

Comment on “Service Dogs and Safety in Academic Laboratories”

Joey Ramp,* Coltan G. Parker, Justin S. Rhodes, and Pat Malik



Cite This: *J. Chem. Educ.* 2021, 98, 250–251



Read Online

ACCESS |



Metrics & More



Article Recommendations

ABSTRACT: Increasing diversity and inclusion in science means making change, and making change means overcoming new challenges. The paper entitled “Service Dogs and Safety in Academic Laboratories” opens an important discussion on this topic. However, certain statements in the paper appear to perpetuate a negative bias concerning the inclusion of people with disabilities in science. In this letter, we explain this sentiment and, then, go on to examine and respond to the statements in question.

KEYWORDS: *High School/Introductory Chemistry, First-Year Undergraduate/General, Second-Year Undergraduate, Upper-Division Undergraduate, Graduate Education/Research, Laboratory Instruction, Safety/Hazards, Problem Solving/Decision Making, Administrative Issues, Laboratory Management*

The paper “Service Dogs and Safety in Academic Laboratories”¹ opens an important discussion on safely accommodating a service dog (SD) in classroom laboratories. This is timely as the number of students with disabilities (SwDs) in postsecondary education is increasing,² along with the number of people with disabilities (PwDs) assisted by service dogs,³ yet PwDs remain underrepresented in science.^{4,5} Although the paper contains useful notes on the Americans with Disabilities Act (ADA), differences between SDs and emotional support animals, and SD registration, it paints an overly negative picture of what to expect when accommodating a student SD handler (SSDH) in a classroom laboratory. Many potential hazards described in the article seem exaggerated or could be easily mitigated by following the RAMP paradigm: recognize hazards, assess risks, minimize risks, and prepare for emergencies. By emphasizing hazards without also emphasizing strategies for hazard minimization and the positive impacts of a more inclusive classroom, the article risks communicating to readers that the experience of accommodating SSDHs will be defined by the negatives instead of the positives.

Examples of statements we think perpetuate the negative bias are listed below, followed by our explanation of how the situation can be easily accommodated.

1. “No one would want a dog to pick up items from the laboratory floor or to carry them for a partner...”¹ This statement was presented as evidence for why SDs should be replaced by a lab partner and implies that SDs will inevitably retrieve dangerous items from the laboratory floor. However, a qualified SD undergoes approximately two years of training including six to nine months of advanced command training.⁶ They can easily be instructed to not retrieve an item. SDs frequently undergo additional training to fit the handler’s life schedule. Although it is true that the ADA does not allow the lab manager to ask for a demonstration of such training, if the SD is out of control or disruptive, the instructor can insist that the dog leave. Further, the

author ends the paragraph by saying many SDs perform a function that “requires the dog’s presence 24/7, and there is no real alternative”,¹ leaving the reader to postulate that SSDHs should be excluded entirely.

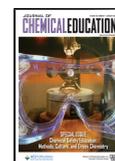
2. “The way in which the dog notifies its partner of a coming problem may startle not only the partner but other students in the laboratory as well, again a possible cause of a chemical spill or incident.”¹ An SD is well-trained and clearly visible. Students can easily work around them. During advanced command training, or after placement with a handler, an SD can be taught alternative alerts other than using a verbal alert or nudging a handler (e.g., using their mouth to grab a ribbon attached to their harness or collar, or sitting up and raising a paw).^{7,8}
3. “Equipment and containers for chemical waste are often on the floor or on low shelves.”¹ Chemical waste containers can be relocated, or the handler and SD can be stationed away from certain equipment or containers. This is unlikely to fundamentally alter lab operations. There is real potential for exposure to a chemical spill, but as Redden points out, an SD should be trained to wear appropriate personal protective equipment (PPE), namely, goggles, a lab coat or clean room suit, and boots, which would minimize any risk of exposure.
4. “[...] A dog lying on a mat in the aisle is an even larger hazard [than a backpack or stool], exacerbated by the fact that the dog [...] may occasionally stretch its legs or tail farther into the aisle.”¹ Like any other assistive device, an SD is necessary medical equipment for a

Special Issue: Chemical Safety Education: Methods, Culture, and Green Chemistry

Received: July 21, 2020

Revised: November 3, 2020

Published: December 24, 2020



person with disabilities. An individualized risk assessment should provide all SwDs, including those assisted by SDs, “reasonable accommodations tailored to an individual student’s needs to allow equal access to higher education”.⁹ Laboratory settings require accommodations related to laboratory-specific hazards. Examples of reasonable accommodations include arranging rooms to adjust floor traffic; relocating to an accessible class or lab; and identifying accessible workstations, eyewash stations, and alternate PPE.^{10,11} Moreover, SDs are taught to “tuck” under benches, tables, and chairs, a skill requiring the dog to tuck their tail around themselves and pull in their legs. This is a basic training requirement for an SD to keep them out of the way of traffic on public transportation, in restaurants, or in the home. Even after a shift or stretch, an SD would return to their tucked position.

- “Heavier-than-air vapors can accumulate on the floor near the dog’s nose or in the dog’s fur.”¹ Laboratories are equipped with fume hoods that would eliminate heavier-than-air vapors if used correctly. Permissible exposure limit (PEL) monitoring of hazardous chemicals is mandatory in laboratories used by any worker.¹² Data using dogs as sentinel species indicate that dogs respond to many toxic insults in ways analogous to humans.^{13,14} Although an SD is not covered by OSHA, if this is a concern then a PEL monitor at floor level can be requested as a reasonable accommodation.
- “The ADA gives a student the right to bring a service dog into the laboratory, but it might not be in the best interest of either the dog or the partner to do so.”¹ The risks can be easily mitigated, and the advantage of enabling the handler to participate in advanced chemistry and biology laboratories far outweigh the “dangers” to the dog or the other classmates. While it may seem unlikely to some that a dog could be in a classroom laboratory without being disruptive or dangerous, we know that it is easily done because one of us has done it.

In conclusion, we suggest educational institutions and science societies develop nuanced inclusive guidelines for accommodating SSDHs. However, it cannot be done without a forward-thinking approach to diversity: A negative spin fuels resistance to inclusion. We do not want to dissuade PwDs from science or encourage administrators to drag their feet and put up obstacles. We want to embrace diversity and promote the progress that is on the horizon.

■ AUTHOR INFORMATION

Corresponding Author

Joey Ramp – Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana–Champaign, Urbana, Illinois 61801, United States; orcid.org/0000-0003-2198-8823; Email: ramp2@illinois.edu

Authors

Coltan G. Parker – Neuroscience Program, University of Illinois at Urbana–Champaign, Urbana, Illinois 61801, United States; orcid.org/0000-0001-6257-2598

Justin S. Rhodes – Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana–Champaign, Urbana, Illinois 61801, United States

Pat Malik – Division of Disability Resources and Educational Services, University of Illinois at Urbana–Champaign, Urbana, Illinois 61801, United States

Complete contact information is available at:
<https://pubs.acs.org/10.1021/acs.jchemed.0c00982>

Notes

The authors declare the following competing financial interest(s): J.R. is owner of Empower Ability Consulting, Champaign, Illinois, and Vice President of the nonprofit International Alliance for Ability in Science. All other authors have no competing interest to declare.

■ REFERENCES

- Redden, P. A. Service Dogs and Safety in Academic Laboratories. *J. Chem. Educ.* **2020**. DOI: [10.1021/acs.jchemed.0c00073](https://doi.org/10.1021/acs.jchemed.0c00073)
- Raue, K.; Lewis, L. *Students with Disabilities at Degree-Granting Postsecondary Institutions (NCES 2011-018)*; U.S. Department of Education, National Center for Education Statistics, U.S. Government Printing Office: Washington, DC, 2011. <https://nces.ed.gov/pubs2011/2011018.pdf> (accessed 2020-12-15).
- Hart, L. A.; Yamamoto, M.; Thigpen, A. P.; Garcia, A.; Willits, N. H.; Walther, S. Assistance Dogs: Historic Patterns and Roles of Dogs Placed by ADI or IGDF Accredited Facilities and by Non-Accredited U.S. Facilities. *Frontiers in Veterinary Science* **2017**, *4*, 1–14.
- Okoro, C. A.; Hollis, N. D.; Cyrus, A. C.; Griffin-Blake, S. Prevalence of Disabilities and Health Care Access by Disability Status and Type Among Adults—United States, 2016. *Morb. Mortal. Wkly. Rep.* **2018**, *67*, 882–887.
- Bureau of Labor Statistics. *Persons with a Disability: Labor Force Characteristics—2019 (USD-20-0339)*; U.S. Department of Labor: Washington, DC. <https://www.bls.gov/news.release/pdf/disabl.pdf> (accessed 2020-12-15).
- Canine Companions for Independence. Frequently Asked Questions. <https://www.cci.org/about/faqs.html#question29> (accessed 2020-12-15).
- M.D. Dogs. Training a Bringsel Alert. <https://www.mddogs.org/md-dogs-blog/training-a-bringsel-alert> (accessed 2020-12-15).
- Dogs4Diabetics. Dogs4Diabetics Bringsel Alert. https://youtu.be/2o-hWVWqF_U (accessed 2020-12-15).
- U.S. Department of Education. Disability Employment 101: Appendix IV. <https://www2.ed.gov/about/offices/list/osers/products/employmentguide/appendix-4.html> (accessed 2020-12-15).
- Moon, N. W.; Todd, R. L.; Morton, D. L.; Ivey, E. *Accommodating Students with Disabilities in Science, Technology, Engineering, and Mathematics (STEM)*; Center for Assistive Technology and Environmental Access, Georgia Institute of Technology: Atlanta, GA; pp 8–21. <https://hourofcode.com/files/accommodating-students-with-disabilities.pdf> (accessed 2020-12-15).
- Boval, J.; Kennedy, S. Laboratory Safety for All: Accommodating Students with Disabilities in Chemistry Teaching Laboratories. *Accessibility in the Laboratory*; ACS Symposium Series; ACS: Washington, DC, 2018. DOI: [10.1021/bk-2018-1272.ch008](https://doi.org/10.1021/bk-2018-1272.ch008)
- Occupational Safety and Health Administration. *Laboratory Safety Guidance (OSHA 3404-11R 2011)*; United States Department of Labor, 2011. <https://www.osha.gov/Publications/laboratory/OSHA3404laboratory-safety-guidance.pdf> (accessed 2020-12-15).
- Backer, L. C.; Grindem, C. B.; Corbett, W. T.; Cullins, L.; Hunter, J. L. Pet Dogs as Sentinels for Environmental Contamination. *Sci. Total Environ.* **2001**, *274* (1–3), 161–169.
- Wise, C. F.; Hammel, S. C.; Herkert, N.; Ma, J.; Motsinger-Reif, A.; Stapleton, H. M.; Breen, M. Comparative Exposure Assessment Using Silicone Passive Samplers Indicates That Domestic Dogs Are Sentinels To Support Human Health Research. *Environ. Sci. Technol.* **2020**, *54* (12), 7409–7419.