

Educating Students to Address Racial and Social Injustice in
Conservation Science

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Abstract

While conservation is a word with positive connotations to some, conservation has led to the marginalization and attempted cultural erasure of many local and Indigenous communities around the world. For this project, a class was designed that taught higher education students about social and racial injustice in the field of conservation and how conservation scientists can more ethically perform conservation research and practice. Students conducted three reflections throughout the semester detailing their experience in this class through time. After the semester, researchers designed a code book highlighting the various codes and themes that demonstrated student response to the material over time. Frequencies of codes and themes were calculated. Results showed that students experienced a strong emotional response to learning about the hidden realities behind conservation practice, received a stronger understanding of multiple perspectives, and discussed the essential nature of learning this material in community. Students also benefited from positive content, learning how to lean into a growth mindset and tools to best minimize harm in research. Overall, the study found that students value the class and are experiencing change over time after learning about social and racial injustices within conservation.

Introduction

Despite the positive, world-saving connotations the word 'Conservation' might have to some people, to others, Conservation has been a word used to justify ethnic cleansing, removal, and racism towards numerous groups of people. (Kashwan et al. 2021) The basis of science within conservation has been created from a Positivist epistemology. Positivism is an epistemology that is rooted in the idea that science is conducted from an objective point of view, and that the researcher decides what information is significant or not. Positivism only accepts answers that

can be proven as true or proven as false, and whatever conclusion that comes from that is a fact. (Jafar, 2018) While this type of epistemology might make progressing scientific thought seemingly faster, it ignores one aspect of research that is so critical for accurate, substantial scientific research. Positionality is a critical factor in conducting research that is often ignored in the common positivist way of thinking the field of conservation was built upon. Positionality helps define the researcher's background and biases, which helps people viewing the research understand why the researcher came to the conclusions they came to. The problem with assuming that all research was done from an objective standpoint is that it is not possible to ever remain objective. Our past experiences and knowledge define who we are and how we think, and to think that you could completely ignore who you are when conducting research is a product of a positivist epistemology, created from settler-colonial constructs. This problem becomes especially transparent when research that claims to be objective carries lots of bias, which can be seen throughout the history of western colonial science. To this day, black and Indigenous peoples of color continue to be excluded from conservation and ecological sciences due to a lack of acknowledgement of other ways of knowing, being, and doing in science. This marginalization of BIPOC has led to conservation practices that uphold settler-colonial legacies and largely continue to center patriarchal, capitalistic, and white supremacist perspectives. When entire cultures are barred from science, their own personal experiences and perspectives are ignored. If working from a positivist epistemology, their experiences and perspectives are written off as false. For this project, we will be researching a 'social/racial justice in Conservation' (ECOL-592, Interdisciplinary Seminar in Ecology) class of 20 graduate students, which my mentor, Erin Weingarten, created and is studying for her Ph.D. dissertation. The class curriculum was carefully designed by my mentor and her collaborators to best teach past injustices in a new light that better displays the disparities marginalized groups have gone through in the name of

'conservation'. The graduate students enrolled in the class all consider themselves conservationists, as the target demographic this project attempts to educate is students who are involved and educated in current conservation practices. We will specifically be examining how the class changes attitudes, values, beliefs, and career goals of the students enrolled. These changes will be reflected in periodic written reflections each student has completed throughout the semester, which will best help us find which tools and practices are best for teaching adults to not just learn about past injustices but to develop the understanding to combat injustice in conservation science. We will then code all of the responses and find what students most often listed as beneficial to learning about such complex and heartbreaking issues. Our research will answer what teaching methods best helped students learn the content, and how the content changed the students to become better stewards of conservation for all people.

Research Question

What were the motivating factors that influenced students to take the class?

How do students respond to the content delivered in the first four weeks of a 'social justice in conservation' class?

Methods Narrative

To begin constructing our research project, we first learned about settler-colonialism in conservation and its impact on conservation practice today. Our mentor, Erin Weingarten, developed a graduate-level course on social justice in conservation science, with an enrollment of 20 graduate students. The class's objective was to present diverse American histories, examine how structural social inequalities impact conservation practice, and teach students ethical

conservation practices. Throughout the class, students completed three reflective essays to demonstrate how they felt about the class, how they were interpreting the content, and what helped them learn and understand the content. These reflections served as our data for this research project. We coded the reflections for the potential themes that existed in each response. The themes related to aspects of change, particularly from changes the students experienced and aspects of the classroom environment that particularly helped them learn. Examples of specific codes are a better understanding of one's intersectionality, a strong emotional response to learning about hidden realities, and a safe classroom environment. Once the reflections are coded initially, we will then go through each reflection again with our codebook to recode and pull out themes between the codes.

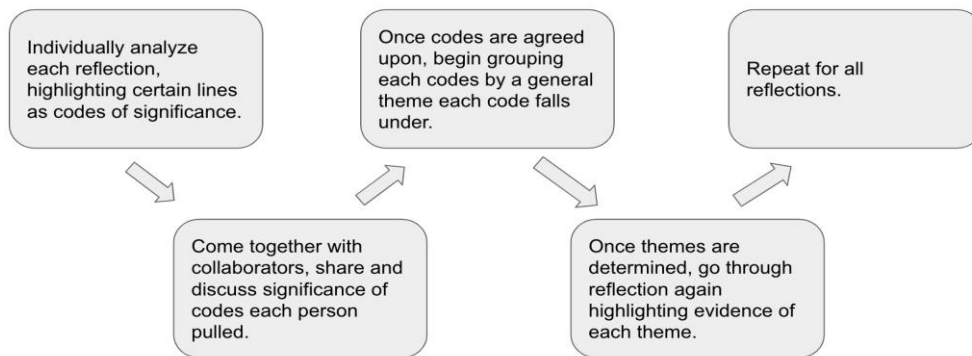


Figure 1: Diagram reflecting the steps taken to determine certain themes in the given reflections.

Results

After analyzing our data, there was a multitude of themes that arose for all of the potential codes. When analyzing our codes from the perspective of our research questions, we

found that there was an abundance of positive feedback for each of these categories. Since this project was done from a feminist standpoint epistemology, frequencies and percentages were not calculated for how often these themes may have come up. Instead, we valued all feedback equally and will share common codes associated with each theme. In response to the aforementioned research questions, we found that students displayed a desire to gain new tools and knowledge, reflection of past experiences conducting research or conservation work without the knowledge provided in the class, and a general sense of enjoyment for the class content.

Research Question 1

When looking at the research question of why these students decided to take this course, we established that many students had a desire to gain new tools and knowledge, and they felt they would achieve that here.

Desire to Gain New Tools and Knowledge

After we examined the first set of reflections, we found that multiple students reported a desire to gain new tools and knowledge from this class. Specifically, regarding conservation work, many students felt that this class would provide them the tools to better ethically engage with communities and build the required knowledge to make decisions that would minimize harm to Indigenous peoples and local communities. One student wrote:

“I am still wondering what are good and respectful ways to approach communities about working with them and how to begin these conversations. I would like to know more examples of this happening and what were the highlights and roadblocks in doing this kind of work and in what ways can we deal with any issues that might arise in these types of spaces?”

As seen from this quote, this student displayed a desire for respectful methods to approach and have conversations with communities that are involved or affected by conservation work. This response was one of many that shared this sentiment. Other students also felt a desire to better learn how to ethically engage with non-science communities, and how to better understand the multiple disciplines and factors that play into conservation work.

Table 1: Codes and example quotes from students under the general theme of a desire to gain new tools and knowledge.

Desire to Gain new Tools and Knowledge					
Desire to Gain New Tools			Desire to Gain New Knowledge		
<p>"I still have the goal of gaining the same items a better understanding of the racist history of white supremacy that is intertwined in our American culture, the impacts of Eurocentric colonial conservation, honest reflection of my own biases and privileges, and being comfortable discussing very heavy and personal topics with large groups to promote healthy conversations."</p>	<p>"I'm very interested in research questions surrounding equity and justice in ecology and without understanding the roots of our country and our field, it is difficult to properly tackle these issues. Mainly, I want my research to think very critically about these issues and I want to minimize the amount of harm I bring to communities. ...While minimizing harm in my research, I also really want to break away from only using Western ideologies and ways of knowing in my research."</p>	<p>"Conservation and western science is driven by a particular set of western values. When working with local communities, how do we approach trust-building and communicating, when our cultures, ways of knowing, and levels of formal education can be so different?"</p>	<p>"I took this course because I believe equity is the goal that we as a society should be aiming for. I want to build relationships in conservation and have equitable discussions about what and how we practice conservation. Ideally I want to gain knowledge and practical skills for approaching conservation work in a relationship-focused manner."</p>	<p>"I am hoping that I can learn more how to best help move our world and society to a more just and equitable one. I want to learn how to use my privileges to help others in a way that is constructive and increases others self-authority and power. Doing this requires so much knowledge, self-awareness, understanding, and a certain tact when you do so, and I am hoping to increase my skills in this area. I also want to learn of any implicit biases or problematic ideas or values that I may hold and address those to shift my mindset."</p>	<p>"Because of the colonial/imperialist history of the places where I work, I really want to understand the different detrimental forces that have been at play behind manifesting these places as they are now so that I can more fully recognize their negative impacts and work to dismantle them."</p>

Research Question 2

When looking at what these student’s took away from the first four weeks of this class, we established that many students had strong responses to the content they were learning. The most common themes we found for these responses were emotional turmoil in learning new histories, as well as critical reflection of past conservation work and previous knowledge.

Critical Reflection of Past Conservation Work and Previous Knowledge

After four weeks of the class, we found that multiple students displayed reflection on their past work in Conservation science and the previous ideas they’d learned before. The content of this class goes into depth on the untold racist histories of conservation in American history. A main aspect of this content was displaying the mistreatment of black, Indigenous and other communities of color that continue to be harmed by conservation practices. This showed the dangers of conservation science and led to students often reflecting on past conservation work they had conducted that they felt may have perpetuated harm to communities. Students also reflected on past stories and perspectives they perceived to be true, such as the common story associated with the first Thanksgiving. Students realized that while a white, colonial perspective might’ve felt this holiday to be of positivity and good relationships, this is not the only perspective that should be told. By sharing first-hand perspectives from Indigenous Peoples, students learned that there is more to the story that they have traditionally been taught.

Table 2: Categories with quotes from students under the general theme of a Critical reflection of past conservation work and knowledge.

Critical Reflection of Past Conservation Work and Knowledge			
Relating Learned Histories to past experiences		Reflecting on Learned Knowledge	
“Because of the colonial/imperialist history of the places where I work, I really want to understand the	“I’ve had the opportunity to engage with local communities where I’ve worked in Central Africa but don’t	“Beth’s lecture really hit me. I really liked it and learned new things that I had never heard before. It made me	“I’ve been surprised at how much truth has been left out of the stories we were told and learned about as

different detrimental forces that have been at play behind manifesting these places as they are now so that I can more fully recognize their negative impacts and work to dismantle them.”	currently have the knowledge or background in ensuring these interactions are respectful, ethical, and effective for conservation.”	finally recognize the intentionality of how racism and erasing differences happened. Before, I think I recognized that injustices existed, but that they were the unfortunate product of history.”	kids from Columbus to the creation of National Parks and more (and this has really made me start to question the loyalty of the American education system).”
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Emotional Turmoil Learning New Histories

One feeling reported often by these students was how challenging the material was to process. The issue didn’t lie in learning the material, but more in how the material made them feel. The content of this class deals with many upsetting histories not often covered in a general education classroom. Topics such as eugenics, institutional racism, generational trauma, and the displacement of Indigenous communities are all very heavy topics

“Some of the readings (ex: Zinn, black faces white faces, etc.) were a tab bit challenging in the sense that they evoked strong emotions from me, and I had to take a second to let it sink in. I always knew that our colonial history was/is rough due to the unjust and brutal treatment of indigenous peoples that aimed to erase their existence but reading firsthand letters from the individuals doing those crimes was rough...”

This type of response was common throughout the first round of reflections. As seen in this quote, the subject specifically states that it was challenging “reading firsthand letters”. Oftentimes, the histories of Indigenous Peoples and people of color are told from a white, colonial perspective, and the tragedies that come along with these histories are swept under the rug. Reading firsthand accounts is a quality of the class that students referenced as most beneficial for their learning, and helps students better learn histories of all people.

Table 3: Categories and example quotes from students under the general theme of emotional turmoil from learning new histories.

Emotional Turmoil Learning New Histories					
Heavy Content hits Hard		Struggling with Personal Place in Conservation		Difficult, but Grateful for Content	
“I think all of these topics have been particularly difficult to discuss. Especially, what has been challenging is thinking of how colonial settlers were met with excess kindness from the Indigenous communities with their non-Western ideals and their first thought essentially was to exploit that.”	“Before, I think I recognized that injustices existed, but that they were the unfortunate product of history. The systemic aspect of it was really challenging for me, and still is. Another aspect that I was resistant to (and also still am) is the responsibility of institutions that I deeply respect (even admire) (CSU) in land theft and cultural erasure.”	“The video was of a group of African American women where they shared their experiences as Black Women in a white dominated culture.... It reminded me of my many identities and various disadvantages that I face, and that others have their own framework. A strong personal reminder to be more compassionate and understanding.”	“-the readings relating to natural areas where the majority of visitors are white is a stark reminder of my minority status. It brought back memories of the time I was in national parks, forests, etc., and I was the only Latino in most of those areas. As a result, I always felt like I stuck out. I am used to these feelings and situations, but it is something I am still processing at times.”	“I’ve enjoyed learning everything we have covered thus far, but speaking honestly, a lot of the class content has felt challenging to digest and process such as the topics relating to eugenics, slavery, and genocide.”	“A lot of this content can initially feel overwhelming, especially just realizing just how intertwined and deeply embedded systems of oppression are in our modern world. Despite feeling initially overwhelmed during some of these readings and discussions, I feel like I come away from these experiences feeling like the world makes more sense.”

Discussion

When reflecting on the research questions listed above, we found the results to be quite significant to displaying the importance of this class. After just four weeks of completing this class, which is only four class meetings, the students displayed different desires for new tools to bring into their career work, critically reflected on their past experiences in both positive and negative lights and discussed a great sense of enjoyment and understanding of the importance of this content. In just a month of the class, the students clearly took something impactful from this course. This already demonstrates the importance that equity and justice in conservation class could have on students pursuing conservation work. Due to the strong response students had in

this class, we feel that others can use this information to apply to other areas of education in conservation science. With all the students took away from this class, it would be a disservice to not offer it again and continue to offer it to a broader range of environmental studies students.

While this study provided profound results, there are many factors that we must consider when assessing this study. Of note, all of these students in the class were graduate students pursuing an advanced degree in conservation work. While these students were all very receptive to the content and displayed a lot of enthusiasm and desire to learn this content, these are all students who have a lot of motivation to already learn these skills. By simply attending graduate schooling, these students display a willingness to learn how to become better stewards of Conservation science, and it would make little sense if any of them didn't have a desire to learn this content. To add to this, all of these students signed up for this class voluntarily. It would be very interesting to see the responses to this class if it was required for all students pursuing a degree in any sort of environmental work. For example, if this were a class that undergraduate students pursuing a Conservation Biology degree were required to take, would there be the same response to learning this content?

Another limitation of this report would be to note that this research is solely based on the first set of reflections completed by the students after the first four weeks of class. Students also submitted reflections at the midterm of this class, as well as after completing this course. Unfortunately, the allotted time for this project wasn't enough to properly examine all sets of reflections in time for the due date of this project. But looking at these results from that perspective, the students displayed learning and reflection of current conservation work that was more than significant in such a short amount of time. The students displayed such a desire to continue to truly learn this content, it will be very exciting to see how students responded to this class once completing it.

Conclusion

As we can see from the results and discussion of this report, a class about social and racial justice in conservation science can have profound results on students' knowledge, career goals, and learning journey. These students expressed a great deal of reflection on the past work they have done and how they could've done it in a better way. Students also displayed how receptive they were to the content, and how much learning this content affected them. When considering the past injustices that have come at the hands of prominent conservationists, it is evident that the scientific community needs to do a better job of ethically engaging with communities and making decisions that minimize harm. A class like this aims to educate students on how specific ways of thinking and decision making is vital for all students who wish to conduct meaningful research, and have a positive impact on the world around them

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Appendix 1: Methods Outline

1. Data Collection

- a. A graduate-level course was constructed on social justice in conservation science, with an enrollment of 20 graduate students. The class's objective was to present diverse American histories, examine how structural social inequalities impact conservation practice and teach students ethical conservation practices.
- b. Multiple quantitative course surveys were conducted throughout the course of the class to track change in values, attitudes, beliefs, and career goals related to racial equity and justice in conservation over time, as well as in class reflections, a positionality statement, and behavioral observations using the participant observation method.

2. Data Processing

- a. The data will be in the form of word documents, already formatted and put together by Erin. She has processed the data and will send us data to analyze.

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3. Data Analysis (Where my process starts)

- a. Using the multiple reflections completed by the students throughout the semester, we will attempt to code each response, and find common themes between reflections. There will be multiple people looking at one reflection, and we will then meet and discuss each reflection to determine what themes and emotions are being represented in the reflection. While analyzing these reflections, we will develop a codebook of all the themes represented in the reflections. Once we have our code book cemented, we will then go through each reflection again and group each reflection by what themes are represented.

4. Data Interpretation

- a. After designing the code book and carefully analyzing each reflection through the lens of our pre-determined themes, we will begin to find where the class inspired the most change in the students. We will be able to measure if career goals changed at all, as well as different beliefs the students may have now. The goal of the class is to teach students how to be more focused and aware of social justice issues in our community, and I believe through the in-depth reflections, we will be able to see where students reported change, what caused this change, and which methods of teaching caused the most change throughout the entire class.