

As the Field Editor of *The Science Teacher*, I welcome letters to the editor to demonstrate engagement of our readership and to continue the conversation of articles published in the journal.

Elizabeth Hobbs authored a compelling piece for our social justice-themed issue regarding the potential experiences of transgender students in our science classrooms (“Transgender Perspectives in the Biology Classroom,” March 2020 TST <https://new.nsta.org/science-teacher/science-teacher-march-2020/transgender-perspectives-biology-classroom>). Part autobiographical, Hobbs shared her own experience and how that experience impacted her science teaching.

One article cannot possibly address all the aspects of something as complex as gender. For too long the science education community as a whole has been silent on these issues. It is time for our classrooms to be equitable to all students, and Hobbs’s article opens the door.

The letter to the editor regarding Hobbs’s article continues and deepens this vital conversation. I am grateful Long, et.al. took the time to write their compelling response. May the conversation and awareness for us continue now and into the future.

—Ann Haley Mackenzie

### Letter to the Editor

We represent a group of educators who advocate for the responsible and equitable teaching of transgender and intersex issues in schools. We are writing with a response to the article “Transgender Perspectives in the Biology Classroom” by Elizabeth Hobbs that appeared in the March 2020 issue of *The Science Teacher*. We thank you for your ongoing focus on social justice teaching, and for the opportunity to engage in a public conversation on this topic.

We acknowledge that Ms. Hobbs has been an active and vocal supporter of the trans community and has also attempted to include intersex experiences in her teaching. We recommend working with a consultant who identifies as either or both of these groups who can provide competent advice about how to revise and re-release the article in order to better serve readers.

Our immediate ask is that you withdraw the article from publication on the NSTA website and publicly acknowledge the issues highlighted in this letter in order to prevent misapplication by teachers in their classrooms. Below are three issues with the article as written.

**1. Inconsistent or incorrect information is provided about language and identity.** The article does not provide up-to-date factual knowledge or best practices for teaching about transgender

topics in the biology classroom. Hobbs defines the term “intersex” early on while never defining “transgender” in an article that is about transgender perspectives. The terms *intersex* and *transgender* are often confused by children and adults alike. After much discussion of several different intersex traits, readers may wrongly infer these are a part of transgender experience. It is only near the end of the article that Hobbs alludes to the difference between *intersex* and *transgender*.

**2. Suggested practices for inclusion are likely to harm transgender, nonbinary, and gender-nonconforming students.** Hobbs shares classroom systems that are reactive rather than proactive. She asks students to contact her if they want to go by a different name than their legal name, and she asks about gender pronouns if she is “unsure about a student’s gender.”

Best practice would recommend a more universal approach. Instead of using legal names by default and asking for corrections, which can be highly stressful for trans students, a teacher could privately survey students about their name on the first day of class before using names publicly. Similarly, a teacher could privately ask all students their pronouns and provide an ongoing way for students to update their pronouns. This is good practice because it encour-

ages students and teachers to check their assumptions about how a person’s appearance is related to their identity.

**3. The article highlights harmful misconceptions about transgender and intersex communities without contextualizing or dismantling the misconceptions.**

Hobbs attempts to address harmful misconceptions with incomplete execution. For example, she mentions that some people believe students choose to be transgender in order to see others naked in locker rooms. Though she calls this notion “unfounded”, she quickly pivots away with no data or discussion to dispel this deep-rooted and dangerous myth. Our recommendation is to omit these kinds of references entirely. Without sufficient evidence and discussion, these references only distract from the article’s focus.

Other misconceptions are simply repeated without refutation in the article. Hobbs mentions human “hermaphrodites” without defining or discussing the antiquated and problematic term. Similarly, she refers to using students’ “preferred pronouns” which was once common phrasing but it risks framing the issue as one of mere casual preference. Current best practice is to use “gender pronouns” or simply “pronouns”. Though language can shift quickly, we must carefully inspect the potential im-

pacts of the language presented to readers of *The Science Teacher*.

The author discusses her ex-spouse's suicide attempt in a plea for the readers' empathy toward transgender people. Without including the first-person perspective of a trans person who can illuminate the experience of suicidal ideation, we are concerned that this discussion perpetuates the common myth that suicidality is innate to trans identity.

In fact, suicide risk is lessened when the trans individual has access to gender-affirming health care and social supports. We believe that there are other, more affirming and more effective ways to demonstrate the need for creating gender-inclusive schools.

The primary authors of this letter are Sam Long and Lewis Maday-Travis, two trans-identified science teachers who created the Gender-Inclusive Bi-

ology Project. Among those co-signing this letter are 59 transgender, nonbinary, and intersex educators and our allies. We are deeply disappointed that Ms. Hobbs' article perpetuates misconceptions and misses an opportunity to serve our communities. Educators dedicated to social justice like those at the NSTA must listen to the voices and trust the expertise of marginalized groups.

Sincerely,

Sam Long (he/him),  
Standley Lake High School,  
Westminster, CO  
Lewis Maday-Travis (he/  
him), Academy for Precision  
Learning, Seattle, WA

Anders Benson  
Angie Powers  
Ariel Heyman  
Arpiar Grigorian  
Ashley Gelb  
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Galen Mitchell  
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Gretel Schatz  
Hailey Shea McMoore  
Hannah Ewert-Krocker  
Indi McCCasey  
Jennifer R. Smith  
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Mx. Kody Hall  
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Natalie Avallone  
NJ Rivilis  
Rae Jones  
Rebecca Fensholt  
Rowen Thomas  
Sa Jones  
Sara Kelley-Mudie  
Sara Tolbert  
Susan Lyons-Joell  
Tai Tran  
Theodoir McFarland  
Theresa L. Wagner  
Vica Steel

## Response from Elizabeth Hobbs

I am grateful for the opportunity to respond to the letter, and I am sincerely grateful for *The Science Teacher's* editorial staff allowing this dialogue to continue. We are discussing the best way to care for and serve our students, and I consider that powerful and positive. I think we can recognize that such a broad, important, and emotionally sensitive topic will inevitably invite criticism.

As an overview, this article was an attempt to take autoethnography (a mix of life story and theory) to teachers who might have little to no background on trans issues, particularly in the classroom. It is an attempt to make a human

connection with readers so that they may understand an experience different than their own. I try and use my positionality in the boundaries to help science teachers make sense of difficult and complex ideas.

To write the article, I consulted with people in the trans community. It was given to my friends in the trans community in Saint Louis for review and confirmation, and was presented at the 2019 Transgender Spectrum Conference at Washington University, where it was vetted by many trans people and their allies.

While I defer to the letter writers and their corrections, I do not believe

that the article should be pulled. Pulling the article would leave less guidance to science teachers on this issue. As the writers acknowledge, language and research naturally age and norms evolve. The article was written in the summer of 2019, based on many resources the trans community had affirmed at that time. I encourage the authors of the letter and signatories to write and submit their own articles to continue to build on this subject.

To concern #1: Rather than explaining what is and is not "trans," I try to move the general idea of social justice forward by providing direction for inclusion within the classroom. It is not

my place to define, put limits on, or include or exclude people in a community. There is however, a relatively agreed upon definition of the differences of intersex and trans; I encourage teachers to continue to research them.

To concern #2: The teacher is “unsure about a student’s gender.” The quote was meant to imply (but apparently failed) the network of support that can be in place. Guidance counselors, parents, email communication, and online student profile information can all be sources of appropriate pronouns, without forcing the student to self-advocate. Student surveys can work, but I encourage educators to immediately review the information and act on it. I would caution that once a teacher collects pronoun information, they must act on it immediately, or it could be interpreted as a microaggression.

Concern #3. My attempt in dealing with these misconceptions was to name them and address them directly. If they are not named and addressed, the reader will have no guidance on whether these popular culture ideas are accurate. The

article, as a whole, is meant as an interruption and refutation of these ideas, providing a background to why these misconceptions are unjustified. I should have been more explicit with this goal in the text. This pattern of addressing misconceptions head on has been affirmed by similar social justice research in the anti-racism movement. The Southern Poverty Law Center has a publication called “Teaching Tolerance.” They suggest that when someone says something offensive:

- Interrupt: in the moment, every time and without exception. To me, it is appropriate that the article gives examples of when to interrupt.
- Question: “Why did you say that?” “What do you mean?” “Tell me more.” It lets the speaker encounter their own ignorance or blind spots, and then it also helps the responder understand the speaker’s thinking.
- Educate: many people do not know what they say is offensive.
- Echo: it is powerful to be the second,

third or fourth voice to join the interruption. For more information go to: <https://www.splcenter.org/teaching-tolerance>

In other journal submissions my ex-spouse wrote a first-person narrative about what it would have meant to have science teachers teach this content in the science classroom. The articles were rejected in part because of this first-person account. In this way, I feel the role of allies is important. The intention of the current article was to magnify the call of social justice and trans rights. Many people will not act until they feel empathy, and the inclusion of the suicide information is to create what the letter writers specifically call for as a solution: gender-affirming health care and social supports, especially in the science classroom.

I look forward to many more articles about trans and intersex experiences and perspectives in *The Science Teacher* and encourage others to submit their own. The letter writers and I share the same goal-to have science classrooms become safe and gender affirming places for all students.

### Letter to the Editor

Elizabeth Hobbs’s well-intentioned Commentary article, “Transgender Perspectives in the Biology Classroom,” confusingly mishandles intersex issues. As the Executive Director of interACT, the nation’s leading organization representing the 1.7% of children born intersex, I offer some clarifications.

The piece misleadingly implies being “assigned something different than their gender identity” is what makes someone intersex. That is not only untrue, it’s the definition of transgender instead. While many intersex individuals do identify differently from the sex they were assigned at birth, many others do not. Later, to “create empathy” for the

transgender experience, Ms. Hobbs describes “guevedoces” (the intersex variation 5-ARD) as if they inevitably develop male identities, when actually about 40% of those living as females until puberty continue to do so after. Conflating intersex and transgender experiences, or using sex trait variations to “justify” transgender existence, helps neither community.

Ms. Hobbs also incorrectly distinguishes some intersex variations as “differences of sex development” (DSD), declaring “all these conditions are interesting and appropriate to talk about in a biology classroom.” Intersex applies equally to chromosomal, hormonal, gonadal, *and* genital variations, obvious at

birth or not; DSD is a medicalized label disfavored by many, not a broader term. Describing intersex as cases where “sexual organs are undefined at birth, so surgeons assign a sex” is inaccurately narrow and, moreover, tacitly supports the harmful, non-consensual surgeries that erase intersex children’s healthy variations. Such surgeries carry lifelong physical and psychological consequences, and the United Nations recognizes them as torture. Talking about intersex bodies as “interesting” anomalies, or surgery as a neutral fact, is irresponsible.

To teachers wanting to make their classrooms intersex-inclusive: thank you. Please remember you likely have intersex students—who may have suf-

fered clitoral reductions or sterilizing gonadectomies they didn't choose—and teach about intersex variations accurately and *respectfully*.

*Kimberly Zieselman*  
kimberly@interACTadvocates.org

#### NOTES

Paulo Sampaio Furtado, et al. "Gender Dysphoria Associated with Disorders of Sex Development," *Nature Reviews Urology* 9:11 (2012), 620-7.

Peggy Cohen-Kettenis, et al. "Gender Change in 46,XY Persons with 5-Alpha Reductase-2 Deficiency and 17-Beta Hydroxysteroid Dehydrogenase-3 Deficiency," *Archives of Sexual Behavior* 34:4 (2005), 399-410.

See Human Rights Watch and interACT, "*I Want to be Like Nature Made Me: Medically Unnecessary Surgeries on Intersex Children*

*in the US* (2017), available at <https://www.hrw.org/report/2017/07/25/i-want-be-nature-made-me/medically-unnecessary-surgeries-intersex-children-us>.

Report of the Special Rapporteur on Torture, Juan E. Mendez, UN Doc. A/HRC/22/53 (2013), available at [http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session22/A.HRC.22.53\\_English.pdf](http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session22/A.HRC.22.53_English.pdf).

#### Response from Elizabeth Hobbs

It is both exciting and humbling to be a part of this dialog. I am glad that experts are coming forward to help build on the understanding of intersex identities (which I do not have personal experience with, and have done less research on). It was not my intention to conflate the intersex and transgender communities and

I welcome the corrections from experts in both areas. I condemn genital surgeries at birth and recognize the inherent and lasting violence of that act.

I can only model what I hope all allies do. When corrected, listen, recognize omissions that are harmful, and do better in my advocacy at this point. I encourage readers to go to the sources and links provided by the respondent and continue their education. I also encourage the respondent and other experts to write and submit their own articles towards the science education audience. My attempt in writing the original article was to help fill a void and give content-specific guidance. Both response letters help fill that void and we, as educators, are richer for it.

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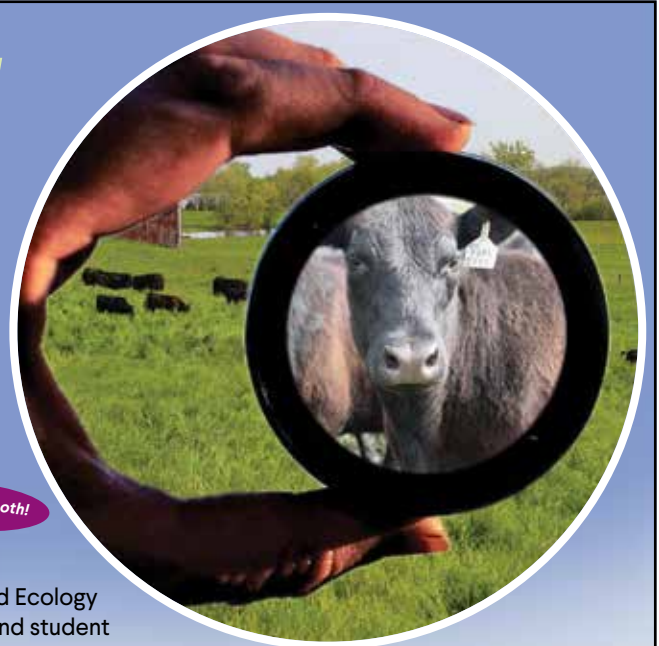
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