



## **NABT Position Statement: Equity in Biology Education**

Equity in biology education is essential for developing scientific literacy and mastering science practices. Equitable education prepares all students to succeed in a global society.

*"Equity in science education requires that all students are provided with equitable opportunities to learn science and become engaged in science and engineering practices; with access to quality space, equipment, and teachers to support and motivate that learning and engagement; and adequate time spent on science. In addition, the issue of connecting to students' interests and experiences is particularly important for broadening participation in science." — NRC Framework, p. 28 (2012).*

Equity in the biology classroom requires more than ensuring all students have access to learning opportunities, materials, and equipment. As our nation reckons with its history of racial violence and systemic racism, biology teachers must realize that those issues impact classrooms. The equity-minded biology teacher acknowledges the existence of significant disparities in educational outcomes based on socioeconomic status, race, ethnicity, gender, disability, English language proficiency, sexual orientation, and geography. The equity-minded biology teacher (educators who engage in equitable teaching practices) is unwilling to silently allow those disparities to continue unexamined and unaddressed.

Biology educators must use curricula and instructional strategies that promote equity in the classroom, promote diverse participation in science, and improve science literacy. They must address all students' needs by incorporating perspectives that are representative of society. Equitable biology teachers ensure that outdated or refuted pedagogies do not perpetuate racial, gender, or cultural stereotypes. They safeguard against instructional practices that may inadvertently affirm the misconception that genetics causes inequality or the myth of biological races. As part of the science education community, biology teachers should use language that does not conflate biological sex with gender identity or sexuality or ascribes human gender identities to nonhuman organisms. Student knowledge acquisition in science is influenced by their cultural and social backgrounds. Therefore, educators need to be inclusive in their teaching methods (e.g., partaking in implicit bias training and implementing universal design theory) and develop learning environments that reflect the world's cultural dimensions (e.g., highlight a diversity of scientists throughout the curriculum). Science teachers have a responsibility to present and expose students to careers in science (that includes non-traditional roles in science activism, policy, and advocacy) and therefore must work to help all students realize their potential to contribute to the future culture of STEM.

The equitable biology teacher is committed to the ongoing work needed to ensure that all students are challenged, represented, and successful in all biology classrooms. Equitable teaching requires understanding the challenges and barriers faced by individual students or by populations of students and working towards increasing equitable access and dismantling a system of obstacles. NABT is committed to being part of creating a more equitable system: This includes questioning how our educational systems, structures, and cultures may themselves be barriers or hamper learning.

Educators who choose to embed culturally and socially relevant curricula create a sense of belonging for students who are typically disenfranchised from STEM fields. For the equitable biology teacher, this work may consist of seeking knowledge and training, using diverse examples and assessment strategies, and preparing spaces for student voice.

NABT is committed to being a part of this work by providing appropriate resources and training opportunities and adding its voice to equitable biology teachers pushing back against systems of inequity. Addressing complex issues is generational work and requires sustained efforts across the educational community but is essential if true equity and excellence are to be achieved.

Reference:

National Research Council. 2012. ***A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas***. Washington, DC: The National Academies Press.

***Revised and adopted by the NABT Board of Directors, May 2021. This position supersedes and replaces all previous NABT statements on equity and multicultural teaching.***