

Job-Driven Technical Assistance Center (JD-VRTAC): Technology for Supporting Adults with Learning Disabilities

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Technology for Independence



Job-Driven Center Goals

Improve skills of state VR agency staff, other rehab professionals & providers of VR services, who are trained to provide “job-driven” VR services & supports to PWD, employers & customized training providers.

Four Topic Areas:

1. Business Engagement
2. Employer Supports
3. Labor Market Information (LMI)
4. Customized Training Providers

www.explorevr.org



Job-Driven Center Partners

Institute for Community Inclusion (ICI) at Univ. of Massachusetts,
Boston

In Partnership with:

- Jobs for the Future (JFF)
 - Univ. of Arkansas
 - Univ. of Washington
- Council of State Administrators of Vocational Rehabilitation (CSAVR)
 - United States Business Leadership Network (USBLN)
 - Association of University Centers on Disabilities (AUCD)

In Collaboration with:

- National Council of State Agencies for the Blind (NCSAB)
 - Technical Assistance Center Collaborative



Washington Assistive Technology Act Program



- Provide Assistive Technology resources and expertise to all Washington residence with disabilities to aid in making decisions and obtaining the technology and related services needed for employment, education and independent living
- Each state has a federally funded and mandated AT program that provides comprehensive statewide services



How the AT Act Programs Can Help

- Low cost or free programs for consumers
 - Device Demonstration
 - Device Lending
 - Device Reutilization
 - Alternative Financing
 - Information and Referral



Objectives

- Understand barriers to employment caused by learning disability and identify 3 assistive technology solutions to help compensate for those barriers.
- Be able to identify different hardware solutions and how to implement them.
- Be able to identify in what situation individuals should use dedicated literacy software vs. mobile apps to support reading and writing to achieve functional outcomes.



Technology & LD

WASHINGTON ASSISTIVE TECHNOLOGY ACT PROGRAM



Decision-Making Process in Selecting AT

- Identification of Need
- Functional Assessment
- Identify Options
- Decision-making
- Acquisition and/or treatment
- Customization & training
- Outcome measurement & re-assessment



Defining Learning Disabilities (LD)

- Involves disorders of learning and cognition that are intrinsic to the individual
 - Presumed to be due to central nervous system dysfunction
 - Stable over the lifespan
 - Affect a relatively narrow range of academic and performance outcomes
 - Most common deficits are in reading, less common in writing, and math. May affect speaking, listening, reasoning as well
 - Different types of LDs often co-occur



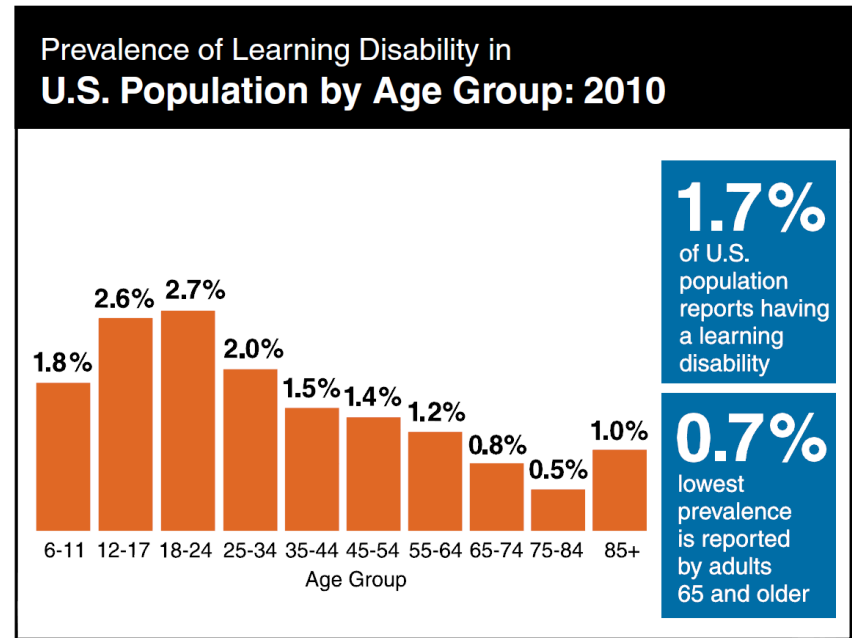
Defining Learning Disabilities (LD)

- Problems in self-regulatory behaviors, social perception, and social interaction may exist with LD but do not, by themselves, constitute a learning disability
- LD may occur with other disabilities or outside influences but they are not the result of those conditions or influences
 - Other disabilities: sensory impairment, intellectual disabilities, serious emotional disturbance
 - Other influences: cultural differences, insufficient or inappropriate instruction



Prevalence

- 2010 U.S. Survey of Income and Program Participation (SIPP) a self report measure
 - US population = 1.7% (4.6 million people)
 - 6-11 = 1.8%
 - 12-17 = 2.6%
 - 18-24 = 2.7%
- Likely an underestimate



Source: H. Stephen Kaye, Unpublished tabulations of 2010 data from the U.S. Census Bureau Survey of Income and Program Participation

Graphs from *The State of Learning Disabilities* report, 2014.



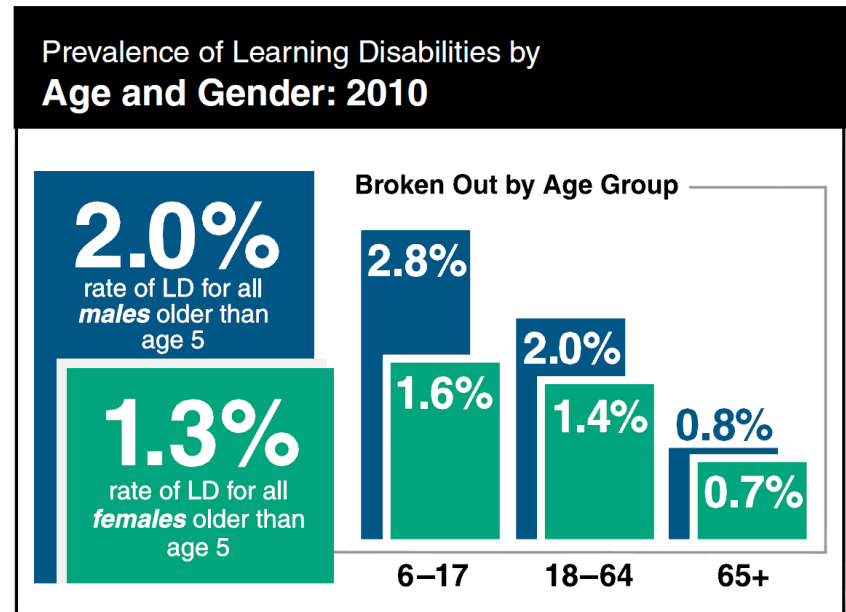
Prevalence

- Exact prevalence for adults is unknown
 - Total population estimates vary widely...some as high as 15% (including adults)
- Prevalence is higher in adult education and training programs
 - Welfare to work programs estimate 25-35% of participants have LD
 - Programs serving students who dropout will have higher numbers of students with LD as the dropout rate is 2-3 times their peers



Prevalence

- **Varies by Gender**
 - Males more likely to have an LD

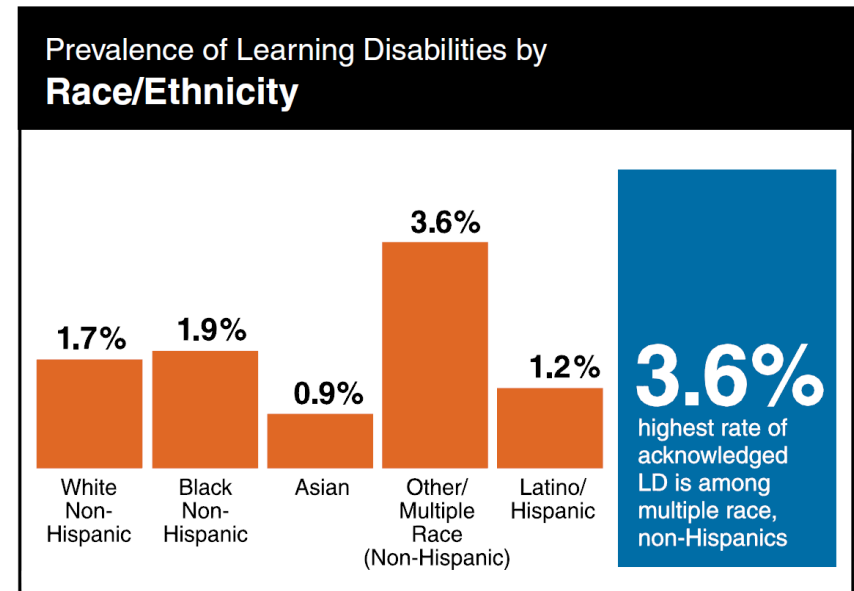


Source: H. Stephen Kaye, Unpublished tabulations of 2010 data from the U.S. Census Bureau Survey of Income and Program Participation



Prevalence

- **Varies by Race/Ethnicity**
 - Equivalent across Latinos, Blacks, and Whites
 - Higher among other/multi-race
 - For example Native Americans
 - Lowest in Asian populations

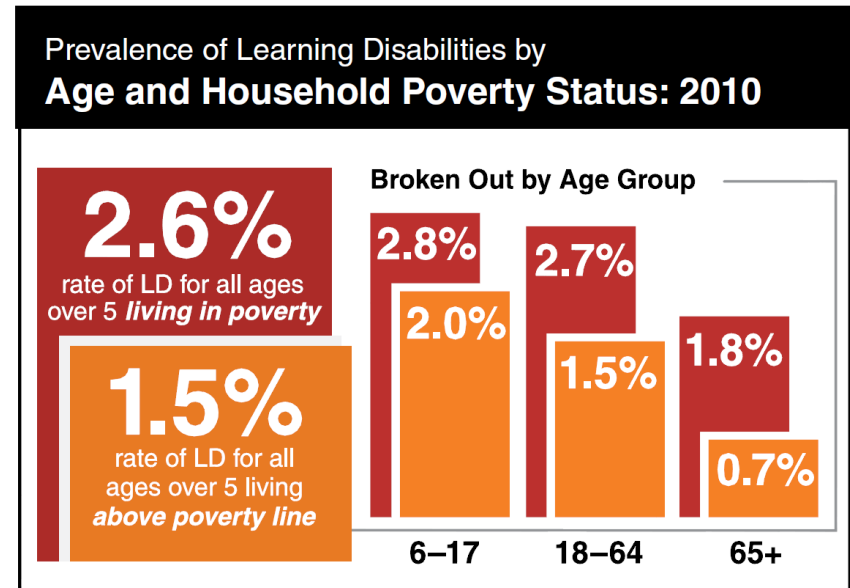


Source: H. Stephen Kaye, Unpublished tabulations of 2010 data from the U.S. Census Bureau Survey of Income and Program Participation



Prevalence

- Related to Poverty
 - People living below the poverty line more likely to report having LDs

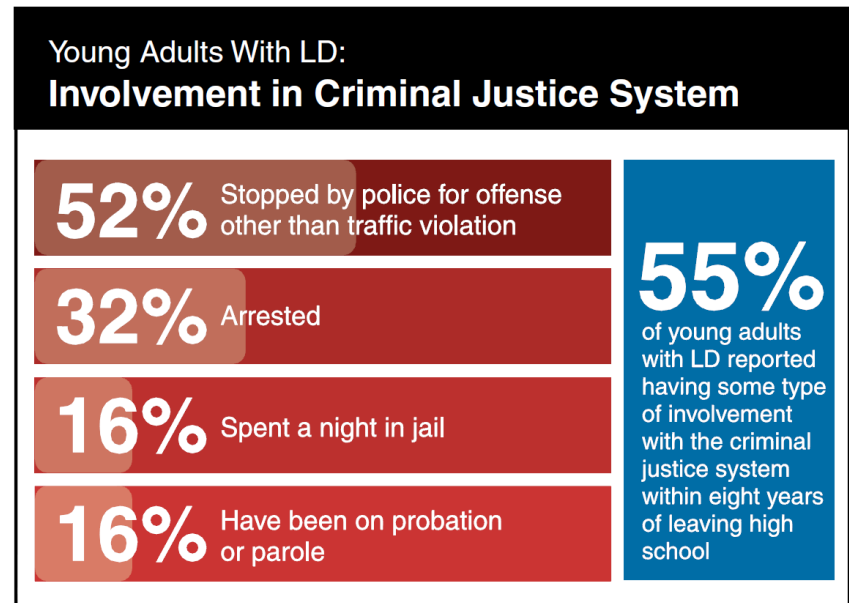


Source: H. Stephen Kaye, Unpublished tabulations of 2010 data from the U.S. Census Bureau Survey of Income and Program Participation



Criminal Justice Involvement

- Over half of young adults with LD report some connection to the criminal justice system within eight years of leaving high school
- Nearly a third have been arrested

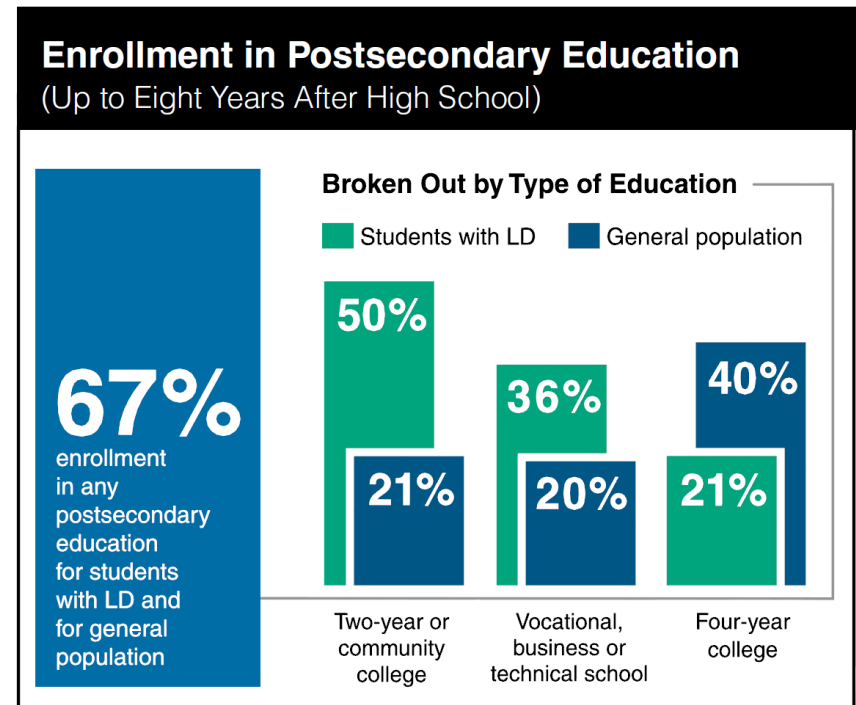


Source: National Longitudinal Transition Study-2, 2011



Postsecondary Education

- Postsecondary Education
 - Total enrollment in postsecondary is similar to general population
 - Adults with LD twice as likely to attend two year college.
 - Half as likely to attend four year college

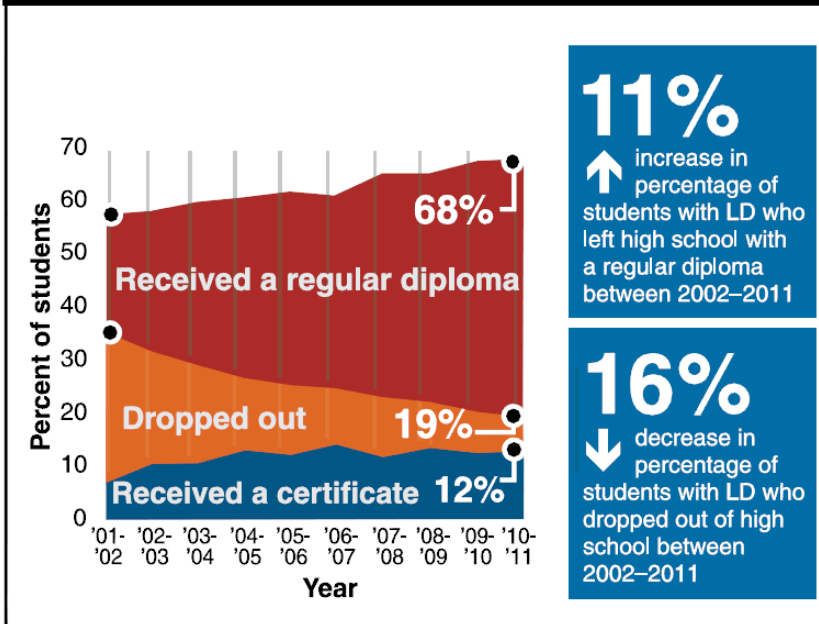


Source: National Longitudinal Transition Study-2, 2011



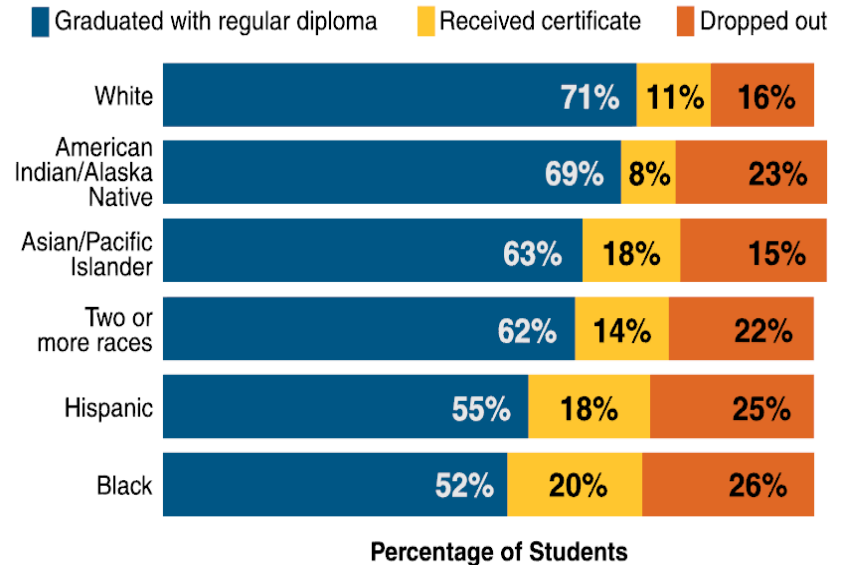
Transition and LD

How Students With LD Exited High School: 2002–2011



Source: IDEAdata.org, Exiting by Disability, Ages 14–21, 2002–2011

How Students With Disabilities Exited High School by Race/Ethnic Group: School Year 2010–2011

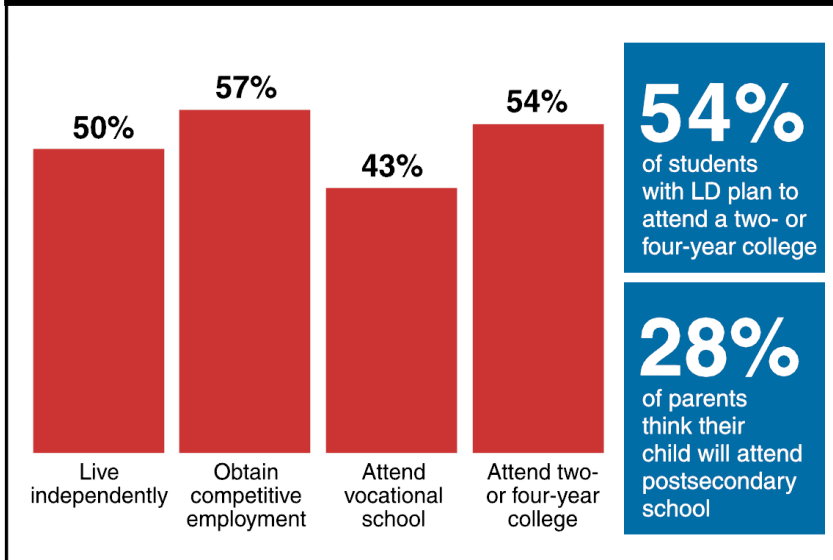


Source: IDEAdata.org, Exiting by Race/Ethnicity and Basis of Exit, Ages 14–21, 2010



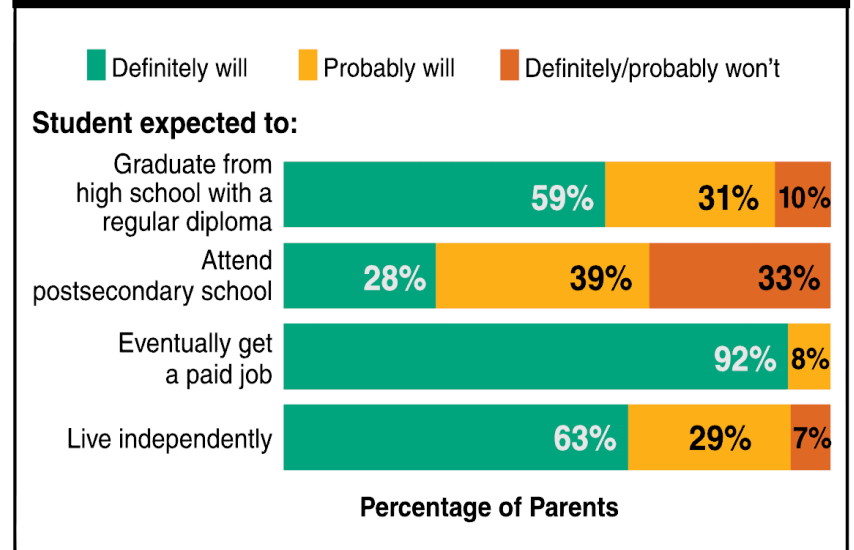
Transition and LD

Secondary Students With LD: Goals After High School



Source: National Longitudinal Transition Study-2, 2003

Parents' Expectations of Students After Graduation: Students With LD

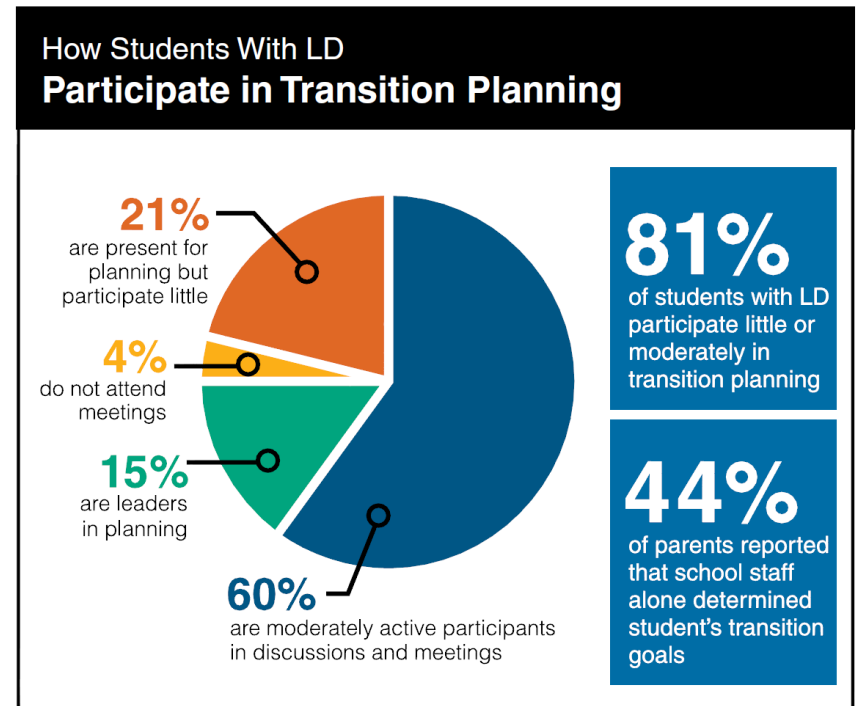


Source: National Longitudinal Transition Study-2, 2003



Transition Planning

- Only 15% of students are active participants in their transition planning
- 44% indicate that school staff alone determined transition goals



Source: National Longitudinal Transition Study-2, 2003



Transition Planning

- There is limited involvement of outside agencies in transition planning, but 75% of transition plans include some type of post-high school services
 - 32% include vocational training

Contacts Made by Schools on Behalf of Students With LD for Transition Planning

Two- or four-year colleges	26%
Vocational schools	26%
Potential employers	17%
Military	18%
Job placement agencies	21%
Other vocational training programs	27%
Vocational Rehab agency	34%
Other social services agencies	12%

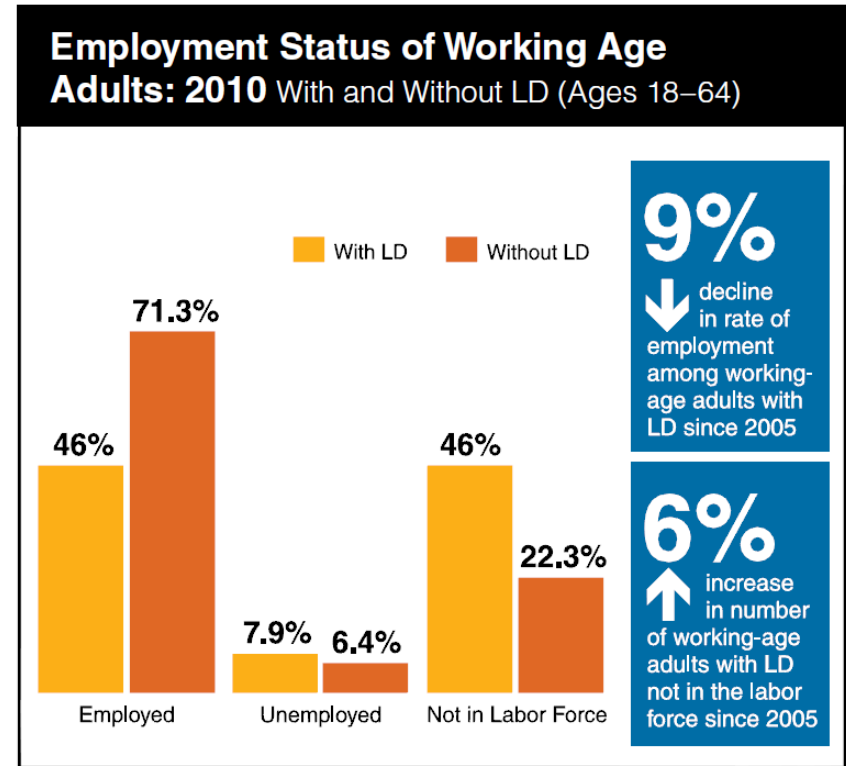
Source: National Longitudinal Transition Study-2, 2003

WASHINGTON ASSISTIVE TECHNOLOGY ACT PROGRAM



Employment Status

- Only 46% had regular paid employment within 2 years after leaving school
- Nearly half of working age adults with LD are not in the labor force

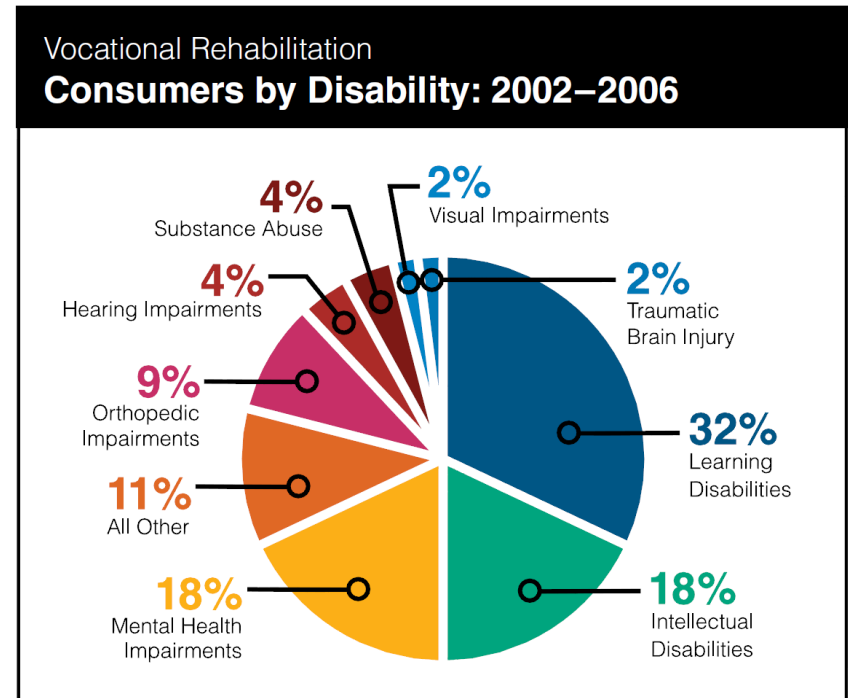


Source: H. Stephen Kaye, Unpublished tabulations of 2010 data from the U.S. Census Bureau Survey of Income and Program Participation



Vocational Rehabilitation and LD

- LD is the largest disability category served in VR
- 32% of VR clients ages 16-25 have LDs



Source: National Council on Disability, 2008



Accommodations and LD

- Employers generally lack understanding of LD
- Responsibility often falls to individual with LD to disclose disability, educate employer and request accommodation
- Many adults with LD either believe they have grown out of it or are not confident disclosing
- Reasonable accommodations are rarely provided
 - Less than 1 in 20 (5%) report receiving accommodations at work



Accommodations and LD

Within eight years after leaving high school, nearly two-thirds of students consider themselves to not have a disability

Young Adults With LD in Postsecondary School: **Disability Disclosure and Receipt of Accommodations**



Source: National Longitudinal Transition Study-2, 2011



Impact of LD on Adults

- LD has an ongoing impact on the lives of adults
- Hidden nature of LD can lead people to misinterpret performance problems of the person with LD
- Depression is strongly correlated with LD



Assistive Technology and LD

- In a national longitudinal study, only 6.8% of students with LD reported they received AT in school
- 0.2% reported receiving AT post school
- Students who received AT in school had higher graduation rates, higher rates of paid jobs, and were less likely to be earning less than minimum wage



Technology as an Intervention

- Two general uses of technology for individuals with LD
 - Remediation
 - instructional, rehabilitative
 - Compensation
 - accommodation, modification



Using Technology for Remediation

- Instructional technology
 - Most often aimed at providing more practice opportunities and on-going assessment
 - Ineffective strategies unlikely to be more effective when delivered via computers



Using Technology for Compensation

- Assistive Technology
 - Provides access to reading materials beyond person's current skills
 - Makes writing easier and faster
 - Helps with spelling



Role of Technology Across the Lifespan

- Early grades K-3: intensive remediation
- From 3rd or 4th grade through postsecondary: combine instruction with compensatory strategies
- Adults: focus on compensatory strategies



What is the Best LD Software?

- For whom?
- For what tasks?
- In what environments?
- With what supports?



Linking Function to Feature

What features of an AT product will support an individual who has a specific set of functional deficits to complete specific tasks in a specific environment with a specific support system (e.g., personal assistance)?



Separating Reading and Writing

- Important to remember that reading and writing are separate domains, but many software programs have features that address both
- Need to be clear about what functional deficits you are trying to address and what features are appropriate



Important Considerations

- Adoption of new technology can have a high cost to benefit ratio
 - Efficiency
 - Cognitive economy
- Reading/writing software helpful for users who:
 - Have good verbal skills
 - Can learn to operate the software
 - Can learn to use the features effectively
 - Have access to training and technical support



Wrap Up

- Adults with LD focus on compensatory strategies
 - accommodation, modification
- Link function to features



Questions?



Washington Assistive Technology Act Program

- University of Washington
- (800) 214-8731 Toll-Free Hotline
- (206) 616-1396 TTY
- (206) 543-4779 Fax
- <http://watap.org/>
- [Email: watap@uw.edu](mailto:watap@uw.edu)



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