

# CITATION AS PATHWAY: REORIENTING PEDAGOGICAL APPROACHES

CAT LAMBERT AND DIANA ROSE NEWBY

If you were to ask an undergraduate student to suggest a symbol that could represent the concept of academic citation, how do you think they would respond? We imagine that for many students, the first image to come to mind might be a warning sign: something like the bright yellow squares that alert drivers to danger ahead or tell pedestrians to watch their step. In most U.S. contexts, students are typically taught citation as a set of tools for avoiding plagiarism, a tendency that freights the idea of citational practice with hazardous and punitive connotations. But what if we cultivated a different way of thinking about citation? What if, instead of a warning, our students saw citation as an opportunity—not a closed path, but an open one?

In *Living a Feminist Life*, cultural theorist Sara Ahmed activates the metaphor of the pathway to think about citation: “Citation is feminist memory. Citation is how we acknowledge our debt to those who came before; those who helped us find our way when the way was obscured because we deviated from the paths we were told to follow” (15). Extending Ahmed’s line of thought, the second volume of *Teaching Citational Practice* explores citation as pathway: as both a record of and a roadmap for where, how, and with whom our knowledge is produced. In the collection of instructional resources that follows this introduction, students and instructors are invited to retrace, reroute, and open up citational pathways both within and especially beyond the more familiar networks of travel laid down by standardized research structures and practices.

“Citation as Pathway: Reorienting Pedagogical Approaches” features the original work of four contributing authors: Ashley B. Heim (Cornell University), Kelsey J. Utne (Arkansas Tech), Katherine Wilson (Cornell University), and Claudia Irene Calderón (University of Wisconsin-Madison). The diverse set of teaching strategies that make up this collection is unified by an investment in prompting both students and instructors to think critically and self-reflexively about the intellectual and material paths we travel in our academic work. Through thinking in this way, we better position ourselves and our students not only to enact “feminist memory” by naming and honoring the places where our learning happens, but also to notice when chosen pathways lead us

to certain privileged sites while bypassing others. Attending to existing citational traffic patterns—whether in our own work, the work of our students, or the work of our academic fields and disciplines—paves the way for innovative research practices that are more equitable, inclusive, and empowering.

## Situating this volume

The four contributors to this volume participated in an October 2021 workshop series that Cat and Diana held through the Center for the Integration of Research, Teaching and Learning (CIRTL).<sup>1</sup> A national undergraduate education network that particularly caters to faculty in STEM, CIRTL offers a range of workshops and other resources emphasizing [“evidence-based teaching practices for diverse learners.”](#) Cat and Diana’s two-part workshop, “Teaching Citational Practice: A Critical Feminist Approach,” invited participants to discuss and develop practical, innovative, and progressive strategies for teaching research and citation. As part of this work, we asked participants to consider how, as educators, we can meaningfully legitimize overlooked or non-traditional sources of scholarship while breaking down biased norms of who belongs in labs, at the front of the lecture hall, and in our syllabi.

A number of themes emerged from these workshops, which brought together forty-five faculty members, postdocs, and graduate students from across the country. Participants discussed opportunities for being more deliberate about whom and what we cite in our teaching and our scholarship. They collectively envisioned intentional citational practices that can work to expand traditional definitions of what is or isn’t worthy of citation. They imagined citing with attention to the socioeconomic factors that structure knowledge production—including the varying levels of institutional access with which different scholars are privileged—in order to intervene in normative ideas about the “legitimate” author, archive, or peer review process. And they talked about ways that instructors can make their own citational labor and production of knowledge transparent to students, such as annotating their syllabi or initiating open conversation with students about a syllabus’s citational practices.

Throughout these conversations, Cat and Diana noticed that workshop participants regularly pointed to libraries as examples of significant and often overlooked sites where knowledge is alternately distributed and withheld. At one level, we discussed the importance of citing the labor of academic

librarians and involving them in teaching students about citational practices. At another level, our conversation ran along structural lines. As workshop participants pointed out, institutional wealth determines the resources that an academic library can or can't acquire, which in turn delimits the bank of sources that students can find and cite. The issue of institutional affiliation in turn informs dynamics of scholarly production and publication, as scholars affiliated with wealthy institutions enjoy much easier access to library resources than do independent scholars or scholars at comparatively disadvantaged institutions.

As we concluded the CIRTl workshop series and invited participants to pitch instructional resources for this volume, Cat and Diana continued to dwell with the idea of the library as at once a portal to and a gatekeeper of knowledge. The library, that is, is not a monolithic entity, but a physical and digital space that will look very different depending on who and where you are. It is a pathway: one that might be wide and inviting or narrow and overgrown; smoothly paved or crowded with obstacles; open to all travelers or closed to just a select few.

Thinking about the library in this way prompted Cat, Diana, and the contributors to this volume to critically reflect on other pathways that scholars travel—or don't travel—when they conduct academic research. And in turn, we reflected on how we teach our students to travel these pathways themselves. What roads are clearly mapped for students as they undertake academic research? What assumptions do instructors make about the paths our students will take? How might we be more intentional in sign-posting research avenues for our students, and in helping our students practice greater intentionality themselves as travelers on these roads?

## Citational pathways

In its focus on "Citation as Pathway," this volume builds on the work of Shanelle E. Kim, a contributor to "Progressive Pedagogies for Humanities Research and Citation," the first volume of *Teaching Citational Practice*. Kim's teaching resource prompts students to ask "what 'paths' a bibliography may follow, whether they reinscribe certain forms of knowledge or deviate from them" (33). Likewise, the contributors to our second volume have developed instructional resources that challenge students to think more critically about not only the pathways traveled or ignored by existing scholarship, but also the routes that students themselves take as developing researchers.

Ashley Heim opens the collection with a prompt for students to retrace and reflect on the citational pathways they followed when assembling sources for a literature review. Kelsey Utne encourages students to excavate and speculate about the political, cultural, and editorial pathways that shape how an author's name and biographical information appear to readers in an academic book. Katherine Wilson invites students to deviate from the limited path paved by a course textbook and standardized curriculum as they search digital pathways for outside sources that can help them better understand and relate to the course material.

Finally, Claudia Calderón reminds us that citational “pathways” are not just a metaphor: they are a living part of the material landscape. Citation, she writes, must be understood as a “place-based practice, because the information provided and the knowledge-holder are tightly linked to that space, to their communities, and to a particular political and historical time” (47). The materiality of the citational pathway, in other words, is connected to the materiality of the author—to the embodied experience of maintaining and cultivating (or “holding”) knowledge in a particular place and time.

The task for instructors, as each of these contributors demonstrates, thus becomes one of highlighting these dual forms of materiality for students. It's a task of teaching students to think of citation not as an abstract exercise but as a concrete, embodied process of naming and honoring both the places where knowledge is formed and the people who participate in its formation. Part of this task, as Wilson emphasizes, requires “facilitat[ing] a greater sense of student belonging and active participation” in the space and the process of knowledge formation (31). The teaching resources gathered in this collection position instructors to cultivate classroom environments in which students learn to recognize their own agency as what Calderón calls “knowledge-holders,” at the same time that they learn to appreciate the community of knowledge creation out of which students' own scholarship can emerge.

## An overview of the collection

To teach citational practice in such critical and self-reflexive ways is to move beyond the limited curricular structures that are often prescribed by academic disciplines. This collection's first article, Heim's “Reflecting on Citational Practice in Biology Writing Assessments,” offers a crucial (re)orientation for instructors navigating those limitations. In typical biology curricula, Heim writes, discussions of citational practice are limited to brief overviews of

standard citational style and injunctions against plagiarism. Beyond that, students and instructors of biology “are rarely challenged to critique our citational search practices” (13) or “to reflect on why we select certain sources to support our own ideas and research findings” (13). Such failures of self-reflexivity, according to Heim, contribute to a disciplinary culture in which “white supremacy is still upheld in the biology classroom” through an uninterrogated “bias toward the knowledge and discoveries of white scientists” (13).

Heim’s resource intervenes in that disciplinary culture by teaching students how to critically consider where, how, and why they have identified specific sources for use in an assigned literature review. Through both individual and group reflection, students work backwards from the first draft of their literature review, retracing their steps to the data repositories they explored and the search terms they used. In addition to accounting for why they chose certain venues and terms, students are also asked to expand their search into new directions with the aid of [Project Biodiversify](#), a teaching repository that centers work by biologists with underrepresented identities. This exercise can be easily adapted to any classroom, biology or otherwise, in which instructors want to treat the literature review or similar assignments as an opportunity to teach students about how citational practice can alternately reinforce or resist the kinds of institutional hierarchies that disciplinary canons help to produce.

The complicitness of citational practice in institutional hierarchies is also a major focus of the second resource in this collection, Utne’s “Gender in the Footnotes.” In the overview accompanying her resource, Utne identifies a cluster of problems that arise out of what she describes as “the relationship between unconscious bias and citational mechanics” (23). She discusses how citational styles that require initials in the place of first names—including the standard citational style in history, Utne’s home discipline—can have the “dual effect” of “masking” an author’s gender and, in the case of women-authored texts, “obscuring recognition of women’s labor” (24). Utne links this dynamic of erasure with a tendency of scholars across disciplines to more frequently cite authors who are men than “authors who are either known or inferred to be women based on gendered names” (24).

As an exercise in confronting these issues of marginalization and bias, Utne’s resource presents students with a text of “ambiguous authorship” and asks them to produce a citation for the text using one or more citational styles (23). Students are then prompted to compare their citations with one another and

to account for the steps they followed in producing these citations. They are then tasked with reflecting on what the similarities and differences reveal about the choices, assumptions, and priorities that informed how students constructed their citations. This activity also creates an opportunity to discuss the choices, assumptions, and priorities implicit in different citational styles. It will appeal to any instructor hoping to engage students in critical thinking about what kinds of information and context a citation can productively capture, and what kinds of information and context a citation might harmfully elide or misrepresent.

Where Utne urges us to consider how citational norms limit what a citation might tell us about a given author, Wilson addresses how standardized curricula limit the types of sources to which students are exposed. In “Activating Student-Centered Learning and Belonging in the Engineering Classroom,” Wilson discusses the tendency for STEM disciplines such as engineering to heavily rely on rigid curricular structures that prescribe specific textbooks and requisite learning objectives. Such structures, Wilson points out, “reinforce dominant voices and ways of knowing” (31) at the same time that they “pose barriers” to students’ “sense of belonging” by restricting the range of ideas and examples that students are permitted to explore (32).

Designed specifically for instructors working within a strict standard curriculum of this kind, Wilson’s resource invites students to go beyond the course textbook in order to locate a source (e.g., a meme, social media post, demonstration video) that helps them clarify and relate to a difficult topic. Additionally, by considering what authors or contributors are (or are not) credited in the source they’ve found, students reflect on how this source relates to broader issues of labor erasure and canon formation in the given discipline. Along these latter lines, instructors of all stripes may find Wilson’s appendix useful: this table provides a visual illustration of how the labor of authors and contributors is acknowledged differently between a course textbook, a peer-reviewed journal, and a Creative Commons-licensed website.

One theme that emerges in Wilson’s resource is the importance of finding citational pathways that acknowledge the collective and often underrecognized networks of researchers and students who collaboratively produce knowledge. Calderón expands on this theme in “Reimagining Our Citational Practices: Centering Indigenous and *Campesino* Ways of Knowing,” which closes out the volume with an incisive critique of citation’s place in a settler-colonial model of academic work. Calderón lays bare the ongoing harm

of Western modes of research and citation that emphasize individualistic over collective knowledge production, and that maintain an extractive relationship particularly to Indigenous and *campesino* (peasant) scholarship.

In resistance to these harmful dynamics, Calderón’s teaching resource emphasizes instead how students and instructors might “work toward the co-creation of ethical and respectful citations with the local collaborators and knowledge-holders who inform the body of our work” (47). In her resource overview, Calderón models this collaborative praxis for readers by sharing some of her Zapotec, Mam, Kaqchikel, and Guna colleagues’ reflections about how to embody communal “ownership” of knowledge in a citation (44). While specifically geared toward instructors in biological and social sciences, and especially those who work with Indigenous and *campesino* communities, Calderón’s resource is critical reading for all instructors hoping to learn more about how traditional modes of practicing and teaching citation are not politically neutral and may perpetuate neo-colonial and extractive ways of knowing.

## About our own citational practices

On the whole, “Citation as Pathway” widens both the institutional and disciplinary scope of our first volume. As co-editors, Cat and Diana were grateful for the opportunity to stretch our thinking about citational practice beyond our home disciplines in the humanities by working with scholars and educators primarily from STEM disciplines and the social sciences. These circumstances have enabled our second volume to build upon—and diverge from—our first volume in exciting ways.

One marked difference obtains in the citational style of this new collection. Whereas in our first volume, we asked all of our contributors to use APA (American Psychological Association) for the sake of consistency, here we have permitted each contributor to use the citational style of her own choosing, resulting in a range of represented styles: not only APA, but also CMS (Chicago Manual of Style), IEEE (Institute of Electrical and Electronics Engineers), and the style we eventually decided to use for our introduction, MLA (Modern Language Association). This citational variety materializes one of the volume’s thematic threads: the value of teaching students how to account for the limits, challenges, and opportunities that different citational styles present for honoring both the individual and the communal labor that make knowledge possible. We hope that our unorthodox choice to encourage multiplicity over

uniformity of citational style provides a productive model for instructors to defamiliarize and break out of existing citational norms in their own research and teaching.

This volume further departs from its predecessor in the way we chose to help contributors engage with one another's work during the drafting process. During production of the first volume, each contributor was invited to annotate another contributor's completed resource and overview as the final step before publication. For "Citation as Pathway," each contributor was given the opportunity to trade and workshop resource drafts with another contributor. Traces of these exchanges are visible in the final products where authors cite one another's labor and influence: an important enactment of the citational politics that this collection theorizes.

## The limits of citation

Even as it outlines different pathways for teaching citational practice, "Citation as Pathway" also reflects on the limitations of citation as a site for transformative work. In Utne's resource, for example, students are invited to reflect on the limits of what the citation of a name can actually tell us about a given author's embodied identity, labor, and experience. And where Utne is concerned about how citational practices shape and delimit how we interpret the past, Calderón highlights how the stakes of such epistemological limitations extend into the present. As Calderón narrates, standard citational practices and formats tend to operate according to neo-colonial methods of extracting knowledge in a distanced manner, reproducing hegemonic hierarchies both intellectually and materially.

Citation, in other words, can be and often is practiced as a method of staking a proprietary, individualistic claim to "new" knowledge. Citation may constitute "feminist memory" (to use Ahmed's phrase again), but it may also help enact a colonialist, masculinist, white supremacist fantasy. For example, in "Citational Desires: On Black Feminism's Institutional Longings," Jennifer C. Nash asks whether "scholars' mobilization of Black feminist theory is genuine or predatory, embedded in political commitment or rooted in gaming a hyper-competitive academic marketplace" (78). Building on Ahmed's characterization of citational practice as "how we acknowledge our debt to those who came before," Nash proposes that "[c]iting 'correctly'—and describing citation as something political and intentional—is imagined as a form of debt acknowledgement, and also a way of aligning oneself with the role of



preservationist and ‘steward’ rather than with that of the interloper or even colonizer” (79).

Returning once more to the image of the pathway, which we have been invoking as a symbol of inclusive knowledge formation(s), we note that this image is also intimately bound up with settler-colonial logics of spatial expansion and exploration-as-possession. It is necessary to acknowledge the tensions endemic to the image we’ve chosen in order to close the gap between principle and praxis—in order to avoid, that is, a practice of citation that slips into a reproduction of the very problems that *TCP* seeks to redress. Thinking with and alongside Black feminist theorists such as Nash, we aspire to a form of citational path-seeking as stewardship:<sup>ii</sup> a practice of care and responsibility for the living material of others’ intellectual resources; a habit of future- and community-oriented work with and for the knowledge-holders who can show us the way.

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## NOTES

[i] We are grateful to POD Network for awarding us a Diversity, Equity, and Inclusion Mini-Grant that helped support our work on the CIRTl workshop series as well as this volume of *TCP*.

[ii] Nash’s use of the concept of “stewardship” draws on the work of Ange-Marie Hancock, political scientist and theorist of intersectionality, who invokes stewardship to distinguish an ethical and preservationist engagement with the Black feminist analytic of intersectionality from strategic and careerist deployments of the term.

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**CAT LAMBERT AND DIANA ROSE NEWBY** are the co-founders of *Teaching Citational Practice*. Cat is a Postdoctoral Associate in Classics at Cornell University. Her research and teaching engage Latin and ancient Greek literature through the lenses of book history, gender, queer studies, and the intersections between these critical approaches. Diana is a Postdoctoral Lecturer in Writing at Princeton University. Her research and teaching focus on health, embodiment, and the environment in studies and pedagogies of literature and writing.

## REFLECTING ON CITATIONAL PRACTICE IN BIOLOGY WRITING ASSESSMENTS

ASHLEY B. HEIM

This teaching resource is an assessment in which biology undergraduates engage in self-reflection (and potentially peer reflection, if time allows) on their process of finding sources and generating citations in preparing a literature review for a scientific writing assignment. I originally envisioned it for undergraduate biology courses (introductory or advanced) that include scientific writing assignments with a literature review component. This learner-centered resource would be most effective for an iterative writing assignment in which students have multiple opportunities to receive feedback and revise their writing based on peer and instructor comments. Additionally, this resource is heavily focused on inclusive pedagogy. Here, I adopt Bryan Dewsbury's (2017) definition of inclusive pedagogy as "a philosophy of teaching that provides equal opportunities for all students to have a successful learning experience" (p. 2). Ultimately, the goal of inclusive pedagogy in academia is to improve the retention of underrepresented and underserved undergraduates (Florian & Black-Hawkins, 2011), particularly in science, technology, engineering, and mathematics (STEM) fields (Dewsbury, 2017).

By completing this exercise, students will be able to:

1. Recognize patterns in how they find sources and generate citations within biology, including which search terms they use and which digital pathways they follow.
2. Reflect on how these patterns determine the diversity and breadth of their search results.
3. Search for relevant sources from data repositories, journals, and other publishing venues supporting researchers with underrepresented identities and/or early-career scholars in biology.
4. Discuss how making academia more diverse, equitable, and inclusive will benefit scientific writing (and learning) in biology.

I would also anticipate that students could apply and transfer these aforementioned learning objectives beyond this reflective exercise to other courses and research experiences in biology and other scientific disciplines.

## Context

My ideas for this teaching resource draw from my personal experiences as a first-generation undergraduate biology instructor and researcher in biology education. At the time of resource development, I was a postdoctoral associate studying biology education research at Cornell University. I completed a Ph.D. in Biological Education from the University of Northern Colorado in 2020, where I was trained as a discipline-based education researcher. During my time as a Ph.D. student, I had the opportunity to teach a variety of undergraduate courses, from introductory biology lectures and labs for both majors and non-majors to pedagogy-based workshops focused on biology curriculum development.

These ideas were further catalyzed by discussions in the Fall 2021 CIRTl workshop, “Teaching Citational Practice: A Critical Feminist Approach.” One journal article I read during this workshop was by Jane Goodman et al. (2014), in which the authors eloquently state,

Citational practices attribute utterances to distinct speakers, beings, or texts. They also connect temporalities, joining past, present, and future discourses, documents, and performance practices. In so doing, citational practices play a pivotal role in linking particular articulations of subjectivity to wider formations of cultural knowledge and authority. (p. 449)

As instructors, we often require students to include citations in their writing assessments to “give credit where credit is due,” and when the information they are including is not “common knowledge.” In biology courses, these scientific writing assessments may come in the form of research papers, literature reviews, lab reports, and discussion boards, among others (Armstrong et al., 2008; Brownell et al., 2013; Cronje et al., 2013; Mynlieff et al., 2014). While the importance of citation and avoiding plagiarism is often briefly mentioned on the first day of class and/or in the syllabus across undergraduate science curricula, students are generally not further exposed to the topic of citational practice throughout their courses (Power, 2009). Despite the dearth of research on citational practices in biology fields, training students in proper citational practice and plagiarism avoidance in class has been found to be a valuable and successful teaching approach (Holt, 2012).

Further, we are rarely challenged to critique our citational search practices in biology—whether as students, instructors, or researchers—particularly as these practices relate to inclusive pedagogy and issues of diversity, equity, and inclusion (DEI). While strides have recently been made to improve DEI efforts across academia, white supremacy is still upheld in the biology classroom in our valuing of and bias towards the knowledge and discoveries of white scientists (e.g., through departments’ choices of textbooks and teaching materials focusing almost exclusively on the contributions of white scientists), and particularly white men (Nardi, 2021). Additionally, when challenged to reflect on their inclusive pedagogy in the classroom, many instructors argue that active learning is synonymous with inclusive teaching, though Chelsey Nardi (2021) reports that active learning does not inherently account for students’ different identities and learning preferences in biology education.

Based on my own experiences, students and scholars in biology have historically found sources and generated citations for their works based on the “status quo” researchers that serve as foundational research pillars within one’s field. Rarely are biologists asked to reflect on *why* we select certain sources to support our own ideas and research findings, or *what processes* we use to search for these sources. When we cite the “go-to” authors in our respective fields from the most common resource venues and journals, who or what information are we excluding, and who or what information are we discriminating against? Whose voices and ideas are not being heard because we as academics feel an expectation to always cite the “leading researchers” (i.e., the most well-known researchers whose articles have the most downloads and citations) in our disciplines, or because we have never been asked to reflect on the pathways we use to search for relevant sources? Sometimes, these research pathways may dictate or delimit our knowledge production by narrowing our awareness of all available sources for citation. Mott and Cockayne (2017) beautifully summarize this far-reaching issue: “Careful and conscientious citation is important because the choices we make about whom to cite – and who is then left out of the conversation – directly impact the cultivation of a rich and diverse discipline...” (p. 955).

This is why I’ve chosen the literature review as a place for students to learn about and intervene in the production of scholarly discourse and community formation in the sciences. Literature reviews are commonly used as stand-alone writing assignments or included as part of a larger writing assignment—e.g., a scientific journal article or lab report—in biology (Colton & Surasinghe, 2014). The literature review serves as an integrated analysis of resources on a

certain topic, and generally provides the reader with a background of relevant research that has been conducted; connections, disagreements, or gaps of knowledge among prior studies; and the significance of the topic in question (University of West Florida University Libraries). While some undergraduate biology course curricula may include class sessions or offer resources dedicated to writing literature reviews, instructors often assume students have this skill upon enrolling in their course and thus spend limited time, if any, discussing how to conduct an effective literature review.

Thus, I have developed a resource for teaching students both the practice and the politics of conducting literature reviews: one that is broad enough to be used across undergraduate biology courses, regardless of topic or level.

## Implementation

Ideally, as scaffolding for this exercise, students would already have a foundational knowledge of how to format in-text and end-of-text citations in biology—instructors, particularly those teaching introductory courses, would likely need to provide this instruction themselves. Further, the instructor should dedicate some in-class time to the topic of writing literature reviews (the amount of time dedicated may be dependent on the academic level of the students and their familiarity with literature reviews and scientific research), and what this in-class time looks like may differ across instructors and institutions. For example, instructors could invite science-focused librarians from their institution to discuss and lead activities on the process of writing literature reviews, or alternately, could ask students to read through self-guided learning tutorials and resources focused on how to write literature reviews in biology, such as those provided on the [Literature Reviews webpage of the New Jersey Institute of Technology](#). Whichever format the instructor chooses, discussion of the literature review process in biology should preface students' completion of the self-reflection assignment to more directly address common practices and problem areas of citational practice in the discipline.

Students would then be briefly introduced to the significance of citational practice as well as the importance of diversity, equity, and inclusion in biology. Following that, students can complete the exercise itself, in which they respond to both open- and close-ended prompts that encourage them to reflect on their research pathways when searching for relevant sources to be included in a literature review (e.g., In what venues/data repositories/journals did you initially search for relevant sources? Why did you choose these

venues/data repositories/journals?). I would recommend students first answer the prompts individually in a reflective writing assignment, after which they could share their responses in a paired peer discussion. After responding to these prompts, students are instructed to develop a first draft of a literature review for the writing assignment in question and to potentially add and/or revise a certain number of citations based on their self-reflections; they would then submit both the literature review draft and revised citation list to the instructor. The instructor could provide feedback on the literature reviews and reflective prompts for each individual, including offering suggestions for additional venues/data repositories/journals the student could use to broaden their research pathway(s).

Further, to emphasize to students that citational practice is an iterative and progressive practice, I would recommend that the instructor also compile common limitations or citational patterns they notice across all students' literature reviews and accompanying self-reflections, and that the instructor share these observations with the class as a whole. Ideally, this step would incorporate small-group discussions among students to discuss how to improve the limitations or citational patterns mentioned by the instructor, after which the instructor could offer their own recommendations. Depending on the logistics of the writing assignment, students could also be required to review their peers' writing assignments and provide feedback regarding citational practice using the same questions they answered during the self-reflection task; this step could take place after the whole class discussion, after the instructor reviews each writing assignment, or really at any point in the iterative writing process after students have made revisions. To underscore the learner-centeredness of the assignment, the instructor could also (1) assign multiple peer reviews to each student so that individuals could both compare and provide feedback on their peers' citational practices more broadly, and (2) incorporate more frequent small-group discussions among these peer reviewers in and out of the classroom to discuss feedback in more detail.

Another extension of learner-centeredness could be for instructors to engage students in communal, reflective discussion about how their takeaways from this exercise inform their sense of their own position, identity, and belonging in the biology classroom and scientific community. The instructor could also contribute to the discussion with reflection on their own position in the classroom, modeling this kind of self-reflexivity for students.

## Reflective Questions for Instructors

1. What does citational practice look like in your discipline? Did you receive formal training in citational practice and/or plagiarism avoidance in the classroom? Have you incorporated citational practice and/or plagiarism avoidance in the classes you teach? Should more discussion regarding plagiarism be included as part of this activity?
2. What issues related to citational practice and/or inclusive pedagogy have you observed and/or heard about in your discipline? How might you make students more cognizant of these issues?
3. What writing assignments would this activity best align with in your class? What revisions could you make to current writing assignments to more effectively implement this activity in your class (e.g., extending the duration of the assignment, including more revision rounds)?
4. Are there questions that you could add to the activity and/or revise based on your course learning objectives and discipline-specific citational practices?
5. Would your responses to the self-reflection assessment be similar to or different from those of your students? Have you reflected on your own citational practices, and are you conscious of the processes you use to search for relevant citations and your reasons for doing so?

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## TEACHING RESOURCE

### Student-facing Instructions

[Could be presented as PowerPoint slides and/or handouts, depending on the needs and logistics of your course. Instructor-specific notes are included in brackets.]

#### *What is citational practice, and why is it important in biology?*

Goodman et al. (2014) define *citational practice* as follows:

Citational practices attribute utterances to distinct speakers, beings, or texts. They also connect temporalities, joining past, present, and future discourses, documents, and performance practices. In so doing, citational practices play a pivotal role in linking particular articulations of subjectivity to wider formations of cultural knowledge and authority. (p. 449)



In other words, citational practice can be thought of as the norms or expectations of how we cite various sources in our own discipline—for the purposes of this class, we’ll focus on citational practice in biology. When we engage in scientific writing, citing allows us to acknowledge the concepts and research findings of others that we use to support our own ideas. Further, proper citational practice allows us to avoid plagiarism of others’ resources and intellectual property.

*Why are diversity, equity, and inclusion (DEI) important in biology, and how does DEI benefit the field of biology?*

As in all scientific disciplines, a diverse, equitable, and inclusive community allows a broader range of voices to be heard, a multitude of perspectives to be shared, and greater accessibility to teaching, learning, and research. Unfortunately, while current DEI efforts are gaining traction across scientific fields—including transformative social change in light of race, ethnicity, class, sexuality, and ability—we fall far short of where we should be.

But how does this relate to citational practices? Well, as Mott and Cockayne (2017) explain, we must be more aware of “the continued underrepresentation and marginalization of women, people of color, and those othered through white heteromasculin[ity]...by focusing on the politics of knowledge and how particular voices and bodies are persistently left out of the conversation altogether” (p. 955). In biology, we are rarely asked to reflect on *why* we select certain citations to support our own ideas and research findings, or *what processes* we use to search for these citations.

By citing the “go-to” authors in our respective fields from the most common resource venues and journals, who and what information are we excluding, and who or what information are we discriminating against? Whose voices and ideas are not being heard because we feel an expectation to always cite the “leading researchers” in our disciplines, or because we have never been asked to reflect on the pathways we use to search for relevant citations? Sometimes, these research pathways may dictate or delimit our knowledge production by narrowing our awareness of all available sources for citation.

For more information regarding diversity in biology, consider visiting the Project Biodiversify website and exploring their numerous teaching and learning resources: <https://projectbiodiversify.org/>.

### *Self-Reflection Guidelines*

Now that you have completed the first version of your literature review [or other course-specific writing assignment], you are ready to reflect on your citational practice in more detail! The purpose of this exercise is to provide you an opportunity to assess the research pathways that you use to search for sources and generate citations while writing a scientific literature review. Respond to the prompts below in as few or as many words as needed to effectively answer the question.

1. At first glance, do you notice any patterns in the sources you found and/or the citations you generated? Please elaborate.
2. Now, check out the journals or other sources you have cited. Did you cite from a broad range or a limited selection of sources? How recent are the sources that you cited?
3. What did your search process look like?
  - a. What search terms did you use to find relevant sources for your literature review?
  - b. In what venues/data repositories/journals did you initially search for relevant sources? Why did you choose these venues/data repositories/journals? What digital steps did you follow to access these venues/data repositories/journals?
  - c. In what venues/data repositories/journals did you search for relevant sources after your initial search? Why did you choose these venues/data repositories/journals?
  - d. Have you engaged in this citational search process before?
    - i. If so, in what context? Please explain.
    - ii. If not, did your current search process align with your expectations? Please explain.
4. Based on your findings and your answers to the preceding questions, whose voices need to be represented more in biology research citations, and why? Are there other people beyond the “go-to” researchers (e.g., citing Darwin when discussing evolutionary theory) that should be recognized for their contributions to the topic you are focusing on in your writing assignment?

5. How will you use this self-reflection citational activity in future courses or research experiences? How do you envision improving your citational search process over time?

*Now that you've had time to reflect on your citational practice*, the next step is to potentially make some revisions!

1. Based on the pathway(s) you took to search for relevant sources, what venues/data repositories/journals would you like to incorporate more in your citational research process? Why?
  - a. Using these new venues/data repositories/journals, search for additional sources to include in your literature review. What new sources did you find that are relevant to your topic? How do these sources improve your literature review?
2. What new search terms might you use to find relevant sources that you did not use during your initial citational search process?
  - a. Using these search terms, search for additional sources to include in your literature review. In which venues/data repositories/journals did you use these new search terms? What new sources did you find that are relevant to your topic? How do these sources improve your literature review?
3. Support diverse research in biology! Try to find a source to include in your literature review that was published in a venue/data repository/journal which highlights research conducted by biologists with underrepresented identities, and/or those who are early-career scholars (e.g., grad students and postdocs!).

For example, you could focus on one of the biologists featured on Project Biodiversify (<https://projectbiodiversify.org/>), which highlights the work of researchers with underrepresented identities in biology. How did this new source improve your literature review and overall citational search process?

[The following text pertains to the peer review portion of this activity, which you can include in the student handout if time and logistics permit. Peer review could be incorporated before or after the self-reflection portion of the activity, depending on the goals of the writing assignment. Questions can be added, removed, or revised to better align with the learning objectives of your course writing assignment.]

### *Peer Review Guidelines*

Now that you have reflected on your own citational practice, it's time to offer feedback on the citational practice of a peer! Respond to the prompts below in as few or as many words as needed to effectively answer the question.

1. At first glance, do you notice any patterns in your peer's citational practice? Please elaborate.
2. Now, check out the venues/data repositories/journals they cited from. Did they cite from a broad range or a limited selection of sources? How recent are the sources that they cited?
3. Name one to two venues/data repositories/journals that your peer might find helpful in writing their literature review based on your own citational search process. Why did you choose these venues?
4. List at least five search terms that your peer might find helpful in searching for sources to include, based on the topic of their literature review.
5. What is one thing you learned from your own citational search process that may help your peer broaden or improve their research pathway for this literature review?

[Students could then share their reviews with their assigned peer, who would have the option to revise their writing assignment based on the feedback they received.]

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**ASHLEY B. HEIM** was a postdoctoral associate in the Department of Ecology and Evolutionary Biology at Cornell University when she developed this resource. Her primary research focuses on the development of an instrument to measure undergraduates' critical thinking in ecology courses, known as the Biology Lab Inventory of Critical Thinking in Ecology (Eco-BLIC). She is also involved in collaborations exploring social networks in physics classrooms, studying how faculty use open education resources, and developing learner-centered curriculum materials for both in-person and virtual biology courses, among others.

# GENDER IN THE FOOTNOTES

KELSEY J. UTNE

This teaching resource asks students to explore the relationship between unconscious bias and citational mechanics through a critical feminist lens.<sup>i</sup> In the mini-lesson, students create, compare, and discuss citations for a text with ambiguous authorship. The exercise is suitable for any undergraduate classroom in which the instructor aims for students to bring more nuanced intentionality to their citational practices. I have designed the lesson to comply with any academic citation style(s) so that it can be easily adapted either to courses focused on writing within a specific discipline, or to courses with an interdisciplinary writing component.

In the course of the lesson, students will learn to:

1. Interrogate the impulse to treat the mechanics of citation formatting as an automatic exercise in rule following.
2. Identify and describe some of the limitations of citational norms and representations of authorial identity.
3. Engage in citational practice as mindful agents of knowledge creation.

Whereas students typically learn about academic citation as a matter of intellectual honesty, individual citational practices can either replicate or resist existing systems of power. For example, the Cite Black Women Collective lucidly links citational ethics with modern histories of racism. They describe the erasure of Black women's contributions as "a form of exploitation intimately tied to the projects of colonialism, slavery, and their progeny: white supremacy, patriarchy, heterosexism, and imperialism."<sup>ii</sup> With the understanding that uncritical citational practice reifies this intellectual inheritance, this lesson invites students to rethink their role as both consumers and producers of knowledge.

## Context

This mini-lesson emerged from a real-world and as yet unresolved citational dilemma about representations of gender in the archives. I experienced this dilemma first-hand as a Ph.D. candidate in the History department at Cornell University. When writing a chapter about South Asian casualties in the First World War, I examined a number of retrospective governmental reports,

authored almost exclusively by white British men with a military background. *Medical Services: Casualties and Medical Statistics of the Great War* was different.<sup>iii</sup> Among dozens of similar volumes, this was the only one listing a woman among the primary contributors. The title page (see attached handout to this resource) listed coauthors Major T. J. Mitchell and Miss G. M. Smith. Following standard citational practice in my discipline (history), I should drop the honorifics for both Mitchell and Smith in my footnotes. “Major T.J. Mitchell” becomes “T. J. Mitchell” and “Miss G.M. Smith” becomes “G. M. Smith.”<sup>iv</sup>

Using only initials for both authors has the dual effect of masking Smith’s gender and obscuring recognition of women’s labor in this historical record. Furthermore, accounting for authorship and the author’s positionality (in as much as it can be understood) is an essential part of working with a primary source for historical research.<sup>v</sup> In this instance, abiding by standardized citational practice would mean leaving the presumption of male authorship as the default unchallenged. Rather than an expression of gender neutrality and inclusivity, the erasure of Smith’s honorific risks perpetuating the erasure of women’s labor in the academy and the archives.<sup>vi</sup>

These problems are limited neither to military history as a field nor to history as a discipline. From the sciences to international relations to philosophy, citational disparities indicate that scholars across many academic fields are still less likely to cite authors who are either known or inferred to be women based on gendered names.<sup>vii</sup> Some women still receive explicit counsel to hide their gender by publishing in their initials, and for many, the tacit pressure to do so remains deeply entrenched.<sup>viii</sup> How do we resist such entrenched modes of thinking via our citational practices—and, in turn, challenge systems of oppression that persist under the guise of scholarly praxis? And what new biases or limits arise in alternative models?

## Implementation

As I’ve designed it, this mini-lesson invites students to take up these quandaries by formatting a bibliographic citation for the book in question (*Medical Services: Casualties and Medical Statistics of the Great War*) in a particular disciplinary style. The exercise then asks them to reflect on their experience with an activity (generating a citation) that they may normally consider to be neutral or purely mechanical. In so doing, students are prompted to see citation as a series of choices with political consequences,



and to see themselves as agents of knowledge creation. As a conclusion to this exercise, instructors may then choose to lead a student discussion of disciplinary norms around gender identity, race, and academic citation practices more broadly.

However instructors might choose to scaffold this exercise in the context of a given class, it is important to make space for students to explore the complexities of the issues that the exercise raises. Such issues are especially likely to come up as students discuss the fourth reflection question in the exercise: “What information persists in these citations? What information about the authors gets lost? What are the limits of what we can know about an author based on a standard footnote or bibliography?” For example, students might assume that somehow uncovering G. M. Smith’s first name and including it in the citation could resolve this entire dilemma. However, this assumption reveals the immense scope of gendered biases embedded in standard citations and the limits of what we can and cannot know from a citation.

As a thought exercise, instructors might invite students to imagine that the initial “G.” in “G. M. Smith” stood for the English name “Georgina.” Coding the name Georgina as a woman’s name relies on the reader’s particular cultural background, or at the very least familiarity with common Anglophone given names. Then students might consider an alternative scenario, in which “G.” stood for the South Asian name “Gayatri.” Here too, the reader’s cultural positionality will influence whether they might code the name Gayatri as a woman’s name. In this case, a reader needs familiarity with South Asian Hindu names (or in the case of many academics, the famed scholarly provocation “Can the Subaltern Speak?” by Gayatri Spivak) in order to associate this name with a particular gender identity. Still, the real assumption undergirding both of these scenarios is that the honorific “Miss” corresponds to a heteronormative gender binary, wherein given names are either women’s names or men’s names, thus excluding the possibility of nonbinary identity altogether.

Further, students might raise additional questions about the citation beyond the specific issue of G. M. Smith’s name and identity. What does “Major T.J. Mitchell” tell us about *that* author’s identity, including but not limited to gender? Does dropping “Major” from a citation become problematic in the same way that dropping “Miss” seems to be? Students might also want to scrutinize the various forms of authorizing information present on the title page, such as the degrees listed for each co-author, or the fact that Mitchell is affiliated with the Royal Army Medical Corps whereas Smith is assigned no such

institutional affiliation. Can a standard citation even capture such paratextual details that might be relevant to understanding how a writer has been authorized? What other limitations might become apparent as students compare the citations they've constructed with both the available and the unavailable material on which their citations are based?

## A Note on Adaptation

This lesson is agnostic in terms of discipline and citation style. As a historian, I use the Chicago Manual of Style (CMS) throughout this document because that is the norm in my discipline. However, an instructor need only swap out CMS for the appropriate citational style guide and a corresponding example for formatting a book by two authors. The lesson assumes that at some point in the course, students have already either been directed to a resource for the assigned style or had a basic introduction to the mechanics of citation within the context of the course.

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## TEACHING RESOURCE

### Student-facing Instructions

[Instructions can be presented to students in the form of a handout. Notes to instructors are given in brackets.]

1. On your own, create a bibliographic citation for *Medical Services* in the assigned style (Chicago, APA, MLA, etc.) based on the cover page provided on the attached handout [see Appendix]. You may use any outside resources or methods that you normally use to write a citation for an academic assignment.

[If time is a factor, assign this step as homework to be completed ahead of the lesson itself.]

2. In small groups, please compare your citations, identifying similarities and differences in formatting and the information that is included.

### *Discussion Questions*

3. Coming back together as a class, reflect on how you went about writing the citation and the choices you made in the process.

[Since students may initially be inclined to give brief answers to this question, such as “I looked it up,” instructors may need to encourage them to go into more specifics. If they “looked it up,” where did they look it up? Did they google it? Use the library web-resource? A writing guide they own? One they borrowed? A bookmarked reference page? Did they use a citation manager like Zotero or Mendeley? Or perhaps they used an online bibliography generator like EasyBib? Or maybe they reverse engineered a citation from a book or handout? If they are an advanced student whose discipline uses the assigned style, have they memorized the basic format for a book? In this reflection, the honest answer is the right answer.]

4. What information persists in these citations? What information about the authors gets lost? What are the limits of what we can know about an author based on a standard footnote or bibliography?
5. What are the stakes of the limitations you identified in your responses to Question 4? What would be some alternative modes of citational practice that could address these limitations?

## Variations

- In the initial exercise, the instructor may instead choose to leave the style unassigned. In this case, the instructor might ask students to identify which citational style they will use at the beginning of the exercise. This variation is most appropriate for advanced undergraduate students, who are already familiar with the citation standards within their major(s), or in classrooms where students come from a range of disciplinary backgrounds.
- Since *Medical Services: Casualties and Medical Statistics of the Great War* is available for free online viewing on HathiTrust, I encourage history instructors to conduct a follow-up activity using the book’s preface (pages vi-viii) as a means to teach students about situating a source within the historical moment (post-WWI Britain) and gleaning additional information about the authors (G.M. Smith held a master's degree and was a Member of the Most Excellent Order of the British Empire).
- To facilitate a cross-disciplinary conversation about citational practice and values, instructors may draw from the exercise “Find the Values That In-text Citations and Footnotes Reveal” in Ritzenberg and Mendelsohn’s *How Scholars Write*.

**HISTORY OF THE GREAT WAR**  
**BASED ON OFFICIAL DOCUMENTS**

**MEDICAL SERVICES**

**CASUALTIES AND MEDICAL STATISTICS**  
**OF THE GREAT WAR**

BY

**MAJOR T. J. MITCHELL, D.S.O., M.D., Ch.M.,**  
" **ROYAL ARMY MEDICAL CORPS**

AND

**MISS G. M. SMITH, M.B.E., M.A.**

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## NOTES

[i] I am indebted to Cat Lambert and Diana Rose Newby for leading the October 2021 workshop “Teaching Citational Practice: A Critical Feminist Approach” for CIRTL, editing this volume, and their invaluable feedback on earlier drafts. I am also grateful to fellow contributor Claudia Irene Calderón for her commentary.

[ii] Christen A. Smith et al., “Cite Black Women: A Critical Praxis (A Statement),” *Feminist Anthropology* 2, no. 1 (2021): 11, <https://doi.org/10.1002/fea2.12040>.

[iii] T. J. Mitchell and G.M. Smith, *Medical Services: Casualties and Medical Statistics of the Great War* (London: His Majesty’s Stationery Office, 1931), [http://hdl.handle.net/2027/uc1.\\$b744277](http://hdl.handle.net/2027/uc1.$b744277).

[iv] According to CMS (14.73), “first names *may* be given in full in place of initials,” especially if the author uses their first name in other publications or there are multiple sources with similar names. But Miss G. M. Smith never published under her full name, and I have thus far been unable to learn more about who she was. Even if I knew her name, however, CMS (14.74) also notes that if the original authors themselves preferred publishing under their initials, then that choice should be honored.

[v] Anne Bahde, “The History Labs: Integrating Primary Source Literacy Skills into a History Survey Course,” *Journal of Archival Organization* 11, no. 3–4 (December 1, 2013): 175–204, <https://doi.org/10.1080/15332748.2013.951254>.

[vi] Durba Ghosh, “Decoding the Nameless: Gender, Subjectivity, and Historical Methodologies in Reading the Archives in Colonial India,” in *A New Imperial History: Culture, Identity, and Modernity in Britain and the Empire, 1660-1840*, ed. Kathleen Wilson (Cambridge University Press, 2004), 297–316. Military historian Michelle Moyd describes “doing feminist military history” as “requir[ing] challenging simplistic ideas about warfare as a predominantly masculine endeavor.” Michelle Moyd, “Beyond Women and War: The Lens of Feminist Military History,” *Nursing Clio*, November 10, 2020, <https://nursingclio.org/2020/11/10/beyond-women-and-war-the-lens-of-feminist-military-history/>.

[vii] Jordan D. Dworkin et al., “The Extent and Drivers of Gender Imbalance in Neuroscience Reference Lists,” *Nature Neuroscience* 23, no. 8 (August 2020): 918–26, <https://doi.org/10.1038/s41593-020-0658-y>. See also: Vincent Larivière et al., “Bibliometrics: Global Gender Disparities in Science,” *Nature* 504, no. 7479 (December 2013): 211–13, <https://doi.org/10.1038/504211a>; Robin Wilson, “Lowered Cites,” *Chronicle of Higher Education*, March 17, 2014, <https://www.chronicle.com/article/lowered-cites/>; Kieran Healy, “Gender and Citation in Four General-Interest Philosophy Journals, 1993-2013,” February 25, 2015, <https://kieranhealy.org/blog/archives/2015/02/25/gender-and-citation-in-four-general-interest-philosophy-journals-1993-2013/>.

[viii] Julia Lovell, “Military History: Not Just for Men,” *Guardian*, September 30, 2011, sec. Books, <https://www.theguardian.com/books/2011/sep/30/julia-lovell-author-author>; Katie J.M. Baker, “Want to Be a Successful Writer? Be a Man.,” *Jezebel*, December 7, 2012, <https://jezebel.com/want-to-be-a-successful-writer-be-a-man-5966528>; Justin Weinberg, “Using Initials to Hide Gender,” *Daily Nous*, May 21, 2015, <https://dailynous.com/2015/05/21/using-initials-to-hide-gender/>.

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**KELSEY J. UTNE** is a prison educator, digital humanities scholar, and Assistant Professor of History at Arkansas Tech University. Her research explores the intersection of necropolitics and commemoration in modern South Asia. She tweets about pedagogy, research, and her cat @kelseyutne.

# ACTIVATING STUDENT-CENTERED LEARNING AND BELONGING IN THE ENGINEERING CLASSROOM

KATHERINE WILSON

This teaching resource invites students to search beyond the limited offerings of a set course curriculum to find, cite, and share a source that helps them clarify a difficult concept. In its initial design, this teaching resource is intended for STEM classrooms but can be adapted to learning contexts that are heavily dependent on standardized textbooks or otherwise rigid curricular structures. These contexts have the tendency to reinforce dominant voices and ways of knowing and to position students as passive recipients in what Paolo Freire termed “the ‘banking’ concept of education” [1]. This activity represents one way of intervening in that model by encouraging students to seek out and justify alternative pathways to knowledge and see themselves as empowered agents of knowledge creation.

The occasion for use of this teaching resource is when students are introduced to a concept that is likely to be unfamiliar or confusing for them, i.e., a concept that constitutes a key learning objective for a given course. At the same time, this resource will help students achieve *citation*-specific learning objectives, which include:

1. Identifying gaps in standard curricula that assume a certain learner and reinforce canonical structures of knowledge production.
2. Locating extracurricular sources that can serve as examples in aid of learning transfer.

By helping students achieve this latter pair of learning objectives, instructors will also facilitate a greater sense of student belonging and active participation in the STEM classroom.

## Context

As a teaching assistant for a lecture-based undergraduate engineering course cross-listed between Aerospace and Electrical Engineering at the University of Minnesota Twin Cities, I initially relied on the course textbook and lecture notes. As I gained awareness of students’ different interests and backgrounds during office hours, I asked them to identify examples of systems that they have experienced that track reference values. In the context of engineering, a

“system” may be defined as components that interact to achieve an overall purpose. For example, one student had worked with an uncrewed aerial vehicle, which is a system with components such as motors and sensors and a goal of flight with small payloads such as cameras. This particular vehicle had a human operator that tracked a reference trajectory. The student felt comfortable extending the idea to the algorithm-based trajectory tracking we discussed in class. My intent was to help students connect their theoretical knowledge from course lectures to familiar systems so that they could identify gaps in their knowledge and demonstrate its application.

This experience encouraged me to reflect on how the limited number of authors of textbooks and course notes as well as the time between curricular updates can pose barriers to student identification of material that cultivates their sense of belonging. Further, some of these sources fail to acknowledge the specific efforts of research assistants and other contributors.

Discussions during “Teaching Citational Practice: A Critical Feminist Approach,” organized by Diana Rose Newby and Cat Lambert and offered through [the CIRTL series Teaching & Learning in the Diverse Classroom in 2021](#), helped me associate these challenges in my instruction with the vocabulary of canon formation (“overrepresentation” of certain voices [2]) and labor erasure (lack of acknowledgement’s “negative impact on...grants and fellowships, ... promotion” and other areas of participation in a discipline [2]). Making these connections in turn inspired me to identify an opportunity to invite students to cite and share the sources that help them connect with course material. This resource is also an invitation to students to address issues of canon formation and labor erasure.

“Teaching Citational Practice” encouraged me to learn more about the connections between cited course materials and student belonging. Researchers have identified broad associations between students’ sense of belonging in the classroom and grade performance [3], retention [4], identities [5], and persistence [6] in Science, Technology, Engineering, and Mathematics (STEM). Christman and Yerrick report discussions among U.S. female undergraduate engineering students regarding course examples “that are more geared towards guys” [7], which draws attention to how citation of canonical examples can pose a barrier to belonging for students with one or more “othered” identities in engineering. In the conference paper, two students shared how car systems were commonly used as examples in their coursework, with one student noting “if you raise...a question like, ‘Hey what is



the whatever of a car? What does that do? I don't understand the analogy.' You probably will get laughed at" [7].

I sought additional discussions to develop this resource. My mentees in a research-based undergraduate engineering course at Cornell University were surprised to learn that they could be authors of engineering publications; they were also unfamiliar with citation conventions favored by engineering professional societies such as the Institute of Electrical and Electronics Engineers. Therefore, I formulated the activity in my resource to prepare students for citational practice in internships and research experiences as well as to invite students to consider their role as contributors to knowledge in engineering. The activity is suitable for both lecture- and discussion-based engineering courses at the beginning of undergraduate aerospace, electrical, and mechanical engineering curricula.

Fellow graduate teaching assistants Aditya Bhaskar and Elise Eckman also furthered my development of this resource when they shared how they identified citations for engineering discussion/recitation sessions to help with my examples of sources in this resource. Aditya Bhaskar reinforced the value of recognizing undergraduate students as knowledge creators. He provided an example of the undergraduate research by Neeraj Kayal and Nitin Saxena, which led to a breakthrough in theoretical computer science. Their mentor, Manindra Agrawal, worked with them to amplify their work to field-recognized publication with subsequent award recognition [8], [9].

Discussions with Diana Rose Newby, Cat Lambert, and Ashley B. Heim during the editing of this resource helped clarify language and instructions such that the resource may be applicable to other disciplines in which early undergraduate curricula tend to focus on knowledge acquisition rather than positioning students as participants in the creation of knowledge through citational practice.

## IMPLEMENTATION

This resource invites students to locate and share sources that help them complete a particular learning objective for the given course. The format of the assignment is a post to an online discussion board or forum outside of a course meeting. In my own instruction, I plan to implement this activity in the following ways:

- as part of an assignment that encourages students to practice working with and to clarify topics that are commonly confusing for students
- to encourage students to actively participate in broader applications of the course material

Table 2, which appears in the Appendix following the student-facing instructions, presents a hypothetical example, based on my own learning experiences, of how this activity might unfold for students and instructors. The student-facing instructions ask for a citation in the form of a link. This choice reflects my past students' lack of exposure to professional societies' citation conventions for engineering documentation. Instructors whose course learning objectives include teaching these conventions may choose to use this as an opportunity for students to practice conventional forms of citation.

Because each student brings different experiences to the classroom, the success of this exercise requires instructors to cultivate an open environment so that students feel comfortable sharing broad types and contexts of sources that resonate with them. One way that instructors can cultivate this open environment is to incorporate a diverse range of sources into their own instruction via memes, social media posts, demonstration videos, etc., that are not part of canonical English language engineering curricula.

I recognize that time and other resources can determine the capacity of instructors to create course materials that actively respond to changing student experiences. Further, accreditation agencies such as ABET (the Accreditation Board for Engineering and Technology) [10] shape the engineering curriculum and learning objectives in the U.S. and other countries, which could create obstacles for instructors who want to leverage this teaching resource toward curricular transformation. Therefore, I want to highlight opportunities to connect citational practice with professional program requirements in engineering. These opportunities may also be applicable to other disciplines in which national and international accreditation boards shape curricula. Below I also include a discussion of how to connect the activity in this resource with methods in teaching practice to motivate instructor applications for course development funding.

Instructors may choose to discuss with their department mentors opportunities for temporal and financial support to incorporate this activity and prevent erasure of their efforts. Department mentors can help instructors identify department, university, and external grants for teaching innovation

that may facilitate formal allocation of time and funding for preparation and training. Professional organizations may also have relevant grant opportunities.

Instructors may motivate and provide context for requested funding and other forms of curricular support by linking this teaching resource to instructional tools that have gained acceptance in some engineering communities. For instance, several undergraduate teaching and research institutions [11]–[17] emphasize the revised Bloom’s taxonomy [18] for learning objectives and the Research Skills Development Framework for development of skills in knowledge creation [19] in undergraduate education. Table 1 below summarizes how instructors can integrate a tool such as Bloom’s taxonomy into citational practice teaching activities that address learning objectives in the Research Skills Development Framework as well as related ABET criteria for student outcomes. I acknowledge the limitations of these tools [17], [20], [21], including the limited number of national academic systems in which they have been tested, and encourage instructors to find tools that are relevant to their students.

The table below presents a framing of learning objectives in citational practice that may help instructors motivate support from other stakeholders. Each column of this table lists a learning objective for citational practice and associates it with a specific level of Bloom’s taxonomy. The rows reflect how the instructor may connect the learning objectives with research skills (Row 1) and ABET Criteria for Student Outcomes (Row 2).

Table 1. Connections with Learning Objectives for Citational Practice

	Revised Bloom's Taxonomy Level [18]	
	Understand	Evaluate
<b>Research Skills Development Framework [19]</b>  Autonomy Level: Prescribed Research Research facet: Communicate and Apply	Students identify patterns that reinforce or help dismantle canon formation/labor erasure in the selected sources such as author affiliation and acknowledgement.	Students identify opportunities to improve course sources that they value and determine how limitations on the span of course sources may influence their perception of knowledge creation.
<b>Related ABET Criteria for Student Outcomes [10]</b>	“an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts”	“an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives”

Finally, instructors might extend the activity in this resource by more broadly modeling diverse and inclusive citational practice across course material. Citations of shared videos, summary diagrams from blog posts, etc., can help instructors demonstrate how to credit a wide range of authors and types of media in one or more citation styles common to the discipline. Instructors may choose to create an ongoing reference list and have students consider the sources and gaps in how their references span authorship and types of media in the discipline. Kim’s “‘The Paths We Were Told To Follow’: A Citational Practice Worksheet for Students” [22] provides another example of how instructors might facilitate a similar assignment. By broadening the sources of materials from which they draw, instructors provide multiple perspectives from which students can learn and achieve continuous growth in citational practice.

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## TEACHING RESOURCE

### Student-facing Instructions

[To be presented in the form of an assignment prompt. Instructor-specific notes are included in brackets.]

The textbooks and lecture notes that instructors provide in this course reflect a limited number of authors and perspectives. Therefore, they only highlight specific individuals and institutions that create and communicate knowledge in this field. This activity asks you to create a discussion post about a source beyond instructor-provided course materials that helps you learn the following: [Instructors place the selected learning objective here]

The goals of this activity are twofold:

- to cite a source that can help you and your classmates better understand this topic
- to reflect on how the source you share shapes your understanding of canon formation and the labor that makes up this field.

You may want to start by considering sources of information that you have used to understand material in past courses. Examples include topic pages in open-access encyclopedias and illustrations through online videos. Use these pathways to spend about 15 minutes to identify a resource that helps you to better understand the learning objective. If you want to discuss starting points or ideas for sources, we encourage you to speak with us during office hours.

Once you have identified a source, we ask you to spend about 15 minutes responding to the following prompts through an online discussion post.

1. Please generate a citation for your resource in the form of a link. For sources that are offline, please provide the following information as it is available so that other students can find them: resource type (e.g., book or poster), author names, creation date, and location (e.g., poster presented at the on-campus undergraduate research conference).
2. How does your resource connect with the learning objective? What aspects of the presentation of information help with your understanding beyond the textbook and course lectures?
3. Does your resource credit any authors or contributors? Whose work is credited via authorship, and whose work is relegated to acknowledgments? Whose work might be omitted altogether?
4. Considering your responses to Question #3, how does your resource support labor erasure? How does it mitigate it?
5. How do you think that your resource relates to canon formation? To what extent does it support dominant voices in engineering? How do you think it omits or diminishes these voices?

## APPENDIX

In my past role as a student in and teaching assistant for the cross-listed linear control systems course, I wanted to bridge interests in aerospace and electrical engineering applications with the objective of mapping transfer functions to state space models. The first row of Table 2 below shares examples that I might have identified as an undergraduate student if I were tasked with this same assignment. The second row of Table 2 reflects how I would identify the type of resource, authors, and affiliations in response to the prompts in the student-facing portion of the resource.

Each column of this table gives an example response and its source. The first row gives the example and how it connects with the learning objective in the existing curriculum. The second row reflects how the instructor may connect the examples with learning objectives for citational practice in the form of forum responses or in class.

Table 2. Connections between citational practice and examples for a linear systems course

Learning Objective	Example from an English Language Textbook [23] Used Across Programs [24]–[27]	Example from a Peer-Reviewed Research Paper [28]	Example from a Web Resource [29]
<p>Convert between state space and transfer function models</p>	<p>Examples 2-2 and 2-3 in Ogata ask for the transfer function and state-space model of a second order linear system equation. The text relates the equation to a series spring-mass-damper system.</p>	<p>Researchers may use quadrotors to illustrate concepts in robotics because of their ease of takeoff and landing. A paper by Hoffman, Huang, Waslander, and Tomlin uses a linear model for small changes in attitude (i.e., orientation) of a quadrotor [28]. The student may practice writing the state-space model for the following transfer function</p> $\frac{\Phi(s)}{U_\phi(s)} = \frac{1/I_\phi}{s^2(\tau s + 1)}$ <p><math>\phi</math> indicates the roll component  <math>u_\phi</math> is the control input moment about the roll axis  <math>I_\phi</math> is a constant and represents the inertial component in the body frame  <math>\tau</math> is a constant and represents the time delay for the thrust command to the motors</p>	<p>Cruise control is a precursor to additional autonomous capabilities for vehicles. The student may practice writing the state-space model for the following transfer function for cruise control</p> $\frac{V(s)}{U(s)} = \frac{1}{ms + b}$ <p><math>v</math> is the velocity of the vehicle  <math>u</math> is the control input the force  <math>m</math> is a constant and represents the mass of the vehicle  <math>b</math> is a constant and represents the effects of wind drag and rolling resistance</p>
<p>Description of the type of resource, authorship, and acknowledgements to facilitate discussion of how the resource may challenge and reinforce dominant (i.e., canonical) voices and labor valuation (e.g., erasure).</p>	<p><b>Type of resource</b> assigned course textbook</p> <p><b>Author</b> Katsuhiko Ogata (University of Minnesota professor)</p> <p><b>Acknowledgements of fifth edition reviewers in order of appearance</b> Mark Campbell (Cornell University)</p>	<p><b>Type of resource</b> a peer-reviewed journal, Control Engineering Practice</p> <p><b>Authors in order of appearance</b> Gabriel M. Hoffmann (Stanford University graduate student), Haomiao Huang (Stanford University graduate student), Steven L. Waslander (University of Waterloo)</p>	<p><b>Type of resource</b> a website falling under a non-attribution Creative Commons license, Control Tutorials for MATLAB and Simulink</p> <p><b>Authors in order of appearance</b> [30] Dawn Tilbury (University of Michigan, UM, professor), Bill</p>

Table continued on following page

	<p>professor), Henry Sodano (Arizona State University professor), and Atul G. Kelkar (Iowa State University professor)</p>	<p>postdoctoral scholar), Claire J. Tomlin (University of California Berkeley professor)</p> <p><b>Acknowledgements</b>          “The authors would like to thank Jung Soon Jang, David Shoemaker, David Dostal, Dev Gorur Rajnarayan, Vijay Pradeep, Paul Yu, Justin Hendrickson, and Michael Vitus, for their many contributions to the development of the STARMAC testbed. We would also like to thank Mark Woodward for the image processing program used for the USB camera system.”</p>	<p>Messner (Carnegie Mellon University, CMU, professor), Luis Oms (CMU undergraduate student), Joshua Pagel (UM undergraduate student), Yanjie Sun (UM undergraduate student), Munish Suri (CMU undergraduate student), Christopher Caruana (UM undergraduate student), Dai Kawano (UM undergraduate student), Brian Nakai (CMU undergraduate student), Pradya Prempraneerach (CMU undergraduate student), Jonathon Luntz (CMU graduate student), Rick Hill (University of Detroit Mercy, DM, professor), JD Taylor (CMU graduate student), Shuvra Das (DM professor), and Mike Hagenow (University of Wisconsin graduate student)</p>
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**KATHERINE WILSON** is a PhD candidate in Aerospace Engineering at Cornell University. Her research is at the intersection of aerospace and electrical engineering. She investigates electromagnetic actuation for mobility of inspection vehicles for space stations.

# REIMAGINING OUR CITATIONAL PRACTICES: CENTERING INDIGENOUS AND CAMPESINO WAYS OF KNOWING

CLAUDIA IRENE CALDERÓN

In this teaching resource I focus on citation practices that can be helpful for students or researchers engaging with Indigenous and *campesino* (peasant) ways of knowing.<sup>1</sup> Through this exercise, the instructor will invite students to engage in a critical reflection on inclusive citational practices by producing bibliographic entries that recognize and value Indigenous and *campesino* voices in their research practices. This resource is geared to anyone in the biological or social sciences who wants to reflect upon pre-established and automatic citational practices (normalized by guidelines for scientific dissemination of knowledge) that have historically excised information unidirectionally and, by doing so, have continued to decenter and marginalize Indigenous and *campesino* knowledge. In particular, this exercise can be utilized by students who are planning to engage in scholarship with *campesino* or Indigenous people, at the outset of developing their literature reviews and prior to their engagement in field work with these communities.

Over a series of exercises, students will:

- Review current citational practices used when working in Indigenous contexts and notice the way they may marginalize Indigenous and *campesino* ways of knowing.
- Reflect on ways to create and include more culturally appropriate, ethical, and respectful bibliographic entries that recenter Indigenous and *campesino* knowledge.

## Context

The inception of this resource began as a reflection with colleagues on the disjuncture between Western and Indigenous ways of knowing. Indigenous ways of knowing focus on holistic understanding of the world, on the interconnectedness of the living and nonliving, on values of communality and reciprocity. Western ways of knowing are more pragmatic, compartmentalized, individualistic, and ethnocentric. The clash between these different ways of knowing derives from historical approaches, perspectives, methodologies,

praxis, and worldviews which have perpetuated the repression of Indigenous and *campesino* peoples and cultures (Parajuli, 1997).

Concrete contemporary examples of exploitative research can be seen in the neo-colonial ways of extracting information as well as biological or mineral resources from Indigenous and *campesino* territories. Some people call this type of research “helicopter or parachute research” (Haelewaters et al., 2021) because it is unidirectional, non-reciprocal, not culturally informed. Moreover, helicopter research is decided, developed, and conducted by people who hold intellectual hegemony (usually from the global North) and who are usually disengaged or minimally connected with the local communities where research is taking place. The contributions of Indigenous and *campesino* peoples remain hidden, devalued, or largely unrecognized in academic publishing.

Recognizing and elevating the voices of Indigenous and *campesino* peoples is an ethical thing to do. How to create bibliographic entries that recenter and value Indigenous and *campesino* knowledge is instrumental. But in addition, we need to be aware that certain information might not be allowed to be put in print or shared with a broader audience, or that some information might be sensitive and that publishing it with location parameters (village, town, community, territory) could make these knowledge-holders vulnerable. When I spoke with Zapotec, Mam, Kaqchikel, and Guna colleagues, through their different worldviews, they each brought up an important aspect related to citational practices that has to do with the concept of “ownership.” While they value the recognition of the individual(s) who voiced and shared the knowledge, they also want to highlight that some knowledge might be communally owned: they posit that the name of the Indigenous group or the community could go first, as a way to highlight their groups’ cosmovision, followed by the name of the knowledge-holder who provided the information in that particular instance.

Critical and respectful citational practices may require a case-by-case approach that includes co-designing with the community partners the format of some bibliographic references: whose name(s) should appear, what additional information can be included (name of the Indigenous group, location, topic, date, ...), the format of the bibliographic entry, etc. I also recognize that there are many other groups that have been underrepresented and marginalized in science, and how to acknowledge their contributions might require additional reflections and revision of citational practices in a case-by-case manner. I support Carrie Mott & Daniel Cockayne’s (2017) argument for a “conscientious

engagement” with the politics of citation (p. 954): an engagement that will work symbiotically with Indigenous and rural methodologies as critical frameworks (Brunette-Debassige & Wakeham, 2020; Louis, 2007; MacLeod, 2021; Okore et al., 2009; Smith, 2021). This inclusive approach is more likely to create the space for co-designing respectful citations.

How can we use the classroom as a starting point for helping students and future scholars interrogate the pervasiveness of exclusionary and hierarchical practices in Western research paradigms? How can we and our students become aware of the omissions created in our discipline by these relations of power-knowledge? Whose voices have been historically erased and whose have been put on pedestals? What information are we choosing to document? Through which filters are we sifting that information and how are we articulating it? How can we envision a more ethical and mindful practice of citation?

I have arrived at these questions partly as a result of my specific positionality and experiences as a researcher and instructor. I am an instructor and research mentor originally from Iximulew (Guatemala) and currently living in Teejop, the Four Lakes region, the ancestral land of the Ho-Chunk Nation. I lead study abroad programs in Mesoamerica with groups of undergraduate students from the University of Wisconsin-Madison, and I collaborate with Indigenous farmers and producers from Mesoamerica, documenting agroecological practices. These experiences have allowed me to recognize the uneven metrics that are used to acknowledge the quality and validity of the information we obtain from Indigenous and *campesino* sources. They also allowed me to notice and to question the biased system we currently use to create bibliographic references.

The original ideas for this resource were further inspired by the “Teaching Citational Practice: A Critical Feminist Approach” 2021 workshop offered through the Center for the Integration of Research, Teaching and Learning (CIRTL) and led by Cat Lambert and Diana Newby. Additional information on how this workshop series came to be is better explained in their introduction to “Progressive Pedagogies for Humanities Research and Citation” (Lambert & Newby, 2021). That workshop inspired me to channel the repetitive need to engage with my students in conversations about challenging the normalized extractive nature of scientific scholarship. In most academic spaces, dominant ways of knowing continue to depict *campesino* and Indigenous traditions of knowledge as residual entities that have survived the passage of time. Instead,

they should be viewed as alternatives and as active expressions of resistance to the extractive drive of globalization.

In some settings, such as in traditional medicinal plant use, land management, and water stewardship, a revalorization of Indigenous epistemologies and cosmovisions has occurred, in which the contributions of Indigenous and *campesino* voices are recognized albeit not systematically nor in an equitable way. To offer a counter example, in academia *campesino* agriculture is seldom acknowledged or valued, and is usually referred to as “unproductive” or “anachronistic” (Bellon et al., 2018). Even scholars who claim to use decolonial practices through their work end up inadvertently perpetuating colonial approaches. They may start their work using a decolonial lens, but once data is collected, or resources retrieved, the pressure to publish and advance in their careers pushes scholars to move ahead in ways that erase non-hegemonic ways of knowing.

For example, scholars will move forward in their research without fully acknowledging local expertise in their work and without returning any knowledge back to the communities who were at the center of their work. Publications will ensue most probably in English, as 98% of papers are published in that language (Ramírez-Castañeda, 2020); in journals that may require paywalls; and without local experts included as co-authors. Data analysis or discussion of the results will not include the input from community partners and the citations of the local experts whose knowledge was used to build the manuscripts may appear, if at all, in the format of personal communications.

I’ve found enlightening the work done by Linda Tuhiwai Smith on decolonizing research methodologies when working with Indigenous ways of knowing. For a reflection informed by critical feminist approaches for researchers working in Indigenous contexts, I recommend her book *Decolonizing Methodologies: Research and Indigenous peoples* (Smith, 2021).

Western science remains dominated by circumscribed sets of epistemological approaches of knowledge production and dissemination that usually privilege written discourse in English language over oral or performative modes of communication in non-English languages (Ramírez-Castañeda, 2020; Smith, 2021). These academic procedures create and perpetuate abysmal divides between different ways of knowing (Western and Indigenous, for example), elevating certain modes of communication to hegemonic status. In doing so,

these procedures amplify the voices of the narrators of such privileged communications, while relegating other narrators or knowledge-holders to the periphery of scientific inquiry. By not including and acknowledging Indigenous and *campesino* voices properly, we limit the set of experiences to which we expose the rest of the scientific community and the next generation of scholars, creating an incomplete landscape of information, knowledge production, and worldviews.

The exercise involved in this teaching resource should therefore be part of a larger historical look at our education systems, in different geographies of our world, to recognize instances of academic colonialism. Moreover, we will need to reflect on contemporary citational practices that continue to exclude different ways of knowing, and to understand our tacit compliance with these. I exhort the reader to engage with this reflection and invite us all to create, as Christa Craven suggests, “pedagogical communities of antiracist politics and praxis” (Craven, 2021).

Ultimately, this resource will enable students to work toward the co-creation of ethical and respectful citations with the local collaborators and knowledge-holders who inform the body of our work. This is of particular importance, as each knowledge-holder and the information that they share are tightly bound and contingent to a place, time and political context. As a result of their participation in this exercise, students should be able to recognize citations as a place-based practice, because the information provided and the knowledge-holder are tightly linked to that space, to their communities, and to a particular political and historical time.

## Implementation

*Activity summary:* Instructor(s) will invite students through this exercise to engage in a critical reflection on inclusive citation practices by producing bibliographic entries that recognize and value Indigenous and *campesino* ways of knowing in their teaching and research practices.

*Audience:* Undergraduate and graduate students, in the biological or social sciences, engaging in research dealing with Indigenous science, or in participatory action research involving rural or Indigenous people. This resource can be also helpful for advisors, mentors, instructors, reviewers, editors, or scholars, across different disciplines, working with Indigenous and *campesino* communities.

*Context of use:* Citation practices used in academic field work, community work, service learning, study abroad, internships, or research done with Indigenous peoples.

*Goal:* To reflect on Western citational practices that tend to displace to the periphery of academic scholarship the information that Indigenous or local knowledge-holders bring to our work.

*Learning objectives:* Students (and also scholars working on this exercise) will be able to (1) review the current citational practices used when working in Indigenous contexts and notice the way they may marginalize Indigenous and *campesino* ways of knowing, and (2) reflect on ways to create and include more culturally appropriate, ethical, and respectful bibliographic entries that recenter their knowledge.

*Notes on adaptation:* This teaching resource has been divided into three sessions to scaffold a deeper analysis of citational practices of *campesino* or Indigenous knowledge. Feel free to revise and adapt as needed.

The instructor can have the students look for publications related to traditional ways of knowing or provide a pre-selected subset of articles to their students to use for sessions 2 & 3 if preferred. An example of a publication that can be used as a case-study has been included in the instructions below.

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## TEACHING RESOURCE

### Student-facing Instructions

[Information for the instructor appears in brackets below.]

#### *Session 1*

[The instructor can ask students to discuss the following prompts in small groups.]

#### Prompt 1:

What is considered ‘personal communication’? Consider verbal, gestural, and visual information that are shared between people in a way that cannot be reported by others.



[Any communications obtained or retrieved by the author that cannot be accessed by the readers—such as interviews, in-person or phone conversations, emails, text messages, not public social media posts, conference or class presentations that are not recorded, storytelling, etc.—are considered examples of personal communication.]

Prompt 2:

It is a common procedure that academics summarize the information they collected and paraphrase in their manuscripts. Sometimes, authors want to highlight or acknowledge the source of a specific piece of information shared orally to them. Where and how are personal communications reported in the literature you use or the literature you found for this exercise?

[Personal communication appears in the body of text, parenthetically, with some variations of the following: name of the communicator, the date the communication took place, sometimes even the general topic of the communication. Personal communications do not appear in the references. In the humanities, it is common to see personal communications as footnotes.]

Pre-assignment—to be completed before session 2: Search for 1-3 examples of publications that were conducted with groups of *campesinos* or Indigenous peoples and made use of their traditional ecological knowledge and look in the paper for information that derived from these knowledge-holders.

[Articles can be found by using Google Scholar searches of key terms such as: Indigenous knowledge, traditional ecological knowledge, aboriginal knowledge. The instructor can also share this article as a case-study: Lavallée, L.F. (2009). Practical Application of an Indigenous Research Framework and Two Qualitative Indigenous Research Methods: Sharing Circles and Anishnaabe Symbol-Based Reflection. *International Journal of Qualitative Methods*, 21-40. doi:[10.1177/160940690900800103](https://doi.org/10.1177/160940690900800103).

*Session 2*

[The instructor can ask students to work individually on the following prompt.]

Prompt 1:

Choose one of the publications that you found in the pre-assignment and search for sections that include information retrieved from local community knowledge-holders. Are there details on how that information was accessed?

How is that acknowledged in the publication? Who has a voice in the text and how is knowledge-holding being recognized?

[The instructor can invite students to take notes on their answers to these questions. Students will notice that in most publications, the author will summarize the knowledge shared by informants. Since the information is not in writing, an attribution of the source of the information might appear as a personal communication and most commonly as a general acknowledgement at the end of the article, addressed to the general group of people where research took place.]

[The instructor can divide the class into small groups (2-3 students). Provide 10 minutes or so for the groups to discuss the following prompts and share their findings.]

Prompt 2: What, if any, are the commonalities that you noticed across the different articles you analyzed in terms of how Indigenous knowledge is or isn't acknowledged?

Prompt 3: What are some conclusions you can draw based on your collective exploration of existing citational practices around Indigenous knowledge? What voices did you hear from the knowledge-holders in the articles? What information about them was included? If you were to envision a different system of citation, how would it look?

### *Session 3*

[The instructor leads this session by sharing the following citation templates and asking the class as a whole to respond to the prompts.]

Begin by considering the following citation templates taken from Lorisia MacLeod's article "More Than Personal Communication: Templates for Citing Indigenous Elders and Knowledge Keepers."

**APA traditional style:** D. Cardinal (personal communication, April 4, 2004)

**APA template for Elder citation:** Cardinal, D. Goodfish Lake Cree Nation. Treaty 6. Lives in Edmonton. Oral teaching. Personal communication. April 4, 2004.

**MLA template for Elder citation:** Cardinal, Delores. Goodfish Lake Cree Nation. Treaty 6. Lives in Edmonton. Oral teaching. 4 April 2004.

Prompt 1:

What differences do you notice between the Elder citation templates in comparison with either the personal communications in the APA traditional style above or the citational examples encountered in the articles you analyzed? What do you make of these differences? What information do you think might be relevant for members of Indigenous tribes and nations when they share their knowledge?

[The first name is included in full, rather than just an initial; and information is provided on the nation/community, treaty territory, where they live, and the topic of the communication. Information on the nation/community to which the knowledge-holders belongs, the relationship to a treaty, and the city or community where they live are all very important to situate Indigenous knowledges—in plural—and acknowledge that different nations might hold different teachings.]

Prompt 2:

What are your thoughts regarding the generalization of these Elder citation templates? In other words, think of scenarios in which this template may not be applied for citing other Indigenous peoples from around the world (non-Native American). What features of these templates can be applied to cite *campesino* knowledge in your work?

[Indigenous groups are not monolithic; recognizing their uniqueness is relevant to their communities. This may result in different formats of the bibliographic entries and the need to sit with the knowledge-holders involved in our work to co-design these entries on a case-by-case basis.]

Prompt 3:

Citational practices can enter into conflict when information derives from communal knowledge. How can citations recognize knowledge ownership when it spans more than one community or groups of people?

[Including the name of the knowledge-holder provides the direct source of the information. Specifying the Indigenous group to which the knowledge-holder ascribes is a way to recognize the relationship of the knowledge-holder with the existing knowledge in their community. As mentioned earlier, it might be a

good practice to ask the knowledge-holder how they suggest to best cite the communication they are sharing with us, and to co-design the bibliographic entry with the knowledge-holder.]

### *Final assignment*

With this teaching resource, we have engaged in a critical examination of current citational practices reporting Indigenous or *campesino* ways of knowing. We observed how the current citation templates are not adequate to highlighting and recognizing Indigenous and *campesino* knowledge-holders. Please summarize in writing how you would proceed to retrieve and share knowledge from community informants in your scholarship. This assignment will be exchanged among participants in the class for a peer discussion that will be centered around the ethical and culturally informed principles that these new practices may enact and the impact they can have, particularly for Indigenous and *campesino* knowledge-holders.

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## NOTES

[i] We recognize that some campesinos but not all ascribe to specific Indigenous communities, so mentioning them separately is a way to recognize the value of their own ways of knowledge as well.

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**CLAUDIA IRENE CALDERÓN** is a Faculty Associate in the Department of Horticulture at the University of Wisconsin-Madison, a university that occupies ancestral Ho-Chunk land. She conducts participatory action-research around

gender, agroecology, crop evolution, and sustainable food systems as well as ethnographic work with small-holder farmers in rural areas of Mesoamerica. She has over 18 years of experience creating engaging, welcoming, and inclusive classrooms in her home country, Guatemala, and in the United States.