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Gender Bias in the Classroom: Strategies for Instructors that Tackle Sexism and Gender Bias

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ABSTRACT

Sexism and gender bias can be a common experience for women on university campuses. Facing these types of discrimination has been shown to result in negative academic outcomes, a reduction in the satisfaction of academic pursuits, and lowered self-confidence in female students (Logel et al., 2009; Morris & Daniel, 2008). Within this climate, course instructors are well poised to be part of the solution by creating and fostering an inclusive space in their classrooms. This interactive workshop focuses on promoting a gender inclusive learning environment within the university classroom context. Participants will learn to describe the effects of gender bias on female students, to identify sexism and gender bias in their many forms, and to apply a range of strategies to create and promote an inclusive classroom environment.

KEYWORDS

gender bias and sexism in undergraduate education; inclusive classrooms

LEARNING OUTCOMES

By the end of this workshop, participants will be able to:

- Describe the impact of gender bias on female students.
- Identify forms of sexism and gender bias in higher education.
- Apply strategies to create and promote more inclusive classroom environments.

ANNOTATED BIBLIOGRAPHY

Boysen, G. A. (2013). Confronting math stereotypes in the classroom: Its effect on female college students' sexism and perceptions of confronters. *Sex Roles*, 69(5-6), 297-307. <https://doi.org/10.1007/s11199-013-0287-y>

This paper reported the findings of two studies designed to examine the effect of confronting math stereotypes in a university classroom. The first study found that teachers were perceived more positively when confronting the stereotype and that the confrontation resulted in a reduction of students' self-reported sexism. The second study compared the effects of a teacher and a student intervening and found that both the student and the teacher were perceived more positively when they confronted rather than ignored the stereotype. This study demonstrates the importance of teachers confronting sexist stereotypes in the classroom. The results are used as empirical evidence during the first "Classroom Dynamics" section of the workshop to convince participants that confronting sexist stereotypes has positive outcomes.

Bradley-Geist, J. C., Rivera, I., & Geringer, S. D. (2015). The collateral damage of ambient sexism: Observing sexism impacts bystander self-esteem and career aspirations. *Sex Roles*, 73(1-2), 29–42. <https://doi.org/10.1007/s11199-015-0512-y>

This work examined the impacts of ambient or benevolent sexism. As opposed to hostile sexism, benevolent sexism manifests in subtler, but no less damaging, prejudices (e.g., women should be rescued before men in an emergency, women are the "purer gender", men are not complete without women). When observing ambient sexism directed toward a female job applicant, women were more negatively impacted than men. This impact was

measured in performance-based self-esteem which in turn affected career aspirations. This article reinforces the point that even subtle or benevolent sexism can have detrimental effects and is introduced in the “Women’s Experience of Sexism” section of the workshop.

Brinkman, B. G., & Rickard, K. M. (2009). College students’ descriptions of everyday gender prejudice. *Sex Roles*, 61(7-8), 461–475. <https://doi.org/10.1007/s11199-009-9643-3>

This study examined gender differences in experiences of gender stereotypes for undergraduate college students. The relevant findings for this workshop were that the participants experienced an average of 2.8 events per day, with the majority of events being reported by women. Furthermore, the setting with the second highest number of events for both men and women was at school or in the workplace. This study highlights that sexism is a common experience for women which extends into the university classroom; addressing sexism in the classroom is thus an important topic for instructors. These findings are incorporated into the “Women’s Experience of Sexism” section of the workshop.

Dasgupta, N., Scircle, M. M., & Hunsinger, M. (2015). Female peers in small work groups enhance women’s motivation, verbal participation, and career aspirations in engineering. *Proceedings of the National Academy of Sciences*, 112(16), 4988-4993. <https://doi.org/10.1073/pnas.1422822112>

This study lends support to the idea that working in small group environments, particularly those including females, results in improved outcomes for female students. The authors created small groups in an engineering classroom and experimented with different proportions of women. They found that for first year students, groups composed of mostly females lessened anxiety, increased participation, and increased confidence. This gives instructors a specific way to improve outcomes for female students. The facilitator can share these finding during the “Classroom Dynamics” activities to add to the discussion of improving learning experiences for women.

Killpack, T. L., & Melón, L. C. (2016). Toward inclusive stem classrooms: What personal role do faculty play? *CBE Life Sciences Education*, 15(3). <https://doi.org/10.1187/cbe.16-01-0020>

This article provides concrete recommendations to faculty seeking to create an inclusive classroom environment. The recommendations are general in nature, as they pertain to all types of inclusion (sex, race, culture), however they are relevant to and can be adapted for making the classroom gender-inclusive. Some of the recommendations in this paper are included in the handout for the workshop.

Logel, C., Walton, G. M., Spencer, S. J., Iserman, E. C., von Hippel, W., & Bell, A. E. (2009). Interacting with sexist men triggers social identity threat among female engineers. *Journal of Personality and Social Psychology*, 96, 1089–1103. <http://dx.doi.org/10.1037/a0015703>

This paper examined the effect of interacting with a sexist man for women in engineering. This particular discipline was chosen as it is an area in which women are already negatively

stereotyped. The major findings were that interacting with sexist men resulted in decreased academic performance on an engineering test and in the suppression of women's concerns about gender stereotypes. These findings highlight how interacting with sexist men can have negative outcomes for women and informs the "Women's Experience of Sexism" and second "Classroom Dynamics" sections of the workshop.

Morris, L. K., & Daniel, L. G. (2008). Perceptions of a chilly climate: Differences in traditional and non-traditional majors for women. *Research in Higher Education*, 49(3), 256-273. <https://doi.org/10.1007/s11162-007-9078-z>

This study examined how perceptions of the so-called "chilly climate" differ between students in female- versus male-dominated fields of study. Among other things, the study found that women found the climate chillier than men and that students in female-dominated fields perceived the climate chillier than students in male-dominated fields. The article ends with important recommendations for instructors and educators on how to "warm" the climate. The facilitator will incorporate the "chilly climate" concept and "warming" strategies into the "Women's Experience of Sexism" and first "Classroom Dynamics" sections of the workshop.

Sadker, D. M., & Zittleman, K. (2007). Practical strategies for detecting and correcting gender bias in your classroom. In D. Sadker & E. S. Silber (Eds.), *Gender in the classroom: foundations, skills, methods, and strategies across the curriculum* (pp. 259-273). Mahwah, NJ: Lawrence Earlbaum.

This book chapter discusses techniques for identifying bias in classroom interaction, as well as ways to detect and correct curricular bias. Tips for conducting proper classroom observations and things to consider such as which students volunteer answers, classroom geography, questioning level, and interactions with students are outlined. The chapter also discusses the seven types of curricular bias and how their recognition and correction can improve the classroom environment. The facilitator can share tips from this chapter during the "Curricular Bias" section of the workshop.

WORKSHOP CONTENT AND ORGANIZATION

DURATION (min)	SUBJECT	ACTIVITY	PURPOSE
10	Introduction	<p>The facilitator should start by reviewing the learning outcomes for the workshop</p> <p>Activity: Ask participants to form small groups (2-3 people) and discuss what sexism/gender bias means to them. After time for discussion, groups will be called on to share what came up during their conversations.</p> <p>Example questions:</p>	To get participants thinking about sexism and, for those who may not have experienced it, to see its pervasiveness.

		<ul style="list-style-type: none"> - Focusing on academia, what does sexism or gender bias look like? - What do you think about when you hear the terms “sexism” or “gender bias”? - Can you describe an example that you are comfortable sharing? 	
15	Women’s Experience of Sexism: Effects on Academic Experience	Referring to the work of Brinkman and Rickard (2009), Bradley-Geist et al. (2015), Logel et al. (2009) and Morris & Daniel (2008), the facilitator outlines results about the negative impacts of sexism, both in the classroom environment and more generally.	To impress the pervasiveness of sexism on participants and to alert them to specific consequences on academic performance. The latter point is particularly relevant, as participants have a stake in fostering inclusive classroom environments.
35	Curricular Bias	<p>The facilitator introduces/explains the forms of curricular bias identified by Sadker and Zittleman (2007).</p> <p>Activity: Participants look through example course materials to find examples of curricular bias, share their findings with the group and offer suggestions for improvement.</p> <p>In addition to the example syllabi provided in Appendix A, the facilitator can bring a few textbooks for participants to examine.</p>	<p>To provide the participants with appropriate terminology and definitions of the different types of curricular bias.</p> <p>The purpose of the activity is to reinforce what the participants have just learned about curricular bias; to help them recognize it and think of ways to eliminate it when designing their own courses.</p>
10	Classroom Dynamics 1: Teacher-Student Interactions	<p>The facilitator discusses differences in how students perceive the classroom environment differently, referring to the findings of Morris and Daniel (2008).</p> <p>Activity: Brainstorm ideas for improving the overall classroom environment by identifying inclusivity strategies.</p>	<p>To highlight how the classroom environment fostered by instructors can be less welcoming for some students.</p> <p>The brainstorm is meant to get participants actively thinking about ways to enhance the student experience, rather than passively</p>

			providing a list of suggestions.
45	Classroom Dynamics 2: Student-Student Interactions	<p>The facilitator discusses the impact of instructor intervention in sexist interactions, citing the results found by Boysen (2013) and Logel et al. (2009).</p> <p>Activity: Gallery walk. Form groups of 3-5 participants. At each board, groups will be presented with a hypothetical scenario (Appendix B). They will discuss potential responses among themselves and write them on the board. After 2-3 minutes, groups rotate to the next board. At the end of the activity, time permitting, open the discussion for each scenario. If there is not sufficient time, ask participants which scenarios they would most like to discuss.</p>	<p>The activity is designed to have participants think about how they would react in the scenario and to get ideas for how to respond. Responding to sexism on the fly can be difficult; this activity will give participants the chance to think about their response and to have comments prepared. The discussion at the end of the activity allows participants to expand on their written responses.</p>
5	Conclusion	<p>The facilitator reviews the learning outcomes and highlights the fact that many of the techniques/methods covered in the workshop can be beneficial to all students, regardless of gender.</p> <p>Provide participants with the workshop handout (Appendix C) as they leave.</p>	To remind the participants of the goals of the workshop.
Total time: 120 minutes			

PRESENTATION STRATEGIES

It is recommended to open the workshop with the assurance that the workshop is a safe space where participants can expect respectful discussion and where all questions and comments are welcome. This workshop is meant to be heavily focused on participant discussion and participation and is best suited for groups of 15-30 individuals as everyone will be able to contribute to the discussion should they feel inclined to do so. The facilitator should allow as much time as possible for participants to discuss in small groups and, later, to share their perspectives with everyone. The main roles of the facilitator are to provide participants with academic sources/results and to ensure that the discussions flow smoothly and cordially.

For the curricular bias activity, the facilitator can provide materials (in addition to the syllabus examples provided in Appendix A) such as textbooks or other syllabi. Alternatively, before the workshop participants could be asked to bring their own course materials.

Depending on the final number of participants, the facilitator can choose how many scenarios (Appendix B) to use for the Gallery Walk. For the Gallery Walk activity, several writing surfaces (whiteboards or chart paper) are required so that participants can write their comments and have them be visible to the others. Having the comments visible is helpful during the debriefing discussion.

The Workshop Handout (Appendix C) offers concrete strategies compiled from facilitator experience and the literature. The intention of the handout is to complement the ideas brainstormed by participants throughout the workshop.

APPENDIX A: Example Syllabi for Curricular Bias Activity

Syllabus for “History of Math”

Week 1	Ancient Greeks: Pythagoras and Zeno
Week 2	Foundations of Geometry: Euclid's <i>Elements</i>
Week 3	Math in the Arab world: Al-Khowarizmi's <i>Algebra</i>
Week 4	Beginnings of Integral Calculus: Kepler's <i>Astronomia nova</i>
Week 5	The Role of Amateur Mathematicians: Fermat's Last Theorem
Week 6	Origins of Calculus: Leibniz and Newton's
Week 7	Number Theory: Gauss' <i>Disquisitiones arithmeticae</i>
Week 8	Toward Vector Calculus: Hamilton and the development of quaternions
Week 9	Logic: Boole's <i>Laws of Thought</i>
Week 10	Grappling with Infinity: Cantor's <i>Mengenlehre</i>
Week 11	The Future of Math: Hilbert's Problems

Syllabus for “Classical Music in the Western World”

Week 1	Early Period: Medieval Romanos the Melodist: <i>The Nativity of Christ</i> Bernard of Cluny: <i>Omni die dic Mariae</i> Guillaume Du Fay: <i>Ave maris stella</i>
Week 2	Early Period: Renaissance John Dunstable: <i>O rosa bella</i> Giovanni Pierluigi da Palestrina: <i>Missa sine nomine</i> Carlo Gesualdo: <i>Moro, lasso, al mio duolo</i>
Week 3	Common Practice: Early Baroque Jacopo Peri: <i>Dafne</i> Claudio Monteverdi: <i>Le nozze di Tetide</i>
Week 4	Common Practice: Middle Baroque William Lawes: <i>Sonatas for violin, bass viol and organ</i> Jean-Baptiste Lully: <i>Cadmus et Hermione</i> Dieterich Buxtehude: <i>Prelude in F major, BuxWV 145</i>
Week 5	Common Practice: Late Baroque in Italy Antonio Vivaldi: <i>Four Seasons</i> Domenico Scarlatti: <i>Sonata in D minor K. 9, Allegretto</i>
Week 6	Common Practice: Late Baroque in Germany Johann Sebastian Bach: <i>Goldberg Variations</i> Georg Philipp Telemann: <i>Die Donner-Ode</i> George Frideric Handel: <i>Water Music</i>
Week 7	Common Practice: Classical Joseph Haydn: <i>"Surprise" symphony</i>

	Wolfgang Amadeus Mozart: <i>Die Zauberflöte</i> Ludwig van Beethoven: <i>Ode to Joy</i>
Week 8	Common Practice: Romantic Frédéric Chopin: <i>Nocturnes</i> Johannes Brahms: <i>A German Requiem</i> Sergei Rachmaninoff: <i>The Isle of the Dead</i>
Week 9	20th-21st Century: Impressionist Claude Debussy: <i>Clair de Lune</i> Maurice Ravel: <i>Daphnis et Chloé</i> Alexander Scriabin: <i>Poem of Ecstasy Op. 54</i>
Week 10	20th-21st Century: Expressionist Arnold Schoenberg: <i>Variations for Orchestra</i> Igor Stravinsky: <i>The Rite of Spring</i> Béla Bartók: <i>Sonata for Two Pianos and Percussion</i>
Week 11	20th-21st Century: Modern & Postmodern John Cage: <i>Cheap Imitation & 4'33"</i> Philip Glass: <i>Einstein on the Beach</i>
Week 12	20th-21st Century: Contemporary Emily Howell: <i>From Darkness, Light III: Prelude (computer-composed music)</i> John Williams: <i>Duel of the Fates</i>

Syllabus for "Introduction to Philosophy"

Topic	Readings
Metaphysics	Aristotle's <i>Metaphysics</i> Plato's Allegory of the Cave in <i>Republic</i> William of Ockham's <i>Opera Philosophica I</i> Immanuel Kant's <i>Critique of Pure Reason</i>
Epistemology	Descartes' <i>Meditations on First Philosophy</i> John Locke's <i>An Essay Concerning Human Understanding</i> Willard Van Orman Quine's <i>Two Dogmas of Empiricism</i> Edmund Gettier's <i>Is Justified True Belief Knowledge?</i>
Logic and Truth	Aristotle's syllogisms Alfred Tarski's <i>The Semantic Conception of Truth and the Foundations of Semantics</i> Ludwig Wittgenstein's <i>Tractatus Logico-Philosophicus</i> Kurt Gödel's <i>On Formally Undecidable Propositions of Principia Mathematica and Related Systems I</i>
Ethics	Aristotle's <i>Virtue and Character</i> John Stuart Mill's <i>Utilitarianism</i> Immanuel Kant's <i>Metaphysics of Morals</i> Carol Gilligan's <i>In a Different Voice</i>
Existence of	Thomas Aquinas' <i>Quinque viæ</i>

God	Descartes' <i>Meditation III</i> John Calvin's <i>Institutes of the Christian Religion</i> Friedrich Nietzsche's <i>The Gay Science</i> Carl Sagan's <i>The Demon-Haunted World</i> Bertrand Russell's <i>Is There a God?</i>
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APPENDIX B: Scenarios for Gallery Walk Activity

Scenario 1. A female student is answering a question that you posed to the class. As she is speaking, other students begin to interrupt her and try to dominate the discourse.

Scenario 2. During group work, a female student and a male student seem to be having a disagreement. As you walk past their table, you hear the male student dismiss his peer by saying “Calm down, dear”.

Scenario 3. While you wait for your class to begin, a group of students walks in discussing their co-op job search. When one female student states that she landed her dream job, another peer comments that she must have been the “diversity hire”.

Scenario 4. As your term is unfolding, you begin to notice that the same male students are always volunteering to do problems at the board while the rest of the class avoids your gaze.

Scenario 5. While students are working on a group project during class, you notice that in a group of all male students and one female, the female has been assigned the role of secretary/note-taker.

Scenario 6. A student approaches you to explain that a gender non-conforming student prefers to write a different name on their tutorial quizzes. However, the TA is insisting that students write their names as they appear in the online student database.

Scenario 7. Before class, you overhear students discussing their undergraduate research projects. A student mentions that she approached a potential supervisor, who informed her that he does not supervise female students.

APPENDIX C: Workshop Resources

Forms of Curricular Bias

Definitions and examples of forms of curricular bias are detailed in Sadker and Zittleman (2007). Consider formatting these definitions in a table and adding in examples from your own discipline. Together, these sources can act as a reference handout for participants during the curricular bias activity.

Strategies for Creating an Inclusive Classroom

Compile a list of strategies for creating an inclusive classroom as a handout for participants. You may find it helpful to group them by the following categories: Course Design, Classroom Dynamics, and Teaching Methods as these mirror the progress of the workshop.

In each category, include strategies that have worked for you as well as some cited in the literature. Strategies can be found in the following resources:

- Little, D. (2004). Gender Dynamics in the Classroom. In: Teaching a Diverse Student Body: Practical Strategies for Enhancing Our Students' Learning (pp. 9-15). Charlottesville, VA: University of Virginia's Teaching Resource Center.
<http://cte.virginia.edu/resources/420-2/teaching-a-diverse-student-body-handbook/>
- Killpack, T. L., & Melón, L. C. (2016). Toward inclusive stem classrooms: What personal role do faculty play? *CBE Life Sciences Education*, 15(3).
<https://doi.org/10.1187/cbe.16-01-0020>
- Sadker, D. M., & Zittleman, K. (2007). Practical strategies for detecting and correcting gender bias in your classroom. In D. Sadker & E. S. Silber (Eds.), *Gender in the classroom: foundations, skills, methods, and strategies across the curriculum* (pp. 259-273). Mahwah, NJ: Lawrence Earlbaum.