

Inclusive education

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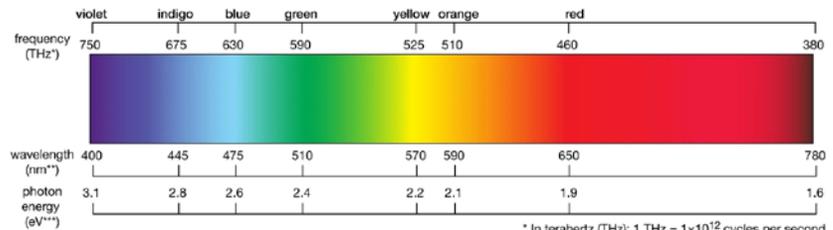
Individual differences..



Categories, nuances, profiles..

- CATEGORY: A class or unit of people or things regarded as having particular shared characteristics.
- SPECTRUM: A continuum, differences in degree..

Light, the visible spectrum



* In terahertz (THz); 1 THz = 1×10^{12} cycles per second.
** In nanometres (nm); 1nm = 1×10^{-9} metre.
*** In electron volts (eV).

Developmental Dyslexia

Robin L. Peterson¹ and Bruce F. Pennington²

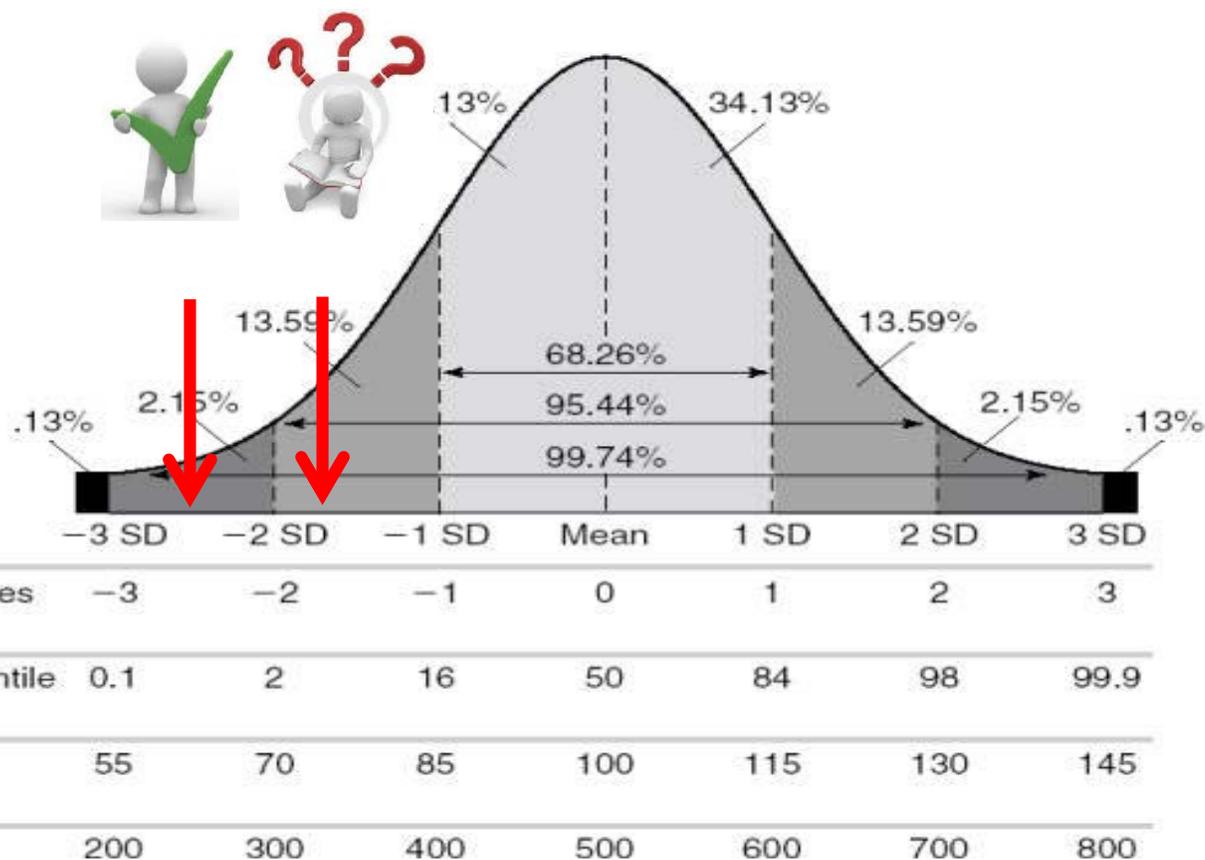
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Annu. Rev. Clin. Psychol. 2015. 11:283–307

Abstract

This review uses a levels-of-analysis framework to summarize the current understanding of developmental dyslexia's etiology, brain bases, neuropsychology, and social context. Dyslexia is caused by multiple genetic and environmental risk factors as well as their interplay. Several candidate genes have been identified in the past decade. At the brain level, dyslexia is associated with aberrant structure and function, particularly in left hemisphere reading/language networks. The neurocognitive influences on dyslexia are also multifactorial and involve phonological processing deficits as well as weaknesses in other oral language skills and processing speed. We address



Some disorders, such as cystic fibrosis, are categorical (you either have the disorder or you do not), and these categorical disorders often have a discrete etiology, such as a mutation in a single gene, as is true for cystic fibrosis, phenylketonuria, and Huntington's dementia. Many other disorders (such as hypertension) do not represent categories, but just extremes on a continuous distribution that ranges from optimal outcomes to poor outcomes, with the underlying causal mechanisms being similar across the whole distribution. Essentially all behaviorally defined disor-

Individual differences in learning..

- Individual differences in cognitive functioning and learning are **the rule**;
- Learning dis/abilities are always **multifactorial** , i.e., the product of **GENES*ENVIRONMENT** interactions

ONE SIZE DOESN'T FIT ALL

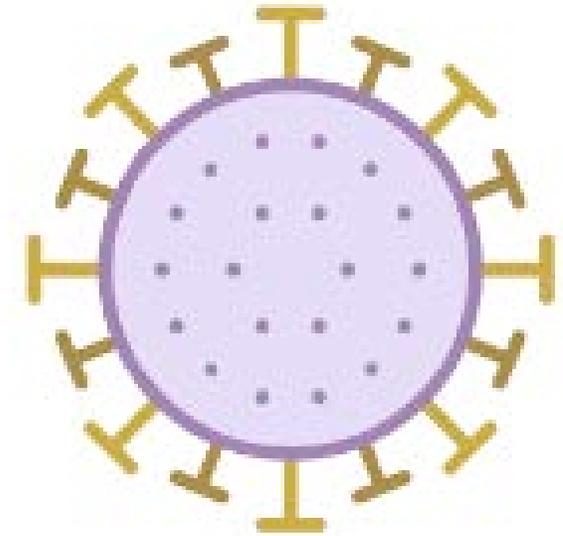


Disability = ?

WORLD REPORT ON DISABILITY



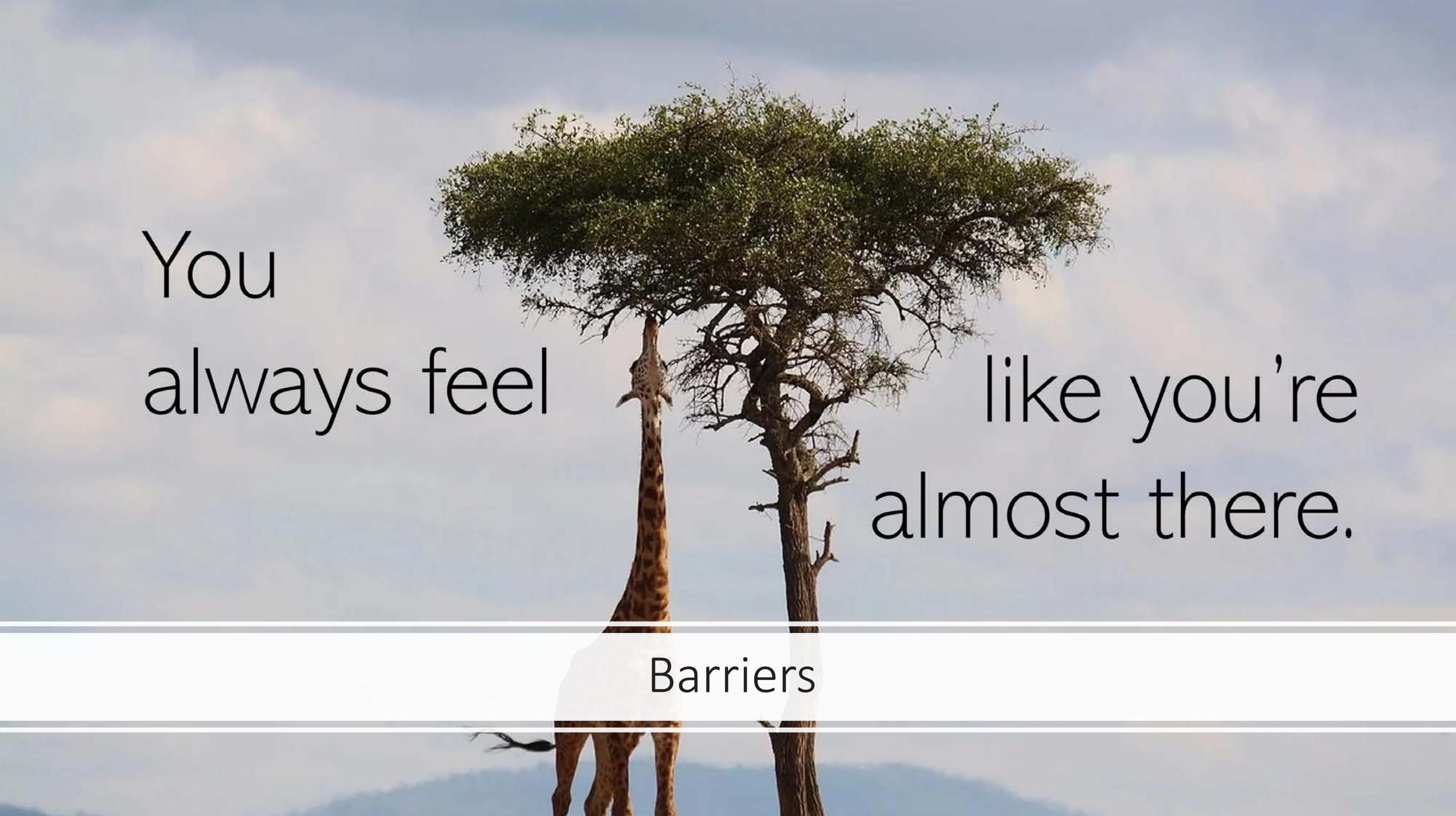
- Refers to an individual's **functioning** (ICF, International Classification of Functioning, Disability and Health)
- Involves: impairments, activity limitations, participation restrictions [**bio-psycho-social**]
- Caused by: **the interaction between individual factors** (health condition) * **environmental factors** (negative attitudes, inaccessible information, transportation, public buildings...)
- **Part of being human (WHO, 2011)**. Almost everyone will temporarily or permanently experience disability at some point in their life.



You
always feel

like you're
almost there.

Barriers



Barriers

- The physical and social environment in which an individual lives influences his/her functioning in significant ways.
- Inaccessible environments create disability by introducing barriers to the individual's functioning, activity or participation



UniPD Students with certified disabilities

- 1185 students
- 613 with learning disabilities
- 571 with disabilities
- N students with other vulnerabilities



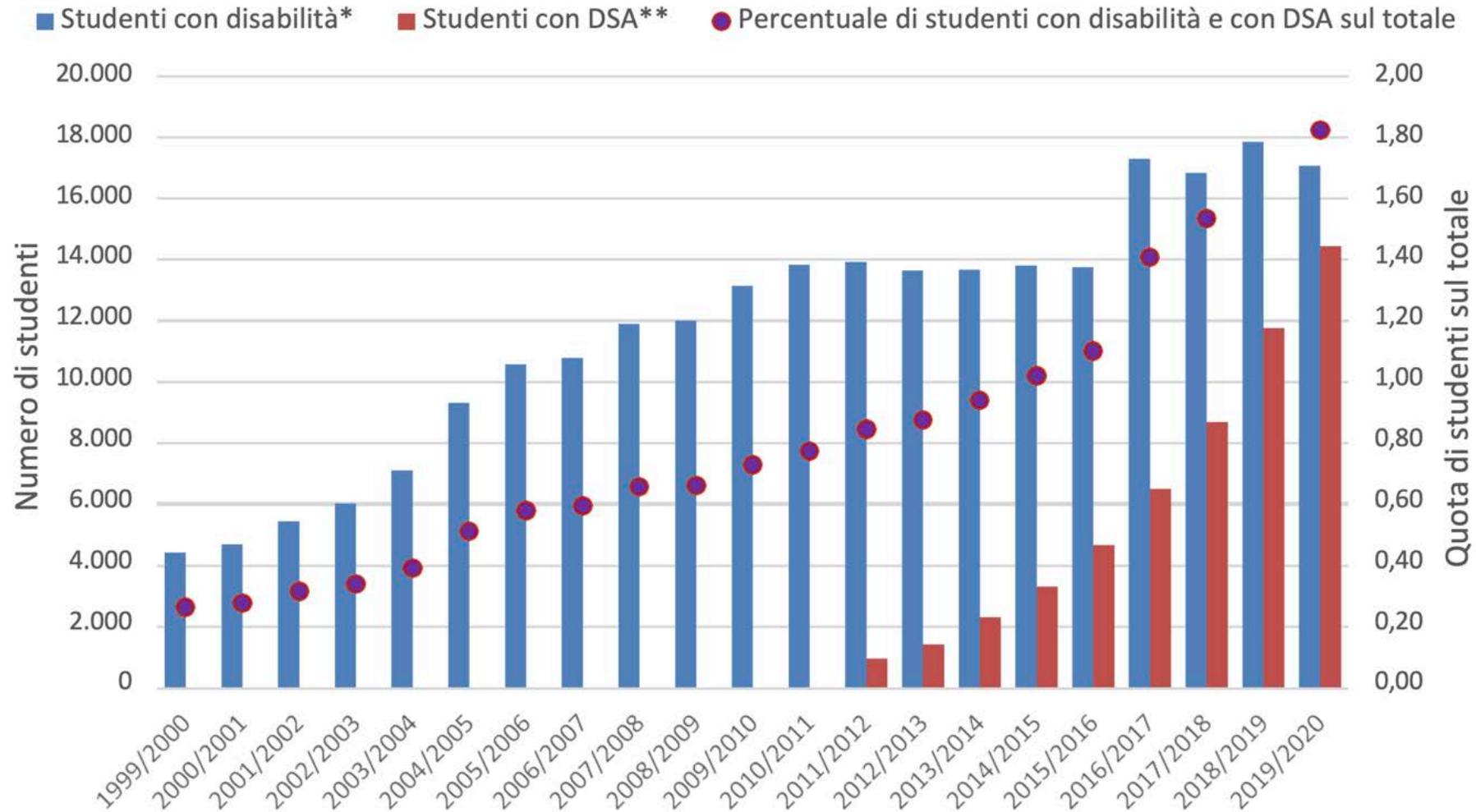
- Learning disabilities
- Sensory disabilities
 - Visual
 - Auditory
- Language problems/disorders
 - L2 students
 - Students with aphasia or other language problems



- Motor disability
- Cognitive impairments
 - Not only intellectual disabilities
 - Attention
 - Memory...
- Socio-emotional problems
 - Asperger (i.e., difficulties in social relations, repetitive thinking patterns or behaviors, difficulties in using language for social purposes)
 - Other socio-emotional problems



ANVUR report 2022: prevalence 1.93%



Why caring?

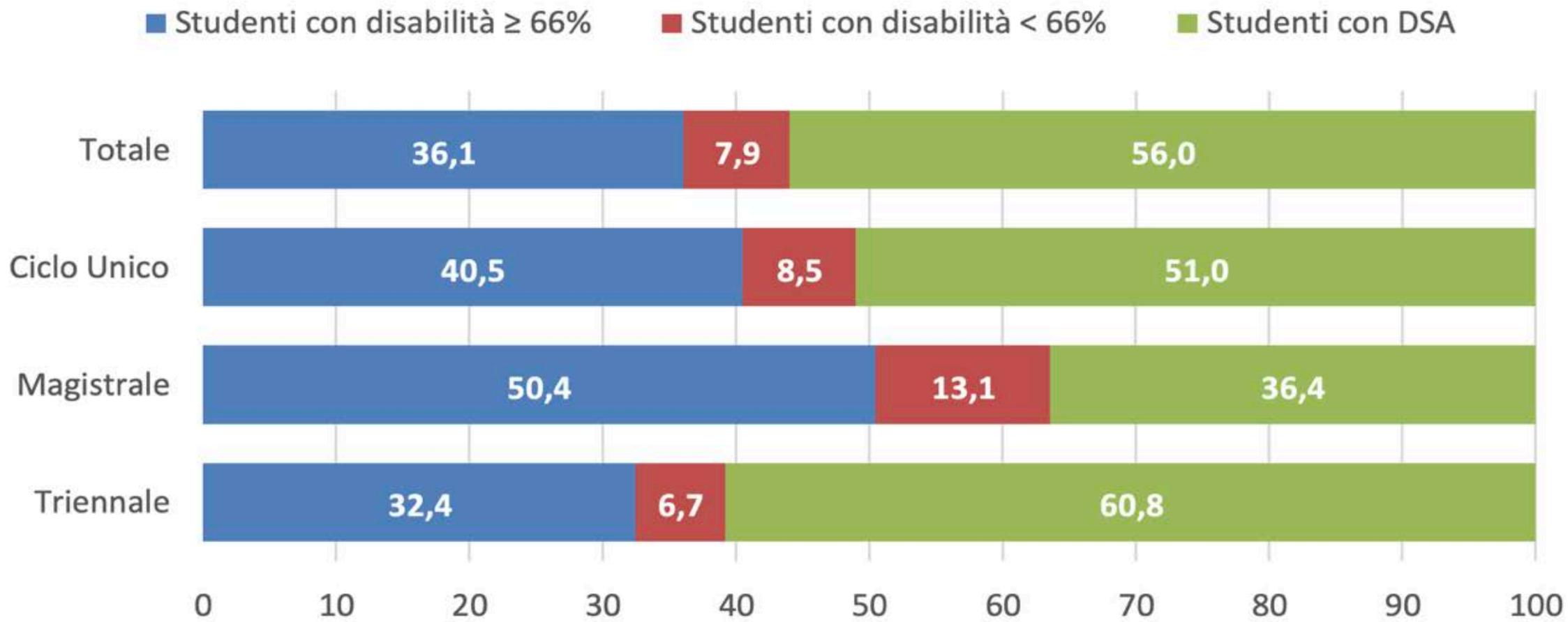


The world needs all kinds of minds (Temple Grandin)

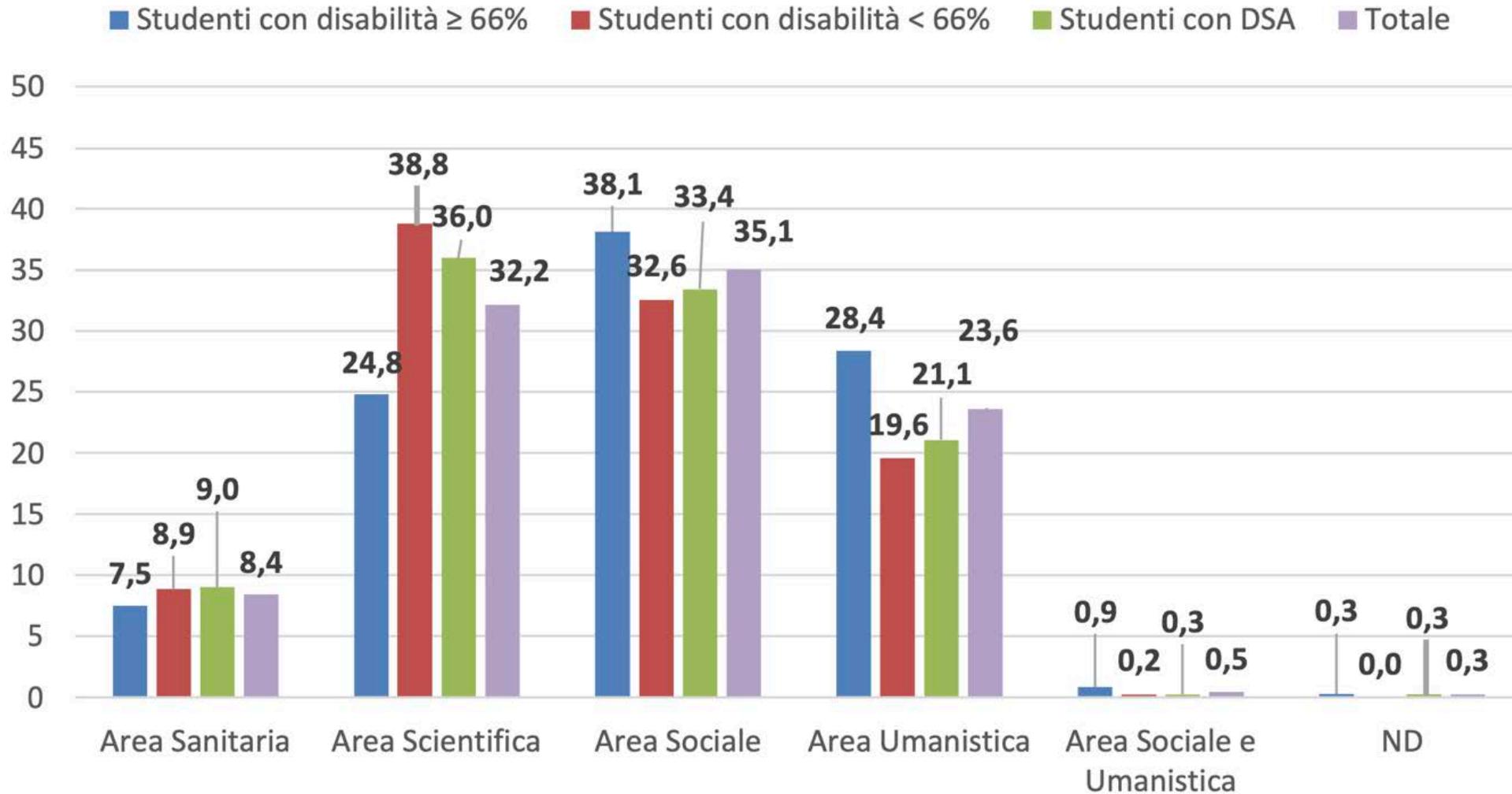
Neurodiversity: people experience and interact with the world around them in different ways. There is no one “right” way of thinking or learning.

https://www.ted.com/talks/temple_grandin_the_world_needs_all_kinds_of_minds?language=it

Prevalence of new students with disabilities and LDs a.a. 2019-2020



Distribution by academic field



The background

Legge 17/1999

Legge 104/1992

Legge 170/2010

Legge 4, 2004



ONE SIZE DOESN'T FIT ALL



Addressing
individual needs?

1. Designing for all: improving accessibility



Text



Pictures



Audios



Videos



Accessible...
means?





1. Easy to reach

1.1. Accessible = easy to reach

- Ensure equal opportunities to access to your contents
- Allow students to «find the way» and navigate through contents



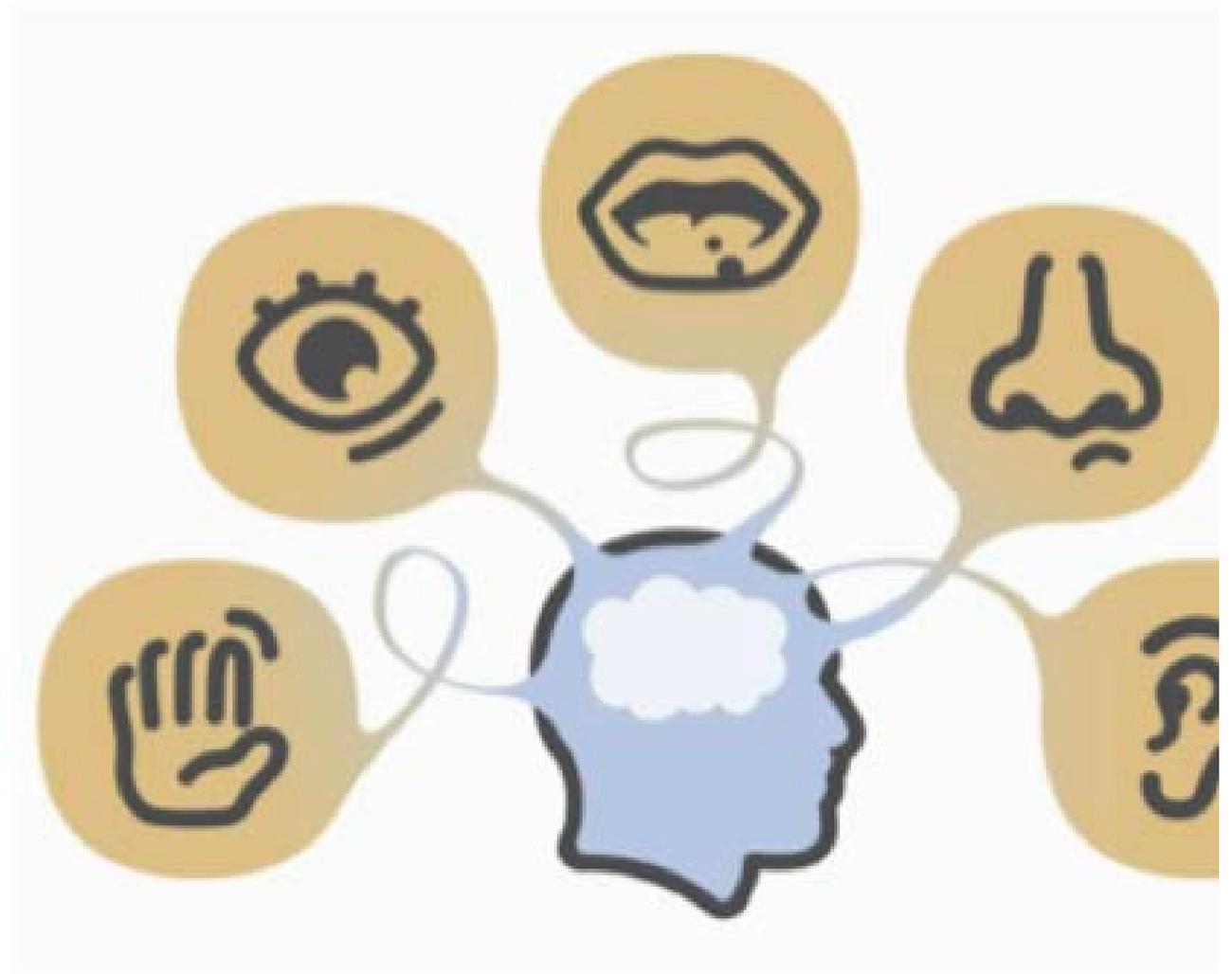


Easy to reach..

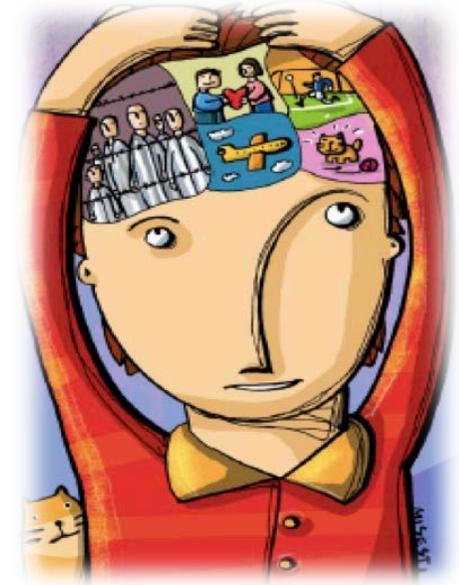
Something you
can access to
through
different
“routes” /
sensory
modalities

In encoding new information from the environment our cognitive system builds multisensorial representation..

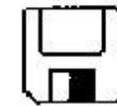
Redundancy: Communicating through different sensory modalities ensure better access to information



1.2. Accessible =
easy to encode
and easy to
retrieve



Encoding



Retrieval



1.2. Make the content accessible

- Provide clear contents/clear structure
- Keep it simple (essential)
- Induce deeper encoding
- Repetition



2. Tailoring your teaching



2.1. Dyslexia



1. Word reading difficulties (recognizing words in text)



2. A phonological deficit: difficulties with phoneme-grapheme mapping

Developmental Dyslexia

Robin L. Peterson¹ and Bruce F. Pennington²

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DEFINITION OF DYSLEXIA

Individuals with dyslexia have difficulties with accurate or fluent word recognition and spelling despite adequate instruction and intelligence and intact sensory abilities (Lyon et al. 2003). The

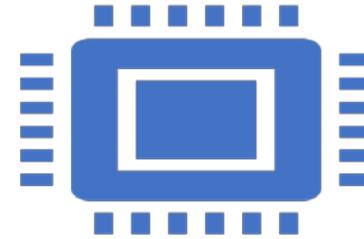
2.1. Dyslexia



1. It is not a
visual deficit

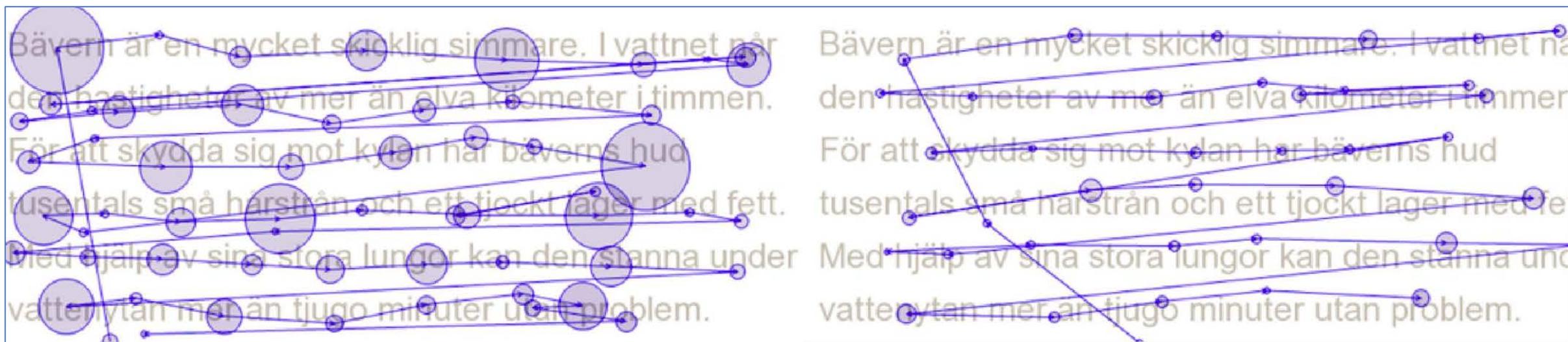


2. It does not
entail reading
comprehension
difficulties



3. Simulating Dyslexia:
<https://www.sldread.org/dyslexia-simulator/>

In dyslexia.. Reading is more labourious



2.2. Dysorthographia



1. A spelling problem: word transcription



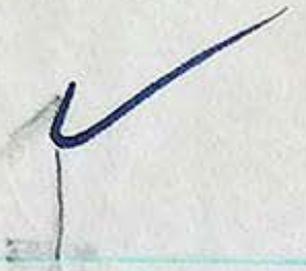
2. It has effects on written expression (clarity and quantity)



3. Simulating Dysorthographia

Jenny

OK.



I have neglected to write in this journal because of a lack of time. For the past 3 days I have been exploring this island. The entire island is no bigger than 2 miles, it forms the shape of a pear. I have come to the conclusion that food will not be

Dysorthographia

strawberries
strawberries

Spelling problems may affect

- Text length
- Text content: words selection
- Time to write
- Higher-order writing problems (planning, translating, revising) because of our limited capacity system
- Self-esteem

Spelling is
~~diffecolt~~
~~challengeng~~
hard.

2.3. Dysgraphia



1. IT AFFECTS
HANDWRITING: WORD
TRANSCRIPTION



2. EFFECTS ON WRITTEN
EXPRESSION (CLARITY
AND QUANTITY)



3. SIMULATING
DYSGRAPHIA

Dysgraphia

Hi Robyn asked me for a sample of my hand writing because I have dysgraphia. Dysgraphia is a term for learning disabilities that affect spelling and handwriting. I should probably point out that ~~I'm~~ despite how my hand writing looks I'm 26 and have a business degree from UPEI with a ~~business~~ minor in economics.

"Hi, Robyn asked me for a sample of my hand writing because **I have dysgraphia**. Dysgraphia is a term for learning disabilities that **affects spelling and handwriting**. I should probably point out that despite how my hand writing looks, **I'm 26 and have a business degree from UPEI with a minor in economics.**"

2.4. Dyscalculia



1. PERFORMING
MATHEMATICAL
CALCULATIONS AND
LEARNING FACTS IN
MATHEMATICS



2. IT AFFECTS EVEN BASIC
ARITHMETIC, AND OFTEN
INVOLVES MATH ANXIETY



3. SIMULATING DYSCALCULIA

Paper, pencil, and timer (60 sec.)

In the following simple math problem the symbol “+” means to multiply; “÷” means to add; “-” means to divide, and “x” means to subtract

$2 + 1 =$	$6 \div 1 =$	$5 - 1 =$	$8 \div 4 =$
$8 \div 2 =$	$7 \times 3 =$	$10 \div =$	$12 - 2 =$
$9 - 3 =$	$5 + 4 =$	$8 + 2 =$	$9 \times 2 =$
$12 \times 2 =$	$12 - 6 =$	$12 \times 2 =$	$5 + 2 =$
$1 - 1 =$	$4 \div 2 =$	$5 + 2 =$	$15 \div 3 =$
$9 + 4 =$	$11 + 2 =$	$7 \times 2 =$	$11 + 2 =$
$6 \times 5 =$	$3 \times 2 =$	$4 - 2 =$	$2 \times 1 =$



2.5 Visual impairment

- Text, pictures and videos perception
- Different in kind and severity
- Affect information processing at different levels
- Does not entail comprehension difficulties

2.5 Visual impairment: contrasts

design	design	design	design
design	design	design	design
design	design	design	design

2.5 Visual impairment: Contrasts

- <https://inclusivedesigntoolkit.com/UCvision/vision.html>

Ability to perceive differences in brightness between foreground and background



2.5 Visual impairment: colour blindness

Read and green colour blindness

8% males; 1% females

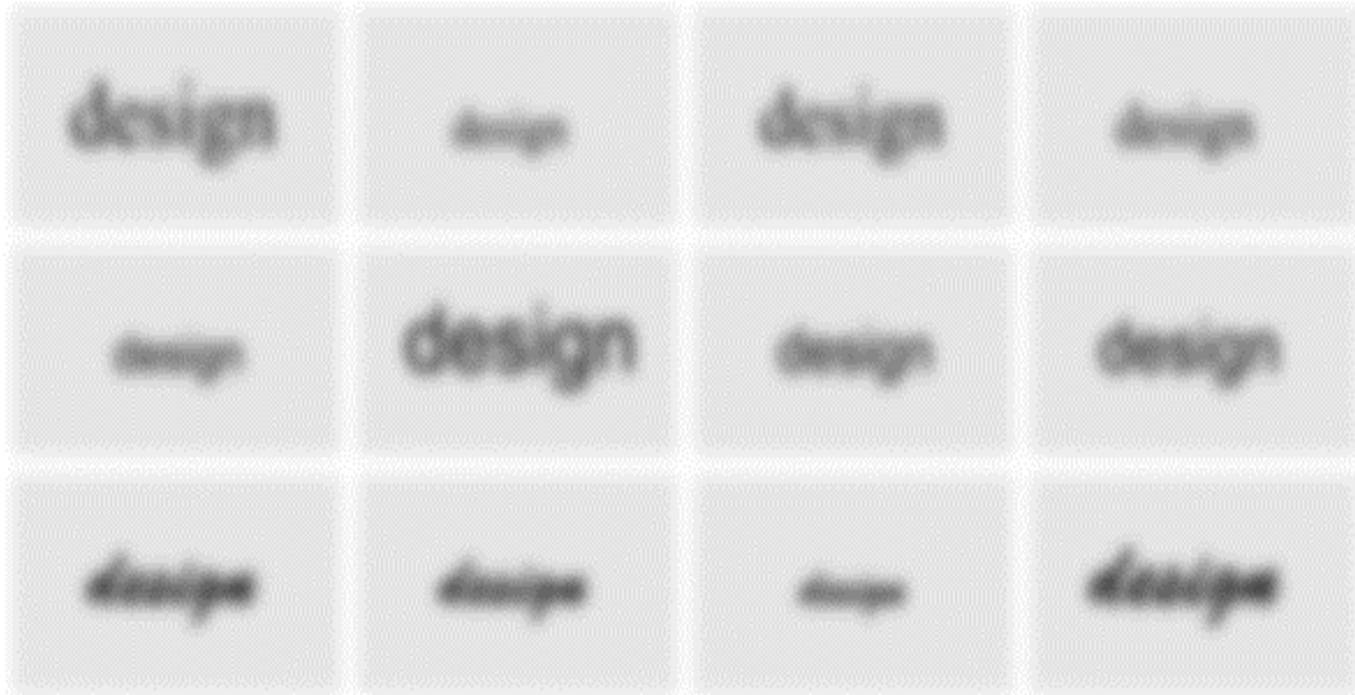


2.5 Visual impairment: font

design	design	design	design
design	design	design	design
<i>design</i>	<i>design</i>	<i>design</i>	<i>design</i>

2.5 Visual impairments: font

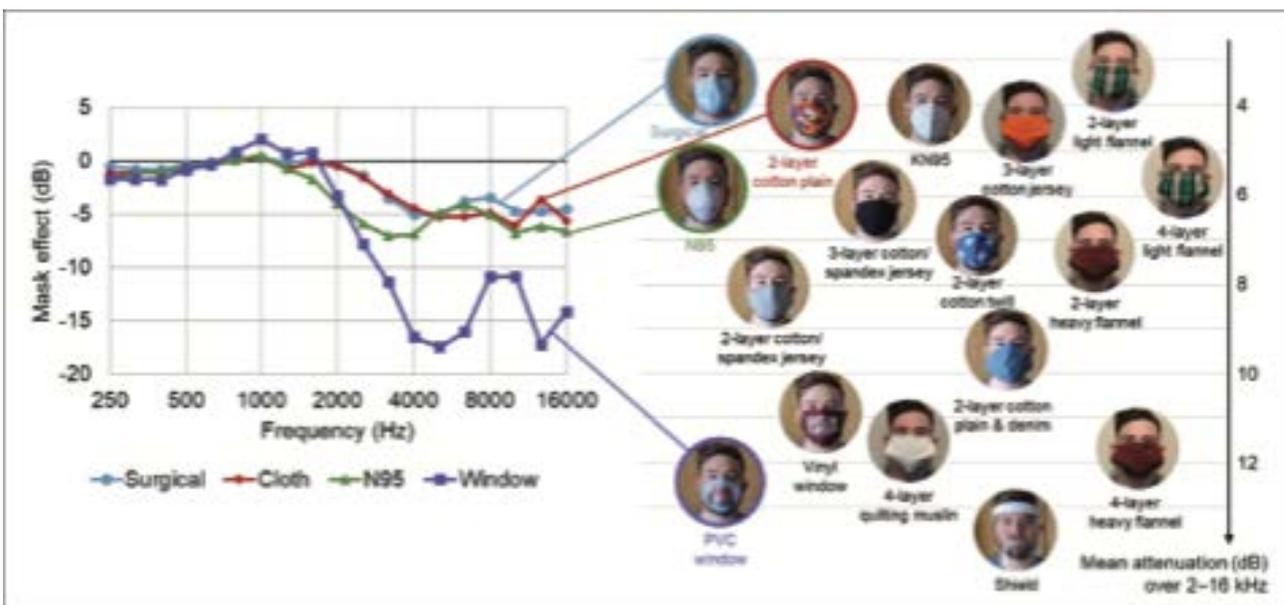
The same images viewed with reduced visual clarity.



Making pictures accessible

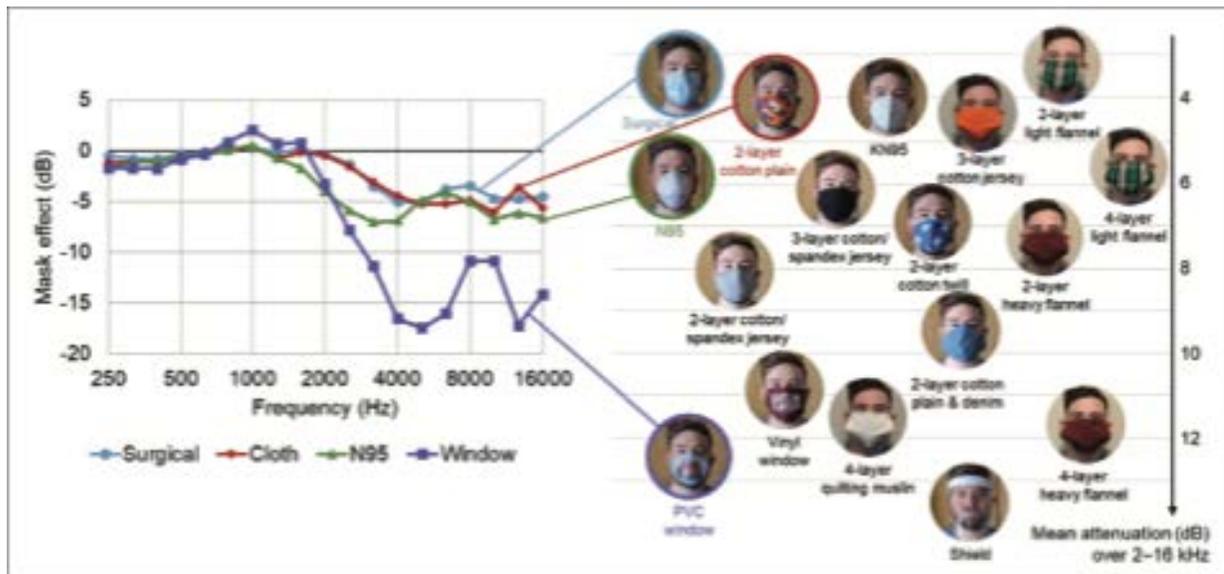
Effects of face-mask use

Look the picture on the left.
What does it represent?



Making pictures accessible

Effects of face-mask use



- The graph shows that particularly at high frequencies face-mask use attenuates the acoustic signal.
- Greatest attenuation with shallow window masks

2.6. Auditory impairment/hearing loss

- Different types and degrees
- May entail different communicative modalities (Oral language; Italian Sign Language: LIS)



2.6. Auditory impairment

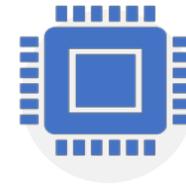
1. Perception and comprehension of oral and written language



2. May entail less efficient (verbal) memory processes



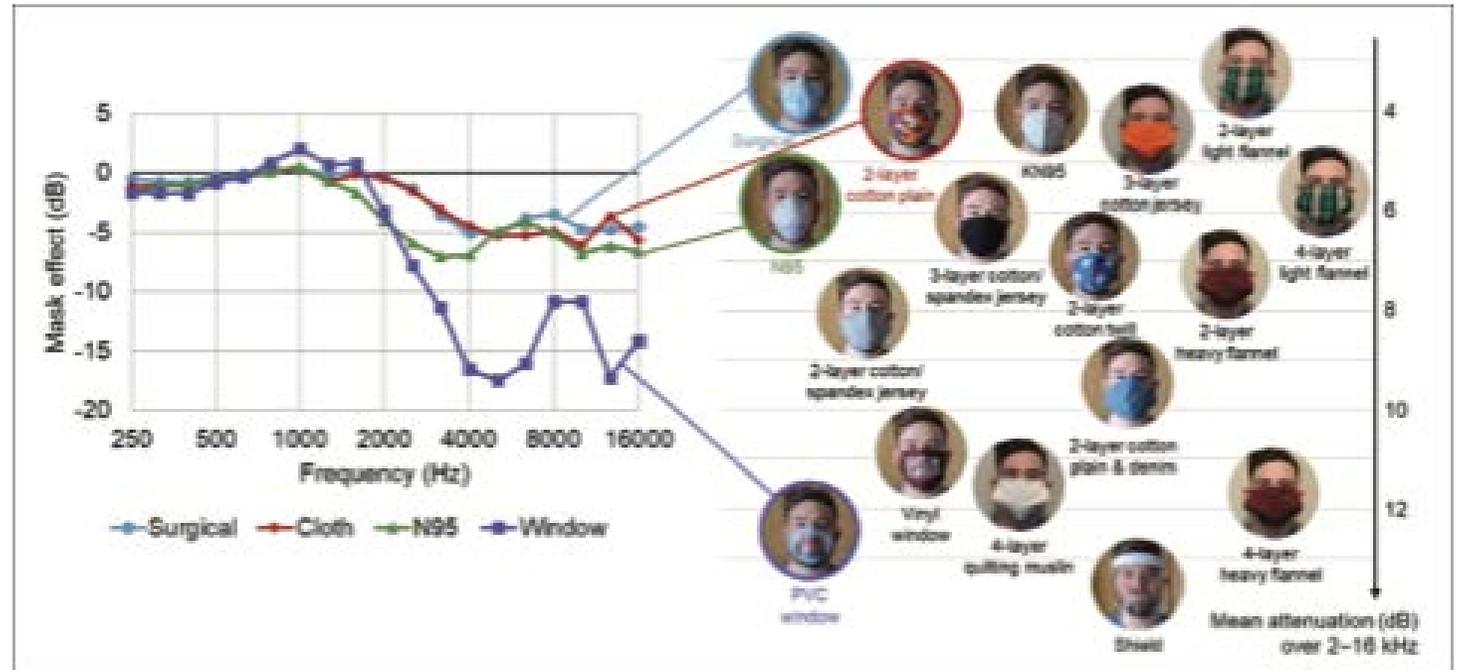
3. Simulating auditory impairment:



<https://www.starkey.com/hearing-loss-simulator/simulator>

Enviromental factors

(Corey et al., 2021)



- Attenuation of acoustic signal
- Loss of lip-reading indexes

2.7. Other language problems

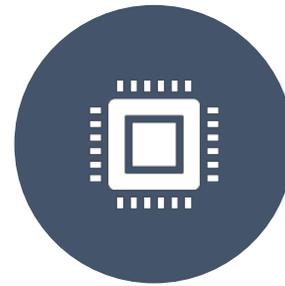


- Aphasia, language disorders, L2 learners
- Affect the comprehension/production of oral and written texts:
 - Lexicon
 - Syntax: comprehension of complex sentences

2.8. Other language problems



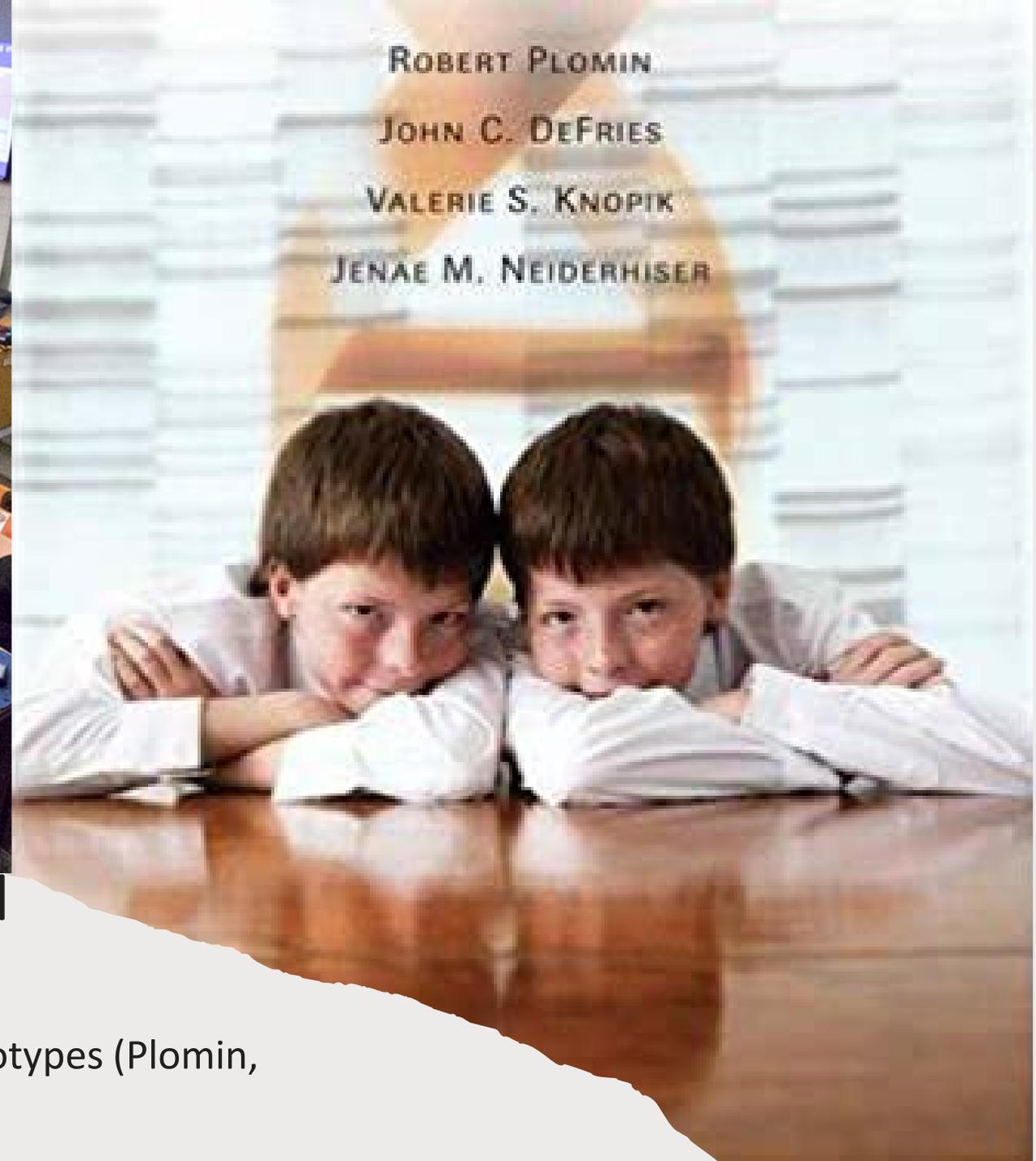
1. May involve
memory processes



2. Simulating
language

problems:

https://vohadmin.github.io/Aphasia_Sim/aphasia-simulations/listening-impairments-simulation-1.html



ROBERT PLOMIN
JOHN C. DEFRIES
VALERIE S. KNOPIK
JENAE M. NEIDERHISER

3. Final tips: Shared and Non-shared environment

N-SE accounts for about 40% of individuals' phenotypes (Plomin, 2011)

3. Final tips: Impairments are never «specifics»

Any impairment does not interest only the specific function that is directly affected by it, but also all other functions that develop in interaction with it.





3. Final tips: Adapting your teaching does not necessarily mean focusing on disabilities

- BUT..Identifying students' strengths and needs

The inclusion network



Teaching staff

About 10% of our researchers and professors involved in inclusion actions: the [Department Inclusion and disability contact persons](#), their colleagues, degree course presidents, school presidents, etc.

Students

Tutors e tutors for inclusion: the entire group of new university tutors (a.y. 2020-21), has been introduced to “inclusive culture knowledge building” activities, and 59 have been specifically trained in inclusive peer tutoring (with 70% already active)
200 hour part-time students: the entire group is being involved in awareness-raising actions on inclusion

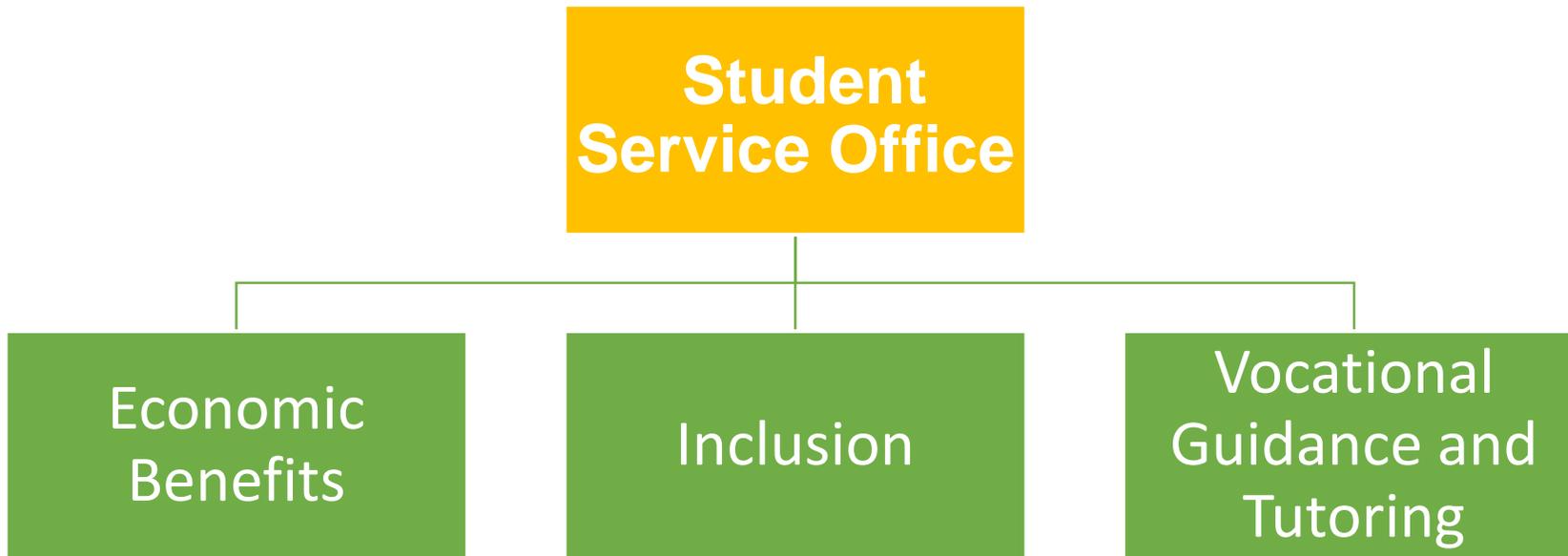
Non academic staff

Specific training to properly deal with candidate with disabilities and other vulnerabilities during the access tests

All sorts of activities related to teaching, learning, research (lab technicians, CEL – CLA, Departments and School admin staff, Padova Hospital traineeship coordinators etc....)

General Courses: “Human Rights and Inclusion” and “Gender Equality and Social Justice”

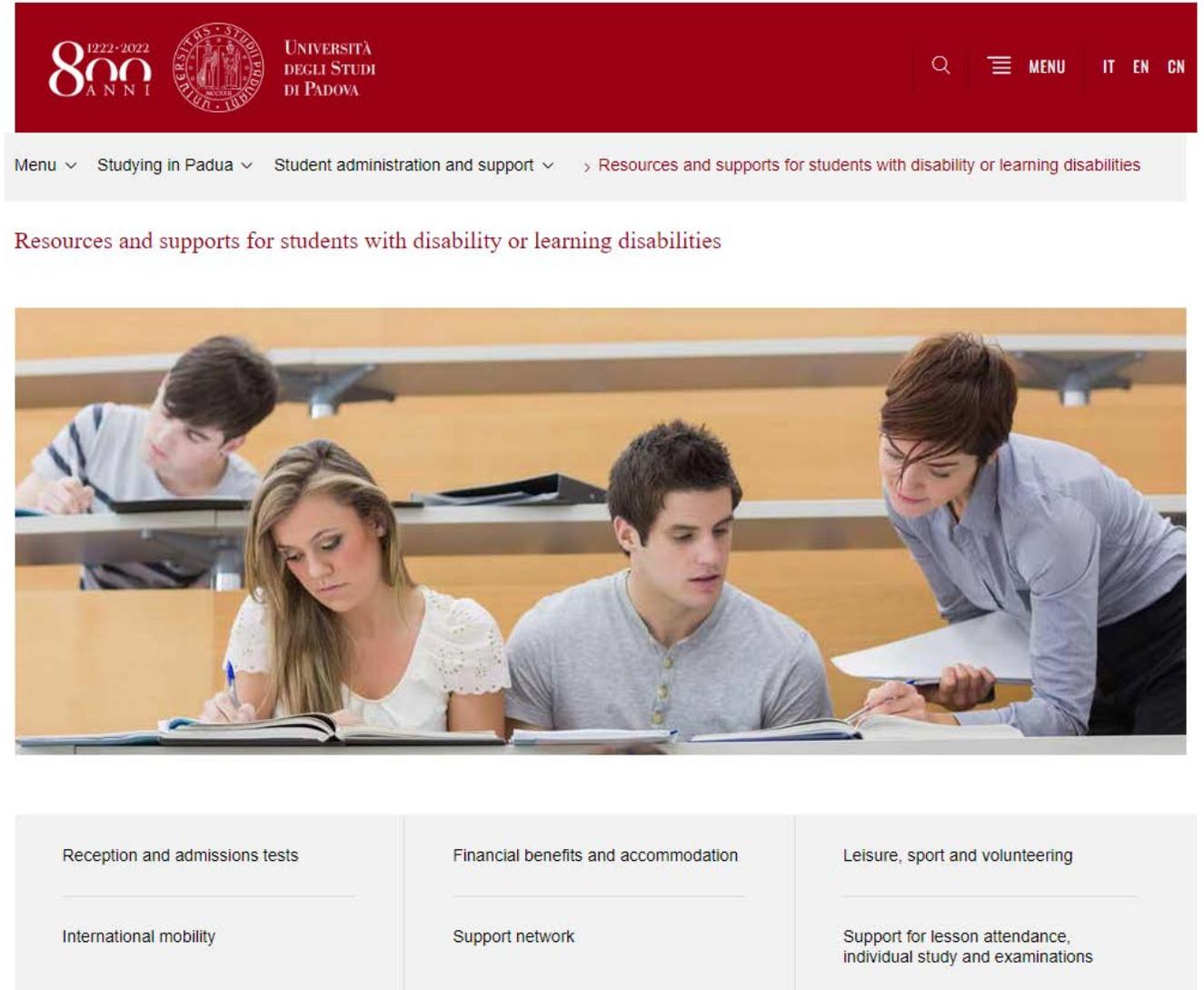
Supports



Student Service Office and Public Engagement Office, but with strong transversal connections and operational activities. No services aimed exclusively at people with disabilities or vulnerabilities (services for all and inherently inclusive)

The Inclusion Unit

Via Portello, 23
Tel. 049 8275038
inclusione.studenti@unipd.it



The screenshot shows the top navigation bar of the University of Padua website, featuring the 800th anniversary logo (1222-2022) and the university's name in Italian. Below the navigation bar, a breadcrumb trail indicates the current page: Menu > Studying in Padua > Student administration and support > Resources and supports for students with disability or learning disabilities. The main heading of the page is "Resources and supports for students with disability or learning disabilities". A large photograph depicts a female student leaning over to assist two male students at their desks in a lecture hall. Below the image, a grid of six service categories is displayed: Reception and admissions tests, International mobility, Financial benefits and accommodation, Support network, Leisure, sport and volunteering, and Support for lesson attendance, individual study and examinations.

1222-2022
800 ANNI

UNIVERSITÀ
DEGLI STUDI
DI PADOVA

Menu > Studying in Padua > Student administration and support > Resources and supports for students with disability or learning disabilities

Resources and supports for students with disability or learning disabilities

Reception and admissions tests

International mobility

Financial benefits and accommodation

Support network

Leisure, sport and volunteering

Support for lesson attendance,
individual study and examinations

Goals



Reception and admissions tests

Reception

The Student Service Office is in charge of welcoming future students with disabilities, specific learning disorders or other vulnerabilities. Since the presence of disabilities, learning difficulties or other conditions may involve additional efforts, the University of Padua provides support for study and active participation in university life.

In the presence of particularly complex conditions, it is suggested to request a dedicated interview with the Inclusion Unit staff to assess individual needs, to better address the entrance tests and plan a quality study pathway. To request for the dedicated interview you need to:

- > online or in-person, bookable at the link: <https://web.unipd.it/prenotazioniservizi/appuntamenti/>
- > send an email to inclusione.studenti@unipd.it specifying name, surname, e-mail address, telephone numbers, the reason why you are requesting an interview, possibly attaching the certificate of disability or diagnosis of learning (or other) difficulties.

Entry tests

Italian laws 17/1999 and 170/2010 allow candidates with a valid certification pursuant to Law 104/92 and/or the Italian Certificate of Invalidity or a certified diagnosis of specific learning disorder to request a personalized entrance test. International candidates who have a legalized translation into Italian or English of the certification or diagnosis issued in their country of origin may also request a personalized entrance test.

How to apply for a personalized entrance test

If the admission notice states that the course requires access through TOLC@casa you will need to follow the procedure indicated on the consortium website: <https://www.cisiaonline.it/> to disclose your condition. In case of difficulty, please contact the CISIA help desk.

For all other types of admission tests, it is necessary to inform the University of your condition of disability, learning difficulty or health condition (even temporary) by reporting it and requesting individualised assistance within the [online pre-registration procedure](#) on the Uniweb portal, in accordance with the procedures and deadlines indicated in the [admission notices](#).

Once you have pre-registered with reporting and the request for individualised intervention has been made on Uniweb, it is necessary to send the request to the email address inclusione.studenti@unipd.it by scanning it into a single PDF file* and within the deadline indicated in the [admission notice](#).

+ Compensatory measures allowed

A.A.	N. candidati che richiedono prove personalizzate		
	con disabilità	con difficoltà di apprendimento	Totale
2020/21	96	441	537
2019/20	92	331	423
2018/19	68	252	320



On request, the Disability Service helps students with the paperwork

Financial benefits and accommodation

To promote the right of students with disabilities to study and participate in university life, the University of Padua provides financial benefits and the opportunity to apply for the **accommodation services** of Padova's Regional Company for the Right to University Education (ESU).

Eligibility for these benefits can be explored in a personal interview. To book an appointment, please refer to the contact details at the bottom of the page.

(a) [Form for students with disabilities](#)

(b) [Form for students with learning difficulties](#)

Exemption and reductions

Total exemption from tuition fees is reserved for students enrolled in degree courses with a level of disability officially recognized by Italian national health service commissions between 66% and 100%, or those holding certification (see Article 3(1) of Law No. 104 of 5 February 1992). In this case, beneficiaries of total exemption need only pay stamp duty and the regional contribution for the right to university education.

Partial exemption is envisaged for students with disabilities between 50% and 65% with a means-tested income (ISEE) equal to 28,000 euros or less. In this case, beneficiaries shall be exempt from the second and third instalments of their tuition fees.

To benefit from exemption, you need to submit your application by November 30 of each academic year. You must also have requested an [ISEE certificate](#) and completed the *Application for financial benefits* on Uniweb. For more information on amounts and deadlines, please refer to the "[Student exemption](#)" section on the website.

Scholarships

Regional scholarships are awarded with an annual selection and are based on income and merit. If you have a civil disability of 66% or more, you are entitled to benefit from special criteria for the calculation of merit requirements. Scholarships are also provided for additional semesters. Your disability percentage also affects the calculation of the ISEE, as it changes the equivalence parameter.

For more details on merit and income requirements and how to apply, please go to the "[Scholarships](#)" section on the website.

Accommodation



The University of Padua and ESU, the Veneto's Regional Association for the Right to Study,

Support for lesson attendance, individual study and examinations

Support for lesson attendance

Attending lessons is widely considered the best way to reap the benefits of a university education, as it allows you to experience course content first-hand and is an opportunity to exchange opinions and interact with peers and lecturers. **Participating actively** in university life also means making the most of other student-related opportunities, such as conferences, seminars, study days, student assemblies and dissemination events. These events are perfect for learning more about a great variety of issues and content, making your own contribution, interacting with people from different fields, as well as broadening your cultural horizons and social life, thus making your study path richer and more stimulating. The University of Padua offers dedicated services to encourage the **participation of students with disabilities**.



+ Buddy service

+ LIS interpreting and Stenotype service



Support for individual study

+ Inclusion Tutors

+ Technological aids

+ Library Services

+ Quiet Room



Support for exams

As stated in laws 17/1999 and 170/2010, students with disabilities or learning difficulties may request examinations adapted to their needs.

For each exam, requests for "personalization" must be sent by email to inclusione.studenti@unipd.it at least fifteen days before the exam date; the Student Services Office will then contact the professor to agree to any reasonable adjustments. The Head of Inclusion and Disability of the Department will also be involved, if necessary. If the 15 days are not respected, the request will not be taken into consideration.

Examples of reasonable adjustments:

- > extra time may be granted;
- > technological aids may be used.

A.A.	n. studenti con disabilità e difficoltà di apprendimento	n. esami personalizzati per studenti con disabilità e difficoltà di apprendimento
2020/21	419	1.565
2019/20	290	1.377
2018/19	280	1.142

Healthcare and Primary Services

- > [Information on healthcare for **temporary stays** \(exchange and double degree students\)](#)
- > [Information on healthcare for **European students**](#)
- > [Information on healthcare for **non-European students**](#)

Psychological Assistance Service

The Psychological Assistance Service is a point of reference for any students who encounter psychological difficulties during their studies (anxiety, relationship problems, academic performance). It provides counselling so that students can play a productive role in University life and reap the benefits of their studies, and valuable information and support regarding addictions (smoking, alcohol, drugs, eating disorders etc.).

The Service, which is completely free of charge for all students of the University of Padova, is set up by the Department of General Psychology and the Department of Developmental Psychology and Socialisation in collaboration with ESU.

International students can book an appointment by writing to psychological.assistance.scup@unipd.it.

Psychiatric Consultancy Service

The Psychiatric Consultancy Service has been set up by an agreement between the ESU and the Department of Psychiatric and Neurological Science in order to offer students expert advice on psychological or personal problems, difficulties or unease. Consultation consists of three diagnostic or evaluative sessions, plus one session based on the structured interview method. Sessions are on a weekly basis, and at the end of the course, the S.C.P. offers a brief series of therapy or recommends organisations that can offer students additional advice.

Servizio di Consulenza Psichiatrica
via Giustiniani 2
tel. +39 049 8213830

Healthcare for European students

Healthcare for non-European students



Local institutions

Meetings are held with psychologists, psychiatrists, high school teachers, heads of associations and cooperatives, who follow/support future and enrolled students, in order to create supports in tune with what has already been implemented in favour of continuity and improved levels of well-being



Support to academic staff – networking, counselling, specific training



Linee guida accessibilità

+ **Linee guida per la creazione di presentazioni accessibili**

+ **Accessibilità dei documenti pubblicati on line**

Risorse per la teledidattica accessibile

Accessibilità e prove di ammissione

+ **Comunicazione inclusiva: alcune risorse**

+ **Sottotitolazione video**



Linee guida essenziali per la creazione di prove di ammissione accessibili

Premessa

Scopo di queste linee guida è quello di rendere accessibili a tutte le studentesse e a tutti gli studenti, con e senza disabilità, le prove di ammissione per l'iscrizione al nostro Ateneo tenendo in considerazione qualsiasi tipologia di vulnerabilità.

Criticità riscontrate nelle attuali prove di ammissione

In linea generale, va sempre considerato l'utilizzo di un **interlinea** di almeno 1,5 e un **carattere** che non preveda l'uso di grazie (alcuni caratteri accessibili sono Arial, Calibri, Verdana), di grandezza minima 18, adattabile in caso di necessità: questo significa che il file sorgente deve essere prodotto in formato accessibile (.doc; .docx; .rt.; .txt; .pdfA) in modo da poter essere facilmente modificato ogni qualvolta richiesto.

ESEMPIO DA EVITARE

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