WSST-DPI Science - Equity and Access in Science Education Position Statement

Updated November 2021

Equity in science education means that every student has consistent access to the resources and educational rigor they need in their education across race, gender, ethnicity, language, ability, sexual orientation, age, family background, religion, and/or family income. They are "empowered, challenged, supported, and provided full access to become successful science learners."[1] All students should have access to learning that is *rigorous* (at least grade-level and aligned to the three dimensions of the science standards), *relevant* (tied to their community, identity, culture, and interests), and *relationship-based* (includes respectful and meaningful relationships with adults) to support them in becoming college, career, and community ready. Access to educational opportunities and jobs, and support within those environments, has not been and continues to fail to be equitable for all groups of students.

Students must see themselves as able to, as well as *be* able to, engage in challenging scientific reasoning and practices that require them to make sense of the world around them and solve meaningful problems. Throughout their lives, they will need to evaluate the scientific merits of information from the world around them. Students should also be ready and able to apply science as a tool to advocate for change within their own communities.

When school structures divide students into more and less rigorous science classes, educators and school systems give students the message that they are or are not capable scientific thinkers. Tracked course pathways should be eliminated. All students deserve access to rigorous courses and high standards, so they must be provided with the support needed to be successful in those courses. Further, to see themselves as scientists, students must *do* real science where their cultural knowledge, languages, and ways of thinking are valued. Students should have the opportunity to make meaningful choices about their learning pathway and how they show their understanding.

Evidence shows that students' identities as being a "science person" or not are often formed by the end of elementary school. Thus, it is critical that ***all*** students engage in standards-based science learning beginning in kindergarten. They should be supported in investigating, questioning, and wondering about the world around them from their preschool years onward. Therefore, school structures and schedules should support sufficient time to effectively teach the state or district science standards.

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[1] Some language from Wisconsin DPI Equity Statement and NSTA Gender Equity in Science Education Position Statement

As members of the Wisconsin Science Education Community, we acknowledge and know that science is practiced by imperfect people within a society where racism, sexism, and other forms of prejudice still exist. As we consider the nature of how science is done, we should emphasize the desire for objectivity within the discipline but acknowledge the reality that it is carried out in a world where bias continues and decisions can be subjective. While there have been improvements, mainstream science practice still tends to reflect the perspectives of culturally dominant groups, excluding a significant portion of human experience and knowledge. We acknowledge that our students, families, and communities represent a wide range of ways of knowing and being and all have valuable contributions to make within and beyond the classroom. We know that not all perspectives and voices have been heard and been adequately or equally part of the science educational system. It is critical for students to understand communities and cultures that are different from their own and how each contributes to scientific understanding. At the same time, we acknowledge that science does have unique characteristics and is based on rigorous, evidence-based ways of knowing.

As a science education community, it is not our job to “fix” the groups who are underrepresented, but to be co-creators and co-advocates with them to make sure that both science and society are improved through the respectful collaboration of diverse, evidence-based perspectives. As we work together, we must not ignore the ethical horrors of how science and research (e.g. medical testing) have been performed on certain communities and racial/ethnic groups.

As individuals and as a community, we commit to supporting equity in science education by doing the following:

- Calling out and addressing racism, sexism, other prejudices, or injustice within science classrooms and the scientific community;
- Engaging in challenging conversations and having the grace to believe that all people can learn and grow;
- Advocating for and ensuring rigorous scientific learning for all students in our schools and other organizations;
- Sharing the message that all students can be scientists and other STEM professionals by eliminating tracking and by detailing stories of a diverse range of professionals whose work connects to class subjects;
- Recruiting and retaining a wider diversity of members, leaders, newsletter authors, and conference presenters;
- Ensuring that attention to equity is embedded and addressed in conference presentations, newsletter articles, and other organizational activities;
- Teaching each other about institutional and societal racism and other prejudices, and how that plays out in science education and the scientific enterprise;
- Supporting educators in becoming advocates for anti-racism and social justice in their schools and communities;
- Supporting all science teachers and education leaders in implementing equitable instruction and systems of support.