate important from unimportant knowledge and practice speaking freely. Even students who don't usually participate much in the classroom get the opportunity to share knowledge as an expert that others don't have.

Hints:

The method should be introduced in a clearly structured way and may need repeated practice. To form the phase two groups, students are assigned numbers, colors or symbols in phase one. Thus, in phase one only students with different symbols work together and in phase two all students work with the same symbol. This should be made sufficiently clear in advance. If students are feared to lack mediation skills, a double constellation is appropriate. In order to let the students really work on the topic independently, the teacher must provide well-chosen material with well thought-out tasks. The danger of being under time pressure should be especially considered here.
This method should be followed by a repetition or further work phase in order to secure the results and to provide complete information.

Source:

Mattes, Wolfgang: Methoden für den Unterricht. 75 compact overviews for teachers and learners. Paderborn 2002, p. 37.

Müller, Frank: Promoting and demanding independence. 2016 Beltz Verlag, Weinheim Basel

Edited: R. Becher 1/2017

Task “Expert Method“

Topic:

Recognizing impairments and approaches to dealing with them in the classroom.

Introduction:

1. Form groups of 5 people each – **See your text number**
2. Give your group a name.

Preparation:

3. **Individual work:** work with the text
   → the text is in front of you!
   Work out content, create "cheat sheets" - so that content can be conveyed in a "speech" of approx. 2 minutes.

Time: 12‘

4. **Group work:** In the group, design a poster on the content of the text.
   Everyone in the group can explain the content of the poster!

Time: 40‘+5‘