Students in the University of Washington's "DO-IT" Scholars program discuss data with an instructor.

PHOTO: THE DO-IT CENTER

LETTERS

Edited by **Jennifer Sills**

Disability inclusion enhances science

The Americans with Disabilities Act (ADA)—a landmark piece of legislation for the support of people with disabilities—turns 30 next year (*1*). As the ADA has aged, the culture around disabilities has grown, revealing that much more can be done. Legislation is helpful, but improvements don't have to come from the top.

Nearly a quarter of Americans live with a disability, yet individuals with disabilities comprise just 17% of the entire American workforce (*2*), 9% of the scientific workforce, and a mere 7% of PhD-holders employed in science (*3*). Barriers to science, technology, engineering, and mathematics (STEM) careers among people with disabilities include the lack of proper instruction, insufficient access to facilities and instruments, and not being accepted by peers (*4*). Students with disabilities report that only two-thirds of course instructors help them engage in lab tasks and that there are no accommodations in half of the labs they enter (*5*), creating missed opportunities to gain the skills necessary for careers in STEM research.

Many world-renowned scientists, past and present, have built successful STEM careers while managing a disability [e.g., (*6*)]. Still, if the average principal investigator were to assess whether his or her research lab is prepared to accommodate a new member with a disability, the answer most likely would be: "I have no idea." The vast range of disabilities—including those with outward characteristics and those that are invisible—makes the necessary accommodations diverse. Fortunately, there is help, such as that offered by the DO-IT program at the University of Washington (*7*). DO-IT works with groups worldwide to create laboratory accommodations, including bringing Universal Design into the lab environment.

Universal Design principles create accommodations for everybody. Many of us enjoy Universal Design every day in the form of curb cuts—ramps that bring sidewalks down to street level—which are helpful for those walking unassisted as well as those using walkers or wheelchairs, pushing baby strollers or pulling rolling carts, or riding bikes or scooters. Translated to the lab, Universal Design takes the form of adjustable height workstations, wider doors and gaps between workstations, easily accessible lab supplies and safety equipment, touch screens, and closed captioning (*8*). As this list attests, everyone benefits, even if they just differ in height. Feeling the need to explain one's disability or limitation can be upsetting, and communicating it can be challenging, causing individuals to avoid certain social interactions and activities. Turning labs into more accessible work environments increases awareness among existing lab members, and an accommodative culture can become the new norm, reducing the social barriers that individuals with disabilities face in STEM environments.

Increasing recruitment of individuals with disabilities in STEM will markedly improve the business of science. It will draw in brilliant minds that previously shied away, foster specialization that pushes fields along faster than ever before, and create the collaborative atmosphere necessary to tackle the biggest challenges facing our planet. Disability inclusion may seem daunting because of financial, logistical, and safety concerns; however, increasing disability representation can start with simple changes like implementing Universal Design principles, engaging with university disability specialists, and embracing an inclusive mind-set, to the benefit of this marginalized group and to our society and planet as a whole.

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