



SUPPORT CENTRE  
FOR STUDENTS WITH  
SPECIAL NEEDS

Masaryk University

# Paradox of digital documents

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this presentation online: <https://muni.cz/go/41bada>



## Masaryk University

- founded: 2,019
- staff: 5,700
- faculties: 9
- students: approx. 30,000



## Teiresias Centre

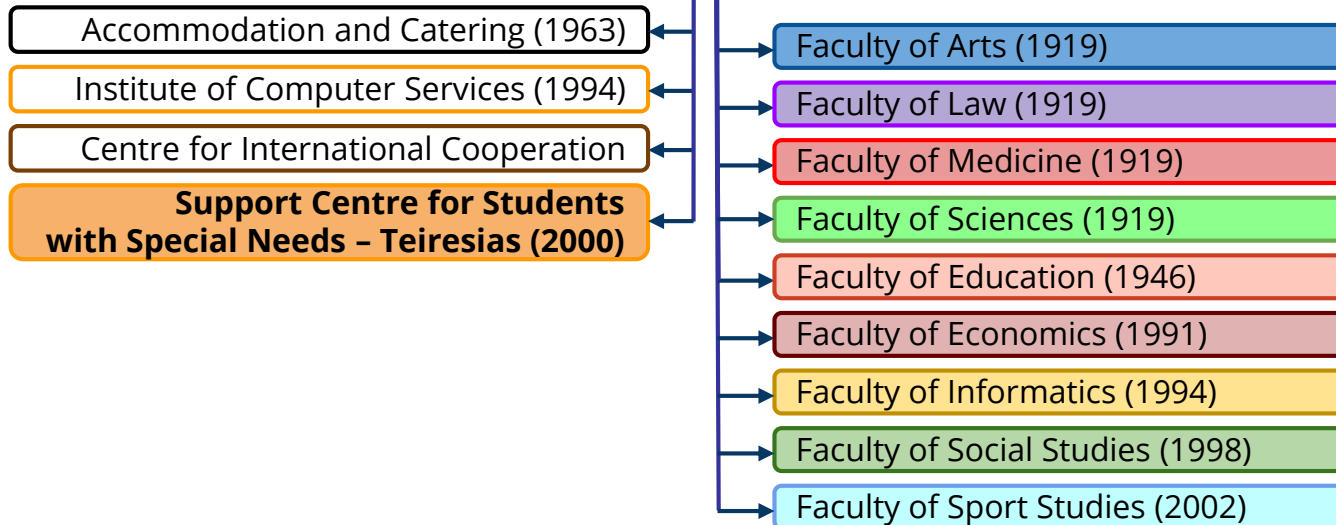
- founded: 2,000
- staff: 40 + 100
- reg. students now: 550
- students up to now: 2,300

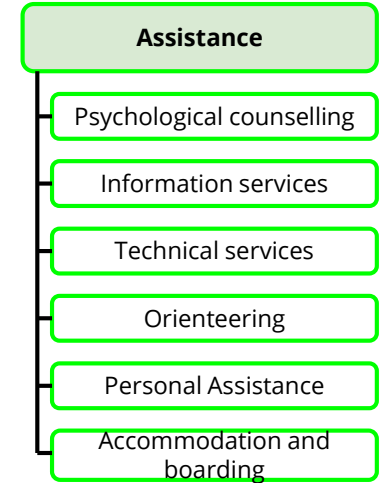
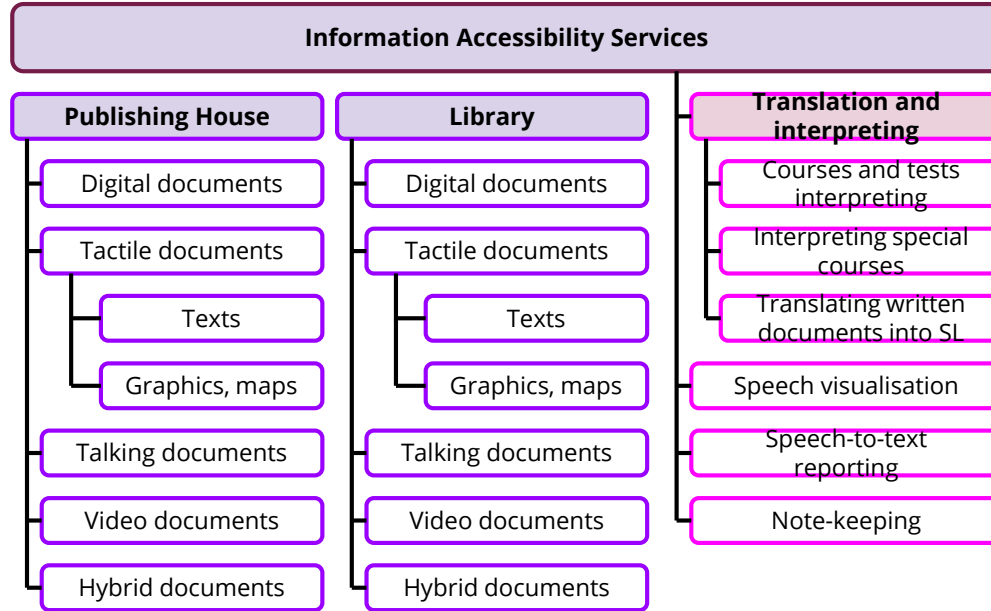
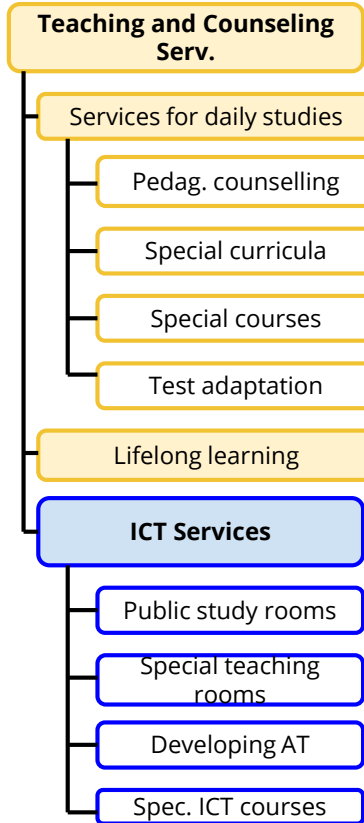




# Masaryk University

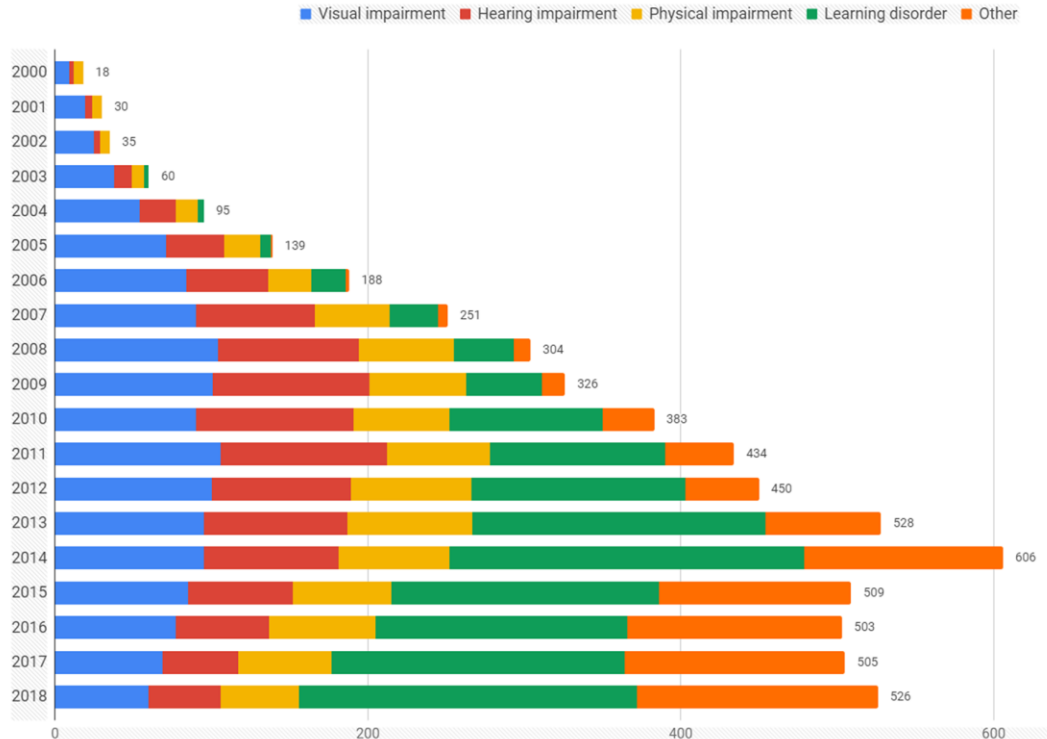
## Rector's Office







# Teiresias Centre – Statistics





## Teiresias Centre – Activities on Development of AT

- **Blind Friendly Maps** – automatic generation of data for tactile maps
- **BlindMoose** – math editor for blind
- **BUF** – Braille conversion and typesetting system
- **CoUnSiL** – system for remote interpreting of sign language
- **Daleth** – search aggregator of libraries providing accessible documents
- **Dictio** – Czech sign language and Czech language dictionary online
- **DysTest** – Battery of diagnostic tests of specific learning difficulties
- **Hybrid Book** – Documents with synchronized multimedia content
- **Lambda, ChattyInfty** – math editors for blind (Czech localisation)
- **Polygraf** – Access to speech-to-text reports and content of presentation screen
- **Speekie** – Wireless access to audio descriptions, verbal interpreting etc. (extension of the app)
- **Virtual Guide** to Accessibility of Buildings



# Teiresias Centre – Activities on Development of AT

- **Daleth** – search aggregator of libraries providing accessible documents



## Daleth – search aggregator of accessible documents

- connecting several libraries which provide accessible documents
- searching their metadata in one UI
- sharing methodology of cataloguing among the providers  
→ compatibility of the metadata
- documents themselves are not shared

[www.teiresias.muni.cz/daleth](http://www.teiresias.muni.cz/daleth)





## Search documents

<b>DOCUMENT TYPE</b>	any
<b>FIELD</b>	Author
<b>CONTAINS</b>	Enter expression to search here...
	...and
<b>FIELD</b>	Author
<b>CONTAINS</b>	Enter expression to search here...
Result entries per page:	10
<a href="#">X New Search</a>	<a href="#">SEARCH</a>

**LIBRARIES** **DIGITAL LIBRARY DATABASES**

- Teiresias Centre, Masaryk University, Brno
- Elsa Centre, Czech Technical University in Prague
- Carolina, Information and Advisory Services, Charles University in Prague
- Library for students with special needs, Faculty of Education, Charles University in Prague
- Augustin Centre, University of Hradec Králové
- Digital Library – Documents for Students with Special Needs, Brno University of Technology
- Centre for Helping Students with Disabilities, Palacký University Olomouc
- Support Centre for Students with Special Needs, University of South Bohemia in České Budějovice
- Library of Digital Documents (KDD), Czech Blind United

**PHYSICAL LIBRARIES**

- Library and Printing House for the Blind, Prague
- Union Catalogue of Masaryk University, Brno
- Central Catalogue of Charles University in Prague
- Library of JABOK, Academy of Social Pedagogy and Theology, Prague
- National Library Service for the Blind and Physically Handicapped, Library of Congress, USA

**WEB SOURCES**



# Teiresias Centre – Services on Accessibility of Documents I

1. dispatching of demands
  - based on syllabi and info provided by teachers
  - based on student's requests
  
2. acquiring source of a digital document
  - mainly obtaining a source file of various technical quality
  - OCR
  - etc.



## Teiresias Centre – Services on Accessibility of Documents II

3. adjustments, adaptations, revisions
  - change of file format
  - adjusting of document structure (structure, order, semantics...)
  - adaptations of graphics


*Teiresias Guidelines of Adjustments to Accessible Documents*

3. publishing in library catalogue and online storage
  - standalone digital documents
  - Hybrid Books (with narrated voice and sign language translation)
  - enlarged printed and tactile documents

hybridní kniha

KATALOG KNIHOVNIČKA PRÁVĚ ČTU

VYBĚR MULTIMÉDIÍ PŘIHLÁŠEN TIRAŽ CZ | EN



- III 1. A brief history (or 100-year waves of ideology)
- III 2. The fulfillment of the 1986 European Parliament Resolution
- III 3. Czech legislation
- III 4. EU regulations
- IV Technical Aids for Compensating for Hearing Loss
  - IV 1. Hearing aids
  - IV 2. Assistive listening devices
  - IV 3. Cochlear implants
  - IV 4. Other technical devices
  - IV 5. Online telephone and interpretation services
  - IV 6. Chat, videochat, SMS, video SMS
- V Communication procedures
  - V 1. Language ability of the deaf
    - V 1. A. The Czech language, Czech Sign Language and the deaf
    - V 1. B. The most important differences between Czech Sign Language and Czech
      - V 1. B. 1. Differing communication bases
      - V 1. B. 2. Differing levels of simultaneity
      - V 1. B. 3. Signaling relationships using space
    - V 1. C. Problems deaf people have with understanding and creating written texts in the Czech language
      - V 1. C. 1. Specific characteristics of the writing of deaf Czech people
  - V 2. Communication between the hearing and the hearing impaired
    - V 2. A. Real time written communication
    - V 2. B. Lip reading
    - V 2. C. Communication via a third person
      - V 2. C. 1. Communication through an interpreter
      - V 2. C. 2. Communication through visualization
- Appendices
  - Proposal for a Directive for Establishing Sign Language and Other Communication Systems of the Hearing Impaired at Masaryk University

The difference between the two is that deaf and hard of hearing students of sign language cannot speakers, especially children, to poorly recognize structural analogies and differences (e.g. parts of speech, word order, phrases, etc.) – one does not help the other to develop.

### V 1. B. 2. Differing levels of simultaneity

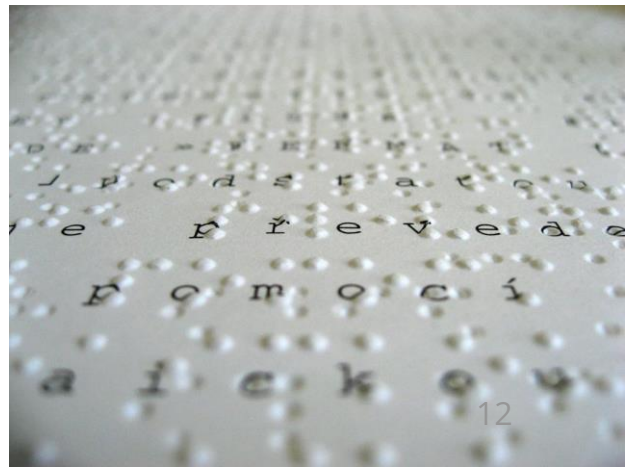
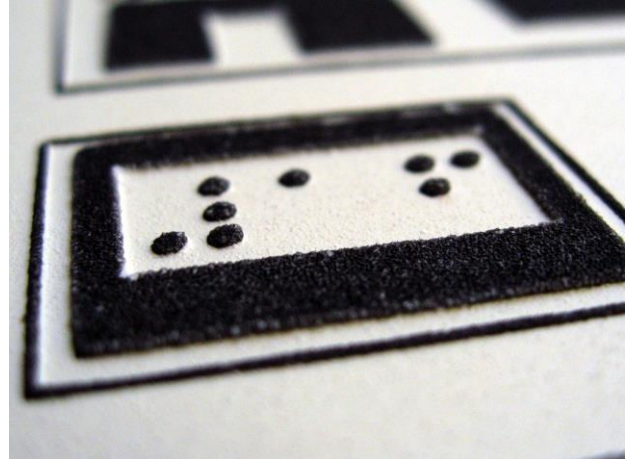
Spoken languages are mostly linear in nature, and therefore they are relatively easy to transcribe. Sounds can be simultaneously accompanied only by intonation, accent, accompanying facial gestures, and bodily gestures – in practice language can be largely comprehensible when neglecting these simultaneous elements, even though to serve this purpose written language had to be developed as a special modification of the language. In contrast expression in sign language is largely simultaneous: This is due to the fact that on one hand it exists in space (see below), and on the other it uses two carriers of meaning, i.e. manual (shapes, movements and hand positioning) and non-manual (facial gestures, movements, the positioning of the head and upper body, as well as accompanying articulation). Transcriptions of sign languages are therefore much more complicated and less comprehensible.

### V 1. B. 3. Signaling relationships using space

In sign languages three-dimensional space is used to express relationships, and therefore has a similar role as pronouns and adverbs in spoken languages: for example when describing a room each sign is articulated so that actual space is simulated; subsequently positioning is used to identify objects, which is similar to the way that roles are switched during conversation. Just as pronouns and adverbs are used in spoken language, space has a secondary function in sign language and is used to express grammatical meaning – thus "grammatical space" is created. For example in sign language time is expressed by the positioning of signs in space. The main axis for expressing time leads over the right shoulder from the front to the back. The present and future are directed towards the front, in front of the shoulder, whereas the past is expressed in the back, behind the shoulder. Another time axis involves expressing periods of time and lengths of time; in sign language this axis leads from left to right (at chest height). Grammatical space is also used to modify the meaning of some parts of speech.

### V 1. C. Problems deaf people have with understanding and creating written texts in the Czech language

Reading comprehension depends on the general language skills of the reader as well as his or her knowledge about the subject matter presented in the text. The main problems deaf people have in this area include hearing:



Lambda - [vzorec1.lambda]

Soubor Úpravy Hledat Zobrazit Výběry Nástroje Skript Možnosti Vložit Okno ?

$x^2 + px + q = 0;$   
 $x_{1,2} = \frac{-p \pm \sqrt{p^2 - 4q}}{2}$

Grafika

$x^2 + px + q = 0$   
 $x_{1,2} = \frac{-p \pm \sqrt{p^2 - 4q}}{2}$



# Accessibility of Documents in Higher Education I

Documents in focus (learning materials are usually):

- books, monographs, textbooks...
- series publications (scientific journals, proceedings...)
- teacher's presentation documents, audio/video documents
- extracts of documents, notes etc. provided by teachers ad hoc
- documents used at examinations
- other online resources
- accessibility of techniques collaboration on documents
- physical objects as matter of courses



## Accessibility of Documents in Higher Education II

Some other facts:

- physical vs. digital documents
- open access vs. licensed databases
- many interfaces for publishing and sharing documents
- complexity of content
- task of searching resources is complex (no ease of find)
- weaker editorial (revisory) procedures are applied
- extreme variety of formats...

→ **digital paradox**

VOCABULARY

Saying the opposite

**Antonyms**

- Compare these sentences. Which antonyms are used? Which sounds better in context? Some theories are plausible but others are implausible. Some theories are plausible but others are ridiculous.
- Antonyms can sometimes be formed with a negative prefix. What is the negative prefix for these words? believable honest responsible legal credible probable

- Homophones are words with the same pronunciations, but different spellings and different meanings. /raʊd/ the road to the town centre She rode a horse. I rowed across the river. Write the word in phonetics in the correct spelling. 1 /həʊl/ the world a in the ground 2 /pi:ʌ/ a of cake war and 3 /laʊs/ a rose is a to make bread 4 /seɪtʃ/ a yacht has buy clothes in the 5 /seɪ/ salespeople things a prisoner lives in a



42 Unit 4 • Nothing but the truth

- Complete the conversations with antonyms from the box. Put the words in the correct form. improve safety success criticize generosity fail mean encourage get worse danger  
1 A Gary's a really businessman.  
B Yeah, but he's a complete as a family man. He never sees his children.  
2 A My grandad's so , he gives me £20 every time I see him.  
B Lucky you. My grandad's famous for his . A fiver every year birthday, if he remembers.  
3 A Well, Henry, I'm pleased there's been some in your behaviour this term, but sadly your work has .  
B Didn't I do OK in the test then?  
4 A You're not going bungee jumping? It sounds really .  
B No, honestly, it's enough as long as you're careful.  
5 A Our teacher is always us. I feel useless.  
B I know – it's not fair, he should give us more if he wants us to work hard.

**14.7** Listen and check.

- What is the effect of using antonyms in these conversations?  
A What **lousy** weather!  
B Yes, it's not exactly **tropical**, is it?  
A Jenny's **thick**, isn't she?  
B Well, she isn't the **brightest** of people, it's true.

Write similar conversations with a partner about these topics. How could you describe the following both honestly and tactfully?  
• a boring party • an awful holiday • a mean friend • a difficult exam

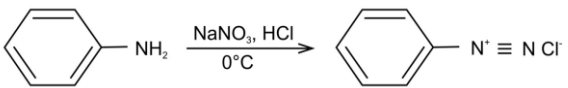
**14.8** Listen and compare.

- What's the opposite of ...?  
1 a tough question    3 fair hair    5 a live animal  
tough meat    a fair decision    live music  
2 a clear sky    4 a hard mattress    6 a light colour  
a clear conscience    a hard exam    a light sleeper
- Match the words and their meanings.  
1 **abused**    not ever used  
2 **disused**    not used any more  
3 **unused**    used cruelly or badly  
4 **misused**    used too much  
5 **overused**    not used enough  
6 **underused**    used in the wrong way

▶ SONG I never loved you anyway Teacher's Book p145

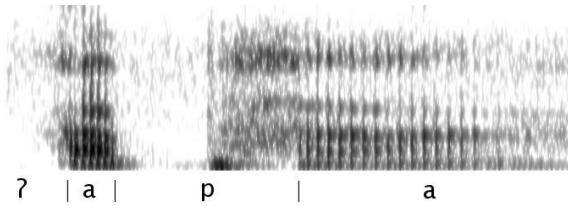
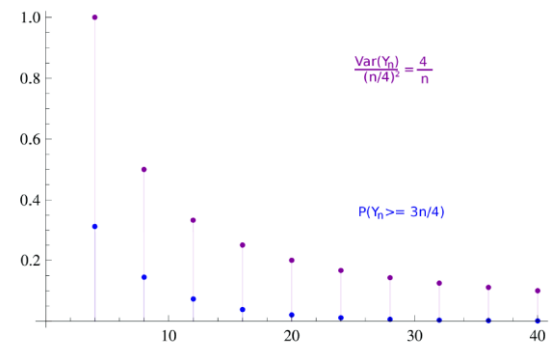
Transcription: Laura and Dolly (A Workbook of English Pronunciation...)

lɔːrə ɒn dɒli  
lɔːrə huː ɪz tuː  
wəz sɪtɪŋ ɒn ðə steəz  
pʰleɪŋ wɪð ə dɒl  
dʒərəldɪn  
hə mʌm...



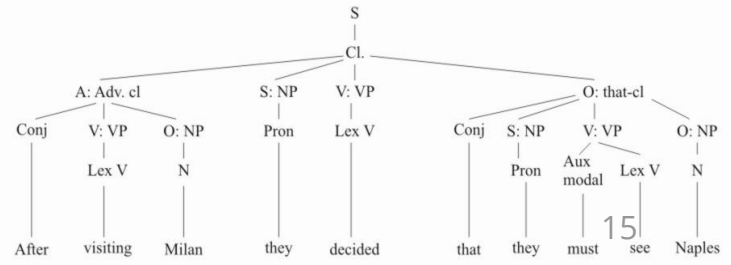
$$\sqrt{\frac{(x+1)^2}{(x+1)(x-1)}} + \frac{x^2}{x-1}$$

Chebyshev Inequality: Example - parametrized



Examples of complete syntactic analysis

eg. After visiting Milan they decided that they must see Naples



Τέχνη τεχνῶν, ἄνθρωπον ἄγειν, τὸ πολυτροπώτατον καὶ ποικιλώτατον τῶν ζώων



## Digital Paradox

- digitally issued documents prevailed printed (physical) ones
- but
- although they are digital, their accessibility is not getting better





**Thank you for your attention.**

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