

Transforming Academia for Community-Engaged Research

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Strengthening community-engaged research (CER) for environmental justice (EJ) requires examining the whole of the relationship between an academic institution and the broader community. While chapters 3 and 4 addressed how to prepare for and conduct CER for EJ, this chapter focuses on transforming institutional barriers and creating supports for this kind of research in academia. Researchers need to navigate, and many institutions need to change, tenure and promotion criteria that fail to recognize CER, reluctance to recognize community advisory boards as equal partners, and administrative systems that make it difficult to share resources with community partners. While many researchers have learned to overcome these obstacles, they continue to stifle projects that are most relevant to EJ communities and limit academic institutions' ability to build just relationships with these communities.

Drawing on promising practices, we also offer recommendations for how academic institutions can be more supportive of CER for EJ. The recommendations and examples presented here are milestones on a long journey toward a more just system of knowledge production and education, one that transforms inequitable relationships of wealth and structural racism across society. Table 5.1 summarizes how the four dimensions of justice common to CER and EJ can inform the changes needed in academia that we will discuss in this chapter.

TABLE 5.1. CER for EJ in Academia

Dimension of Justice	In CER for EJ in Academia
Distribution <i>Who ought to get what?</i>	Fair sharing of academic funding and research tools with communities, and development of community capacities to conduct their own research
Procedure <i>Who ought to decide?</i>	Community participation in and influence over the design and conduct of research through community advisory boards, data ownership and control, and research ethics reforms
Recognition <i>Who ought to be respected and valued?</i>	Practicing epistemic justice and decolonizing knowledge in CER, curricula, co-curricula, and campus archives and museums
Transformation <i>What ought to change, and how?</i>	Transforming academic research, criteria for evaluating research, impacts on surrounding communities, and composition of the campus community to repair historic harms to and create just relations with EJ communities and nature

DISTRIBUTIVE JUSTICE

In their mission statements, academic institutions typically state their commitment to produce and spread knowledge, but they rarely share the means of producing knowledge with their surrounding communities. This includes resources such as grants, research tools, and data, as well as access to capacity development (such as skills-based training, knowledge-based education, research experience, and research networks), which communities need to participate in CER and to conduct their own research. Making these resources and capabilities more available to communities will require changes to academic policies, procedures, and administrative systems.

Academic institutions are designed to attract and retain research resources rather than to share them with community partners. Even in CER projects, academic researchers typically control the funding, their institutions take a significant portion as overhead, and community collaborators often receive little to no share of the money. While this may be warranted if community partners lack experience in managing complex grants, many partners can do this, or want to learn, and helping spread these capacities should be a long-term goal of CER (Wilson, Aber, et al. 2018). This may involve academic researchers playing the junior partner role—for example, as subawardees on grants to community organizations—which positions community partners in leadership and grant manager roles and contributes to the partners' ability to obtain future research grants. Academic institutions can also develop training programs that build community partners' skills to conceive, fund, conduct, analyze, and disseminate their own research.

When academic researchers are the lead grant managers on CER projects, their institutions' business offices and financial systems need to reduce barriers to compensating community partners. For example, some partners are required to include the institution on their insurance policies or to submit frequent invoices

in order to secure funding. Partners that are not incorporated as nonprofit organizations (such as volunteer, collective membership organizations) may lack the employee identification numbers that institutions often demand to set up contracts and distribute funds. Funds to individuals may require social security numbers, which excludes some immigrants from participating as partners. While institutions must protect themselves from financial risk, they will also have to develop systems that facilitate transferring funds to community partners.

Institutions must also find ways to expand access to research tools so that community partners can participate fully in campus-affiliated CER projects and generate independent research. Academic institutions can share subscriptions to research databases, proprietary data sets, and tools for analyzing and representing data. Establishing neighborhood-based science shops, maker spaces, and research centers can help community groups to develop their own research projects. Academia can build on the radical science shop tradition developed in the 1970s to align research with community-defined needs in collaboration with local nonprofit organizations, officials, schools, and others (De Filippo et al. 2018). Academic institutions could develop more open science and maker spaces, and involve faculty and students in helping teach community members how to use them to address community priorities.

PROCEDURAL JUSTICE

Most scholarship conducted in EJ communities is *extractive*: researchers obtain grants to conduct studies of their own design; gather data from communities; analyze it in researchers' own labs, computers, and heads; and publish it in academic journals and books that are inaccessible to community members. While chapters 2 through 4 describe how researchers can embrace CER, their institutions also need to change to allow community partners to participate fully in designing research, sharing ownership and control of data, and practicing research ethics that align with community values.

Design and Control of Research

Community advisory boards (CABs) are often established to ensure community participation in and power over the design and conduct of CER, including obtaining informed consent and managing rights to control data (see chapter 4). CABs may focus on guiding campus-community partnerships for learning and research across an entire university, a school or department, or a specific research project.

However, community participation in CABs can be limited by structural and systemic oppression within communities, which may prevent members from participating as equal partners (Safo et al. 2016; Wallerstein et al. 2019). Formation of the CAB requires careful consideration of composition and recruitment to ensure community representatives bring a mix of perspectives, expertise, and

resources necessary for the partnership and the research. CER must prioritize CABs in which community members are co-decision makers, not simply advisors whose input can be rejected, throughout the research process. Their ability to exercise equal influence also depends on how CABs establish operating principles and procedures, balance power, and make decisions. Once established, CAB members must work together to maintain themselves through reflective and evaluative processes and developing a plan for sustainability to ensure empowerment and capacity building (for best practices and examples, see Newman et al. 2011; Symanski et al. 2020; and chapter 4).

Data Ownership and Control

Higher education can learn from Indigenous peoples' efforts to protect their ownership and control of data. While tribal governments' status as sovereign nations gives them a unique status among EJ communities, these governments' well-developed data policies and guidelines can inform academic agreements with other EJ communities. Like many marginalized groups, Indigenous peoples (individually and collectively) have been the subject of research not sanctioned or overseen by their tribes or communities. In such cases, researchers often extract data without consideration of the harms or benefits to the community, the people, and the land (see chapters 2 and 4).

Indigenous data sovereignty is founded on Indigenous groups' inherent and sovereign right to govern their peoples, lands, and resources. Further, it is the right of Indigenous tribal nations to oversee the collection, application, and ownership of data concerning their people and community collectively (www.gida-global.org). These principles are meant to ensure that data for and about Indigenous peoples and lands is used to advance Indigenous priorities for collective and individual well-being. In table 5.2, we list the Native Nations Institute's preliminary recommendations for decolonizing data and indigenizing data governance (Rainie, Rodriguez-Lonebear, and Martinez 2017) and provide more specific guidance for applying them in academia. Although not an exhaustive list, the recommendations can guide academic data policies with regard to many EJ communities. (For additional guidelines specific to conservation research with Indigenous peoples, see chapter 12).

Research Ethics

CER requires significant changes in how academia assesses whether research projects meet ethics requirements. Since the 1970s, research ethics protections in the U.S. have evaluated whether research designs comply with the Belmont principles. These principles include *respect for persons* (participants in research must take part voluntarily, and there must be additional protections for children and others who cannot make their own choices); *beneficence* (research designs must minimize risks and maximize benefits to participants); and *justice* (research must be designed

TABLE 5.2. Applying the Native Nations Institute Recommendations to Academia

Native Nations Institute Recommendations	Applications to Academia
Acknowledge Indigenous data sovereignty as an objective, and incorporate it into tribal, federal, and other entities' data policies	Acknowledge and incorporate Indigenous data sovereignty throughout academic data policies, including IRB and research ethics policies. Engage policy researchers and facilitate collaborative work with tribal leaders and policy experts to create equity-based policies that benefit tribes
Generate resources and build support for Indigenous data governance, including the governance of Indigenous data by others	Establish institutional resources for Indigenous data governance policies and mechanisms that support tribal sovereignty, including governance of how Indigenous data will be handled by academic institutions and researchers, through data-sharing agreements and management plans and university IRBs and ethics committees
Grow tribal data capacities, including establishing their data governance policies and procedures, and recruiting and developing “data warriors” (Indigenous professionals and community members with skills in collecting, creating, and managing data)	Assist tribes to grow their capacities for data governance and to conduct their own research. Recruit, develop, and retain Indigenous students, scholars, and community researchers as data warriors
Establish strong relationships between tribal leaders and data warriors	Establish strong relationships between academic researchers and data warriors to reduce community research burdens and fairly distribute benefits between Indigenous communities and academic researchers
Create intertribal institutions to practice data leadership and build data infrastructure and support for tribes	Develop academic technical assistance programs, policy institutes, and similar structures to support intertribal institutions to do this work
Build connections among Native nations domestically and internationally for the sharing of strategies, resources, and ideas	Provide academic assistance in bridging Indigenous groups domestically and internationally through institutional alliances and financial supports to share research strategies, resources, and ideas

to balance potential risks with benefits to participants). Federal research-funding agencies and academic institutional review boards (IRBs) have applied these principles to build ethics protocols used to decide whether to approve proposed research projects. However, these protocols may omit many of the most significant ethical considerations of CER partnerships.

CER seeks to prevent community harm while also actively benefiting communities by reframing research relationships and goals to align with communities' priorities and needs. Thus, relevant research ethics for CER expand the Belmont

principles' traditional concern with the rights of *individuals as research subjects* to include concern for the rights of *communities as research participants and co-producers*. However, IRBs often fail to address community- or population-level protections and assurances, including rights to consent, participate, share control and ownership, ensure cultural appropriateness of research, and benefit from it (Banks and Brydon-Miller 2018; Beans et al. 2019).

When assessing proposed research in EJ communities, IRBs can go beyond minimal requirements for obtaining consent from individual research participants. One model is the notion of collective free, prior, and informed consent (FPIC), an international human rights legal principle for seeking local communities' approval of development projects, inspired by Indigenous demands for self-determination (Suiseeya 2021). FPIC requires affirmative consent (an explicit assertion of approval) that is free (obtained without coercion), prior (obtained before a project is implemented), and informed (given by people who are fully aware of the impacts of their decisions). Consent is not mere consultation, which does not guarantee communities a right of refusal. Consent must also be demonstrated by representatives of the community, including marginalized groups, not simply obtained from individuals. This principle could more fully inform how academics seek approval of research projects in EJ communities, supplementing requirements that are currently limited to obtaining approval from individual research subjects.

IRBs can also consider communities' rights to participate as peer researchers, ensure cultural appropriateness of the research, and own and control data. Some university IRBs have impeded CER proposals because of reluctance to review ethics compliance by partner organizations, especially to ensure that lay members of research teams are trained sufficiently to protect participants' confidentiality and other rights. In these cases, research may be delayed, community members may be restricted from gathering or accessing data, or local partners may be forced to pay for independent IRB oversight (Morello-Frosch, Brown, and Brody 2017). IRBs have also asserted academic institutions' ownership of research findings as intellectual property, which contradicts CER principles of the collective ownership of data and the co-production of knowledge with community members (Su et al. 2018). IRBs need training to reconcile these rights more fairly (see, e.g., Pearson et al. 2014), and community or tribal review and ethics boards can also assess whether research proposals observe these rights (Gachupin and Molina 2019).

Incorporating community rights in decisions about data dissemination can involve trade-offs with traditional scientific principles. For example, some CER projects omit control groups because partners consider it unethical to deny community members potentially beneficial interventions. In addition, researchers and community partners must grapple with whether and how to publicize negative

findings about a community that could stigmatize it and dissuade community members from participating in beneficial interventions. These ethical decisions involve weighing the benefits of scientific rigor against advancing goals for improving the community's welfare (Minkler and Baden 2008).

Conversely, community values may call for disseminating data that traditional research ethics would restrict. For example, IRBs have resisted CER projects' desire to report study participants' own individual-level results of exposures to hazardous substances and other health data if there is scientific uncertainty about their impact (Morello-Frosch et al. 2015, 2017). This resistance stems from concern that participants may endure unnecessary stress by getting access to their genetic data or chemical exposure levels when there is uncertainty about their health implications. Yet many EJ researchers and community partners would prefer to report back these data out of respect for community members' right to know. There is evidence that even if these individuals may not be able to eliminate exposures or alter their genes, participants gain important knowledge about environmental health, take precautionary steps, and involve themselves in policy processes to reduce their risks (Morello-Frosch et al. 2017).

To summarize, CER partners, federal funding agencies, and universities can take several steps to reform research ethics practices (Morello-Frosch et al. 2017). These include

- educating funding agencies and IRBs that are unfamiliar with CER about its principles, benefits, and ethical concerns, such as protecting community rights;
- encouraging funding agencies and IRBs to value statements of “community consent,” not only of individual consent to participate in studies;
- involving and training community members in review boards to evaluate proposed CER, which can inform IRB decisions;
- reforming the guidelines of major funding institutions, especially federal granting agencies, to offer guidance in handling human subjects concerns specific to CER;
- encouraging IRBs to assess the quality of training of peer researchers and respect data collection methods common to CER, rather than raising unnecessary barriers to community participation, and to devise new criteria for reporting individual health data to study participants;
- encouraging IRBs to require CER ethics programming and population-specific ethics trainings as part of academic researchers' routine certification to do research involving human subjects (see box 5.1);
- fostering respect and knowledge about the importance of Indigenous cultural review and ethics boards, tribal IRBs, and/or forging informal agreements with tribal leadership.

These reforms require ethics to be considered as an ongoing set of issues, dynamics, and relationships throughout the partnership and research process (Glass et al. 2018). CER highlights how all aspects of research projects we discuss in this chapter—sharing resources, making decisions, recognizing marginalized knowledges, and transforming academia’s relationships to exploited communities—involve ethical choices because they are matters of justice (Flicker, Guta, and Travers 2017). Academic researchers and IRBs must be trained to assess these broader ethical criteria for research as well.

BOX 5.1. ETHICS TRAINING FOR RESEARCH IN INDIGENOUS COMMUNITIES

Many tribal communities have well-developed research review boards and IRBs with specific criteria rooted in principles of tribal sovereignty (Parker et al. 2019). In other tribal communities, research approval may take other forms, including endorsements from tribal leaders or appointed councils. However, many academic IRBs’ policies conflict with tribal research ethics. In particular, academic training based on the Belmont principles often fails to recognize ethically relevant cultural and community aspects of research involving American Indians and Alaska Natives (AI/ANs) (Parker et al. 2019; Pearson et al. 2014). In addition, academic IRBs have sometimes blocked collaborative research approved by their tribal counterparts by imposing stricter protections for the individual rights of participants (Morello-Frosch, Brown, and Brody 2017).

Researchers who want to collaborate with AI/AN communities ought to go beyond the narrow ethics training required by academic institutions to learn how to comply with AI/AN communities’ research ethics. To fill this need, Parker and colleagues (2019) developed the research Ethics Training for Health in Indigenous Communities (rETHICS), a module and curriculum that aligns with AI/AN culture, context, and community-level ethical values and principles. It was developed through an extensive process of community consultation and input from three expert panels drawn from a nationally representative list of AI/AN researchers, including a community expert panel, scientific and academic expert panel, and IRB and policy expert panel.

The rETHICS training was based on foundational constructs that “(a) [were] framed within an AI/AN historical context; (b) reflected Indigenous moral values; (c) linked AI/AN cultural considerations to ethical procedures; (d) contributed to growing Indigenous ethics; and (e) provided Indigenous-based ethics tools for decision making” (Parker et al. 2019, 9). The curriculum is freely available (<https://redcap.iths.org/surveys/?s=R3EJPAYD4J>) and can be adapted for other cultural groups (Parker et al. 2019). University IRBs could add this to the requirements for EJ researchers proposing work with Indigenous groups and establish new trainings using CER that focus on other EJ populations.

RECOGNITION JUSTICE

To advance recognition justice, academic institutions must respect the value of and differences among local, experiential, and Indigenous knowledges in EJ communities. Many leaders of EJ communities mistrust academia, and therefore are reluctant to engage in CER with academics, because of historic institutional disrespect for these communities' knowledge (Cable, Mix, and Hastings 2005; Cole and Foster 2001). Dominant academic traditions have presented knowledge produced from a Western, white, male, economically privileged perspective as "objective" and "universal," and much of this scholarship has ignored, denigrated, or legitimized the oppression of EJ communities (Smith 2021; Whyte 2018a). In contrast, CER is grounded in epistemic justice, which recognizes multiple ways of knowing both inside and outside academia (see chapter 2). Enacting epistemic justice means making space within academia for non-Western and non-dominant thought, practices, and worldviews essential for effective CER, such as Indigenous traditional ecological knowledge (see chapters 2 and 12). This means approaching epistemology as having both intellectual and ethical dimensions, examining its application in CER and its implications for transforming academia to be more equitable and inclusive through increasingly intentional integration of justice and scholarship, as in efforts to decolonize knowledge (see chapters 6 and 12).

Recognition justice involves opening up research, teaching, and service to non-dominant knowers and ways of knowing. Preparing students for CER requires modifying curricula and diversifying representation of pedagogical and epistemological paradigms in core theory, philosophy, and research courses throughout degree programs. Such modifications depend on faculty in all disciplines expanding their understanding of non-Western epistemologies and community-based knowledge—by recognizing, for example, that Indigenous peoples "have always been data creators, data users, and data stewards [and have used] data to interact with each other and the natural world since time immemorial" (Rainie et al. 2017). CER can help build relationships with more organizers, service providers, artists, and leaders from non-dominant communities and compensate them for sharing their knowledge in classrooms, academic museums and archives, cultural programming, and public spaces. Community-based learning placements, which are ripe for developing CER, must shift from employing a service learning approach in which faculty and students too often adopt a white savior mentality to bless communities of color with academic knowledge and skills, or a pre-professional mindset of enhancing multicultural credentials on one's resume (Irwin and Foste 2021). Instead, these programs need to become opportunities for true learning partnerships and exchanges, and should feed longer-term relationships by linking to ongoing CER partnerships that build community capacities and power. Across each of these efforts, academia needs to become more comfortable with acknowledging profound epistemic differences among dominant and

marginalized communities' knowledges, and with attempting to bridge them through dialogue rather than papering over their differences or vanquishing some of them through debate.

TRANSFORMATIONAL JUSTICE

Higher education also needs to acknowledge how academic research and institutional actions have contributed directly to colonization, racism, exploitation, and environmental injustices, as described below. Making an institution-wide commitment to a broad program of CER is one important way for academia to engage in transformational justice that repairs harms to and creates just relations with EJ communities and nature. Reorienting academic research will require broader changes in academic culture and reward structures, transforming institutional impacts on surrounding communities and changing the composition of the campus community. To pursue these long-term goals, academia can learn from practices of restorative justice and transitional justice (see chapter 1).

Transforming Research

Spreading a culture of CER in academia can contribute to transformational justice for research practices that have not only failed to recognize the knowledge of people of color and Indigenous communities, but actively harmed them. For centuries, academic research across the disciplines has played a powerful role in advancing colonization, racism, and environmental destruction. Chapters 7 through 12 in this book describe how research in law and policy, development, planning, public health, food and agriculture, and conservation helped legitimate the contamination and destruction of nature and people in EJ communities around the globe. This research was not conducted by fringe theorists, but by leading scholars in their fields. Academic buildings and prizes continue to bear their names, and many scholars continue to draw on their work. As public funding for research and education has waned in many countries, contemporary institutions increasingly rely on private grants, contract research, and monetizing research services and products, making academic research more reliant on support from exploitive and polluting industries, and the foundations and think tanks they fund to influence public discourse (Canaan and Shumar 2008).

Notorious studies that directly traumatized vulnerable participants have especially led many people in EJ communities to distrust academic research. Many Black Americans know how the U.S. Public Health Service–Tuskegee Institute syphilis study concealed from Black male research subjects their diagnoses of syphilis and left their disease untreated so researchers could examine its progression for 40 years, causing preventable deaths among participants and their families (Smith, Ansa, and Blumenthal 2017). Many Native Americans know that Arizona State University researchers convinced Havasupai tribal members to give

blood samples for a study on genetic links to diabetes that might improve health remedies for their tribe, and that researchers then used participants' DNA without their consent to publish stigmatizing research about inbreeding and schizophrenia in the tribe, and distressing research about the origins and migration of the Havasupai that conflicted with the tribe's beliefs (Mello and Wolf 2010). Subsequently, many tribal members shunned diagnostic care for diabetes, leaving their conditions untreated until they needed kidney dialysis, because the tribe no longer trusted medical authorities (Pacheco et al. 2013). To obtain justice, survivors of these infamous studies had to sue the responsible institutions, which did not agree to settlements until decades after the harms were committed. The Tuskegee study also prompted the drafting of the Belmont principles and restructuring of research ethics protocols across the U.S.

Transforming Harms from Research

Rather than acting as a fortress against complaints of research injustices, academic institutions should integrate CER into reconciliation with affected communities. Borrowing from transitional justice practices in postwar societies, academic institutions and professional associations can collaborate with representatives of people harmed by past research to establish commissions committed to healing and transformation. Such commissions can engage academics and community members in CER to examine how especially damaging and flawed studies and research programs became vehicles for misinformation, and contributed to oppressive policies and practices. These commissions can establish accountability by responsible parties, offer apologies and retractions of harmful research, and provide reparations and recommend policies to avoid repeating these abuses. As in restorative justice programs, offenders can participate in dialogue with survivors about how they have been impacted by harmful research, and agree on reparative measures to heal the university-community relationship. While Arizona State University did not adopt these practices, box 5.2 describes some of the measures

BOX 5.2. REMEDIES FOR RESEARCH HARMS AT ASU

In its 2010 settlement with Havasupai tribal members, Arizona State University (ASU) agreed to measures that illustrate some of the reparative justice options available to academic institutions (Mello and Wolf 2010). The university agreed to return remaining blood samples and research materials derived from the samples, ban the university's IRB from approving any research using the blood, and provide the tribe a list of all individuals and institutions with whom the samples were shared. ASU agreed to pay \$700,000 to 41 tribal members. The university

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BOX 5.2. (CONTINUED)

also adopted a five-year agreement to support education, health and nutrition, and economic development among the Havasupai. The Arizona Board of Regents also instituted a scholarship program across the state's three public universities for Havasupai tribal members and descendants of individual plaintiffs from the tribe who were parties to the settlement agreement.

ASU has also implemented several policies and procedures to ensure the university does not engage in further harmful research activities and develops just relations with Indigenous communities. The university now abides by a tribal consultation policy, which states that regardless of the authorizing body, any project that could potentially affect a tribe's government, their community, or their members or occurs on or near tribal lands should acknowledge and respect the distinct role of tribal governments, sovereignty, and government-to-government relations in the manner in which ASU engages with tribal nations (Arizona Board of Regents 2018). ASU's IRB now requires a cultural review for any research proposed with Indigenous peoples or on or around their lands. The cultural review board is composed of AI/AN scholars from across the university and community. The academic IRB process also requires an official letter of agreement for proposed research from an appointed tribal representative. Resources and training seminars on conducting ethical research with AI/ANs are available university-wide to all academic researchers. ASU established a special advisor to the president on American Indian affairs. This position is held by an Indigenous person who oversees university initiatives that relate to American Indian issues, develops relationships with tribal nations on behalf of the university, and is responsible for advising the university on programming to improve outreach, retention, and graduation rates of AI/AN students. While the actions were a significant recognition by ASU of past unjust practices, restorative justice requires ongoing and vigilant monitoring of these agreements and systems, as well as continued and deepened relationships with tribes and communities to continue shifting institutional power and practices in the future.

the university eventually took to reconcile with the Havasupai tribe as part of a legal settlement, which provide some example remedies.

Transforming the Culture of Research

Expanding CER depends on changing how higher education defines and values research. The neoliberalization of academia since the 1980s has created a market-driven culture of research that prioritizes maximizing external funding rather than community benefits, aligning research with major funders' and donors' agendas rather than community priorities, boosting research productivity (measured narrowly by the number of publications and citations) rather than building communities' research capacities, and cultivating researchers' competitive individualism and self-branding rather than their ability to develop relationships with community

partners. To publish as much as possible, many researchers focus on plowing the same furrow in their field ever more deeply rather than engaging in interdisciplinary or applied research, and shun the time-consuming yet important work of building relationships with community partners. For these reasons, some dissertation advisors discourage early-career researchers, including Indigenous and other researchers of color, from doing CER with EJ communities (Mitchell 2018a), socializing scholars to use their time most productively rather than most meaningfully.

Structural problems demand structural change. Studies of faculty members who engage in CER find that institutional incentives are especially powerful (Ulrich 2016). Faculty members are more likely to adopt a CER approach when their institutions signal that CER aligns closely with the institutions' missions; provide a supportive infrastructure, such as offices for community engagement to help build relationships and manage budgets; offer internal funding and help faculty apply for external support for CER; and assess faculty research using criteria that clearly define and value CER. Unfortunately, few institutions around the world have made significant commitments to create these conditions, despite widespread endorsement of university-community collaboration (Appel et al. 2017; Welch 2016).

Structures for linking higher educational institutions and communities developed over the past four decades provide flawed but potentially valuable resources for transforming the research culture. Many institutions have launched place-based learning centers and anchor programs to promote community-based civic learning and research across the disciplines, and to build local capacities to improve public schools, healthcare, social services, and economic development (Democracy Collaborative 2019; Hall, Tandon, and Tremblay 2015; Hodges and Dubb 2012). While some of these programs have been designed to serve privileged, white students better than communities of color, some anchor programs and faculty participants in them are especially committed to transforming longstanding inequities in their communities (Sladek 2019). Centers, science shops, and maker spaces can host participatory research driven by community priorities if academic institutions are willing to share their findings and inventions openly rather than monetizing them as proprietary intellectual property (Munck 2014). If none of these university-community structures is perfect, each is worth struggling to transform because they are potential levers for change.

Certification schemes could also foster change across higher education. For example, the Carnegie Elective Classification for Community Engagement certifies over 300 academic institutions in the U.S. for implementing a broad range of community-engaged educational and scholarly practices (Carnegie Classification of Institutions of Higher Education, n.d.). Strengthening requirements for CER could help certification systems such as this to drive change across the educational sector. These requirements can push institutions to match their rhetorical commitments to community engagement with the necessary institutional support to build permanent and coherent programs, which require adequate staffing, faculty participation, and experience in managing community partnerships. Over time,

organizers for change in academia could persuade the most powerful overseers of higher education—accrediting bodies, legislatures, trustees and regents, and major donors—to convert elective classifications into mandatory commitments to invest in community engagement.

To shift from penalizing to rewarding researchers who do CER, academia can revise criteria for evaluating research (see box 5.3 for a case study on enacting

BOX 5.3. ORGANIZING FOR CER IN TENURE AND PROMOTION POLICIES

While a shrinking percentage of faculty members hold tenure-stream positions today, tenure policies are often the strongest indicators of an institution's priorities and values for all researchers. Occidental College (Oxy) provides one example of how faculty used a community-organizing approach that made progress toward transforming tenure and promotion policy, on which future efforts could build.

Attempts to include CER in Oxy's tenure and promotion policy began in 2005 but stalled because of resistance by campus leaders. In fall 2013, the college's Center for Community Based Learning (CCBL) faculty committee reignited this conversation as the college applied for reclassification as a community-engaged campus by the Carnegie Foundation. Because the application asked whether community-engaged teaching and scholarship were included in the tenure and promotion process, the faculty committee took this as a window of opportunity to reintroduce the proposed policy changes.

The committee's organizing began with a power analysis of the campus, paying close attention to who held faculty governance posts, as well as the academic dean and president's positions on community-based learning and research. It was important to understand how the administration believed CER would benefit or harm the college, in order to develop a strategy that would resonate with them. The committee also mapped a critical mass of instructors across disciplines who conducted CER or taught community-based learning courses, and who had received tenure or been promoted. This mapping also found that several academic departments now included visits to the CCBL for all finalists in faculty searches. These developments suggested that community-based learning had become rooted in the culture of the campus. The committee formed a core group of around 15 faculty allies from multiple disciplines, who built consensus and shared leadership for a new proposal, and then fanned out to initiate conversations about it in their departments.

The faculty committee took care to show how CER aligned with the culture of the college and its peer institutions. The committee researched comparable colleges that recognized community-engaged teaching or research in their tenure and promotion policies, yet also embedded the rationale for its proposal in Oxy's mission and marketing. Committee leaders built trust with those who did not often think about CER or were fearful of what recognizing it would mean for

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BOX 5.3. (CONTINUED)

their own research, tenure, and promotion. The core faculty group readied for meetings with the dean of academic affairs and the faculty council by preparing responses to questions about the description of CER and dispelling fears that all faculty members would be required to do it. In spring of 2016, the faculty unanimously approved the proposal.

Winning approval required some strategic compromises. The committee succeeded in including language recognizing community-based work in all three areas of evaluation: teaching, research, and service. However, the final language omitted several changes that were seen as too radical, including an expanded definition of materials that counted as publications and measures of the impact of scholarship, and a broader definition of peer review to include nonacademic reviewers. Thus, there was more to be done to build adequate infrastructure to support strong CER agendas across disciplines and training for faculty to evaluate CER in their colleagues' applications for promotion.

The Oxy case suggests several steps for organizing to transform tenure and promotion policies:

- taking advantage of windows of opportunity provided by accreditations, other external reviews, campus strategic planning processes, or changes in leadership
- convening a team of faculty leaders interested and invested in CER, culture change, and collective leadership to draft a proposal
- conducting a power analysis to identify existing support across campus, who can influence decision makers, and what other initiatives might support or detract from the goal
- rooting proposals in institutional mission statements and marketing materials
- building trust and support by meeting repeatedly with supportive faculty members in each academic department, potential opponents, faculty governance bodies, and administrative leaders
- making strategic revisions to the proposal based on feedback, in order to begin progress toward long-term policy and cultural change
- planning to strengthen the infrastructure to support CER and training faculty evaluators to implement policies recognizing the value of CER.

these institutional reforms). Many disciplines have developed standards specific to engaged scholarship (Doberneck and Schweitzer 2017; International Collaboration for Participatory Health Research 2013; Kastelic et al. 2017; Sandoval et al. 2011). Table 5.3 presents a set of criteria adapted from an influential rubric created by scholars convened by the Community-Campus Partnerships for Health (Jordan et al. 2009). The rubric integrates standard expectations for academic research, such as academic peer review and publication, with additional qualities relevant to CER, such as community peer review and dissemination of research (see chapter 4 for more detail on implementing these criteria).

TABLE 5.3. Characteristics of Quality CER

Characteristic	Definition
Clear academic and community change goals	Well-defined research objectives and/or questions, and realistic goals for community change
Adequate preparation in the content area and engagement with the community	Demonstration of researchers' content knowledge and preparation to conduct meaningful research with community partners
Appropriate methods: rigor and community engagement	Demonstration of how rigor (valid theory, research, and methods) is maintained and/or enhanced by community collaboration
Significant results: impact on the field and the community	Reporting of research results, knowledge created, and actual or potential effects on the community (e.g., on policy, community practices and processes, outcomes, organizational or individual capacities, or leadership development)
Effective dissemination to community and academic audiences	Co-presenting results with community partners through diverse channels for reaching relevant academic and community audiences (e.g., academic journals, community events and meetings, local media, policy briefings)
Critical reflection on the project to improve the research and community engagement	Assessment of the project's impacts and ways to improve the design, conduct, and outcomes of future research, drawing on community and academic feedback
Leadership and personal contribution	Evidence from academic and/or community arenas that the research has helped the research partners to earn recognition for leadership on the subject (e.g., invitations to present at professional, community, or government meetings, or to serve on advisory, policy-making, and other committees)
Consistently ethical behavior: socially responsible conduct of research	Demonstration of mutually beneficial, trusting, and equitable relationships with community partners; compliance with academic institutional review boards and relevant community review processes, cultural norms, knowledge systems, and data control and ownership protocols; sharing credit with community partners when disseminating the research

Transforming Impacts on Communities

Educational institutions shape their surrounding communities not simply through their research but by how they operate and whom they educate. The accumulated wealth of academia—in land, buildings, and endowments—has a history. In settler-colonial states, many academic campuses were founded on lands seized from Indigenous peoples by state order or religious decree (Tachine and Cabrera 2021). Some campuses were built by conscripted Indigenous laborers and enslaved Black workers, and funded by the slave trade (Harris 2020). Many institutions continue to rely on gifts from donors who made their fortunes exploiting and contaminating communities of color. Today, academic institutions play a major role in land and economic development that gentrifies surrounding neighborhoods, pushing

out low-income residents of color (Canaan and Shumar 2008; Matsuoka 2017). In countries such as the U.S., higher education reproduces racial and economic inequality by employing a growing precariat of low-wage and part-time teachers and staff, and by disproportionately graduating the children of white, affluent, and highly educated parents, while saddling low- and moderate-income students with mounting student debt (Cahalan et al. 2020).

CER can invite communities affected by these impacts to take academic institutions themselves as objects of study in the interest of transformational justice. Faculty, staff, and students are increasingly researching their own institutions' roles in slavery and colonialism, and how contemporary campuses erase or celebrate this history in their museums, archives, art and monuments, and building names. For example, the Universities Studying Slavery consortium (<https://slavery.virginia.edu/universities-studying-slavery>), a collaboration of over 80 institutions in the U.S. and U.K. hosted by the University of Virginia, shares practices and principles for conducting truth-telling projects about academic institutions' historic connections to the slave trade and enduring racism in academia. Research such as this is informing some institutional actions to acknowledge, reconcile, and repair these damages. Initial steps include redesigning campus sites to represent this history from the perspectives of enslaved and Indigenous peoples, acknowledging that campuses sit on Indigenous lands, renaming buildings, providing access to or returning lands and artifacts to Indigenous peoples, creating scholarship programs for and paying reparations to descendants of enslaved and conscripted laborers, and contributing to community and economic development in their communities (Harris 2020; Mamtora, Ovaska, and Mathiesen 2021). More of this research that informs campuses' understanding of their past and adoption of reparatory policies could be conducted with representatives of affected communities to ensure that their perspectives and policy preferences are centered (see box 5.4 for an example).

BOX 5.4. TRANSFORMATIONAL JUSTICE AT RYERSON UNIVERSITY

At Ryerson University in Ontario, the university's Standing Strong (Mash Koh Wee Kah Pooh Win) Task Force (2021) reexamined the historical record and contemporary legacy of the university's namesake. Egerton Ryerson was an educator who led the creation of the Ontario public school system, which included racially segregated schools for Black students and residential schools for Indigenous students, where children were separated from their families, endured physical and sexual abuse and neglect, and were forced to assimilate into Christian and Canadian culture. The task force of faculty, staff, students, and alumni—many of whom

(Continued)

BOX 5.4. (CONTINUED)

were also active members of Ontario's Indigenous and Black communities—conducted historical research on commemoration of colonial history; engaged in “learning and unlearning” about Indigenous cultures with scholars, Elders, and Traditional Knowledge Keepers; and consulted members of the campus and Indigenous communities through surveys, community conversations, and media outreach. The task force explained that its recommendations were not intended to erase the university's history, “but to reflect a more complete understanding of the past, celebrate current values and set aspirations for the future . . . and reflect the kind of ancestors we wish to become for our next seven generations” (11–13).

Their report began by acknowledging that “students, faculty, staff and community activists—particularly Indigenous and Black community members—have completed paid and unpaid research on, and raised awareness about, these topics” for over a decade. It went on to “recognize the harm that has been caused by the university's failure to prioritize historical research and meaningful community engagement about Egerton Ryerson's work and legacy” (11), despite prior efforts to address truth and reconciliation on campus. Among other recommendations, the report called on the university to take these actions:

- Rename the university through a process that engaged community stakeholders and the university community.
- Adopt five principles of commemoration drafted by the task force and a review process to guide future decisions about commemoration.
- Create exhibits about Egerton Ryerson's life and legacy, and the era in which the university was named for him, and make all archival materials about him publicly available.
- Develop plans to integrate learning about Indigenous and Black history, studies, and colonial relations into all academic programs and faculty and staff training.
- Expand scholarships for Indigenous and Black students, and expand hiring and promotion of Black and Indigenous faculty members.
- Develop land acknowledgements, and use public space on campus to install community-based art installations, plant gardens for growing Indigenous medicines accessible to the community, and conduct a healing ceremony at the former site of a statue of Ryerson that had been pulled down by protestors.

While Ryerson's president immediately accepted the recommendations in full, many of them will likely take years to enact meaningfully. Nonetheless, this task force illustrates the role that CER could play on the growing number of campuses that are starting to reckon with their own pasts. This includes CER for rigorous study of the historical record, systematic analysis of its current meanings to diverse campus constituencies and harmed communities, and careful design of policies that enable transformative justice.

EJ research also has a special responsibility to address academia's impact on gentrification. Large institutions that continually expand into surrounding neighborhoods to build new student housing and academic facilities tend to drive up rents that drive out low-income residents and small businesses. Even well-intentioned neighborhood greening initiatives—such as park cleanups, river restoration, tree planting, community gardens, and attracting healthier food stores—can fuel gentrification by making neighborhoods more environmentally desirable (Rigolon and Németh 2020). CER with an EJ lens needs to integrate anti-displacement goals into colleges' and universities' conventional sustainability programs in their communities (Di Chiro and Rigell 2018).

For example, a faculty-led class project at Occidental College in Los Angeles partnered with community residents and local organizers to document neighborhood changes in the rapidly gentrifying neighborhood outside of the campus. Students produced an online map of archival material and set the foundation for continued collaboration between faculty, staff, students, and community residents. In response to the college's purchase of a building in the neighborhood, the collaborative developed "Principles for Occidental College-Community Neighborhood Development" to guide future off-campus real estate acquisitions. These principles sought to strengthen and expand mutually beneficial collaborative relationships between the college and its neighboring community and ensure that the college's actions as an investor, developer, and landlord would reflect not only its financial interest, but also its mission to promote the public good and community-based learning. Occidental's board of trustees deemed the principles too restrictive and instead adopted a set of "Investment Principles" rather than the "Neighborhood Principles" developed by the campus-community coalition (Occidental Magazine 2019). Building on this CER and ongoing collaboration with community partners, faculty and students continue to promote the collaborative's principles and engage in CER to document changes in the surrounding neighborhoods (Matsuoka and Urquiza 2021).

Transforming the Composition of Institutions

Expanding CER for EJ also depends on recruiting and supporting a critical mass of faculty, staff, and students who come from and care about EJ communities and want to engage in research with them. Black, Indigenous, and people of color (BIPOC), women, and LGBTQ+ researchers tend to engage in CER and in EJ research at higher rates than other faculty members (O'Meara et al. 2011; Vogelgesang, Denson, and Jayakumar 2010). While respectful and culturally humble researchers can be effective allies across socioeconomic and racial lines, researchers who share some aspects of community membership with external partners are often especially well positioned to build trust and co-create knowledge with them (see chapter 3). Greater inclusion of BIPOC students, faculty, and staff is vital to sharing the means of production of knowledge about EJ (for distributive justice). It is

important for involving members of EJ communities in shaping CER from *inside* the walls of academia, not just from outside (for procedural justice). It is crucial for respecting and valuing the experiences and knowledge of EJ communities (for recognition justice). It is one powerful means of providing reparations for academia's ongoing harms to EJ communities, and its history of exclusion and oppression of BIPOC peoples and knowledges within universities (for transformational justice).

Of course, academia should become more diverse, equitable, and inclusive for more reasons than advancing CER or EJ. In addition, all faculty members should enjoy the academic freedom to choose their methods and contribute to any field, and all students should be educated to take part in CER and to advance EJ. Nonetheless, one of the most powerful ways to increase this kind of research is for institutions to create campus climates in which underrepresented faculty and students are not only recruited but promoted, and not simply included but belong (Pedler, Willis, and Nieuwoudt 2022; O'Meara et al. 2021). Especially important is investment in student scholarships and stable full-time faculty and staff positions, which afford the time and security to develop programs of CER and to conduct EJ research that challenges institutions to live up to their missions and heal injustices in which academia itself is deeply embedded.

CONCLUSION

In this chapter, we have argued that CER is not simply a research methodology, but an alternative vision of academia's role in society, and that higher education is implicated in environmental and social injustices. In this light, academia needs to do more than make a little space for CER as a boutique program that allows researchers to do more relevant research and their institutions to reap goodwill in their communities. Rather, CER is a challenge and an opportunity to rethink higher education's relationship to oppressed peoples and communities. Doing so will require academia to address multiple dimensions of justice, including how higher education shares research and educational resources, who gets to make decisions about research, whose knowledge is recognized in curriculum and research agendas across all disciplines, and how to remake relationships between academic institutions and communities to transform historic injustices and ongoing inequities.