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Perceptions of Risk, Lives in Sacrifice:
Service, Learning, and Liberation Pedagogy in Appalachia

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Abstract

In the Appalachian mountains, residents experience disproportionately high rates of poverty, exorbitant rates of incarceration, above-average mortality rates across the lifespan, and epidemically low educational attainment rates. The complexities of this region prompt consideration of the possibilities for an anthropology-inspired, liberation-focused pedagogy to redress structural inequalities. Experiential pedagogical approaches to learning mobilize students and communities toward common goals, though barriers exist to implementing these methods, including resource constraints and concerns about effectiveness. Amidst internal and external pressures on the teaching and learning of anthropology at the postsecondary level, this paper explores a case study in which students in a medical anthropology service-learning course partnered with the community to understand two broad areas: 1) perceptions of risk and control related to environmental hazards and 2) motivation for participating in civic action. Student field notes and field work reflections provide data illustrating the way the project supported student learning of anthropology content as well as identity transformation. Using this case study, this paper first addresses the possibility of meaningfully engaging in community-based research while meeting course-based student learning outcomes. Second, this paper examines the operationalizing of anthropology methods to develop a process for measuring the impact of service-learning in anthropology courses, specifically related to anthropology content. Lastly, this paper considers the extent to which we can measure transformations of identity that result from immersive anthropology experiences. The results of this case study show that service-learning is a mechanism for both community-based research collaboration and measurable, positive impacts on student learning.

Keywords: service-learning; assessment; Appalachia; environmental risk; pedagogy

Teaching and Learning in Anthropology

In the Appalachian mountains, residents experience disproportionately high rates of poverty, exorbitant rates of incarceration, above-average mortality rates across the lifespan, and epidemically low educational attainment rates. The complexities of this region prompt consideration of the possibilities for an anthropology-inspired, liberation-focused pedagogy to redress structural inequalities. Using a case study, this paper addresses the possibility of meaningfully engaging in community-based research while meeting course-based student learning outcomes.

Literature on the teaching and learning of anthropology includes discussions of a variety of course practices and experiments, including the addition of film as a teaching mechanism (Kelly et al. 2017), performance in pedagogy (Pedelty 2001), and innovative techniques such as "flipping" anthropology classrooms to promote student engagement (Wieczkowski et al. 2016). With the rise of online and hybrid educational options, anthropology teachers have examined learning effectiveness in online environments (Budka et al. 2007; Fagan and Michaels 1992; Nuñez-Janes and Re Cruz 2007) and explored innovative teaching and learning techniques through the use of new technologies (Ahmadi 2011; Barry and Street 2017), including social media platforms such as Pinterest (Pearce and Learmonth 2013). Efforts to ensure the effectiveness of teaching and learning anthropology are reflected in literature examining practices for assessing learning (Adams et al. 2016; Aleamoni 1978; Filippou et al. 2014; Leach and Lang 2006; Walker and Chatzigavriil 2017). More recently, literature on pedagogy and assessment have also illustrated efforts to establish equitable classroom learning environments via a social justice-oriented lens (Wies and Mays 2016; Wies 2016).

Complementing the literature on teaching and learning in anthropology is a body of scholarship on teaching and learning related to social justice (see Ludlow, Enterline, and Cochran-Smith 2008; Mayhew and Fernández 2007; Meens 2014). This emphasis on social justice lends itself to incorporating service-learning in anthropology higher education.

Service-Learning Pedagogies

According to the National Service-Learning Clearinghouse, service-learning is "a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities" (Corporation for National and Community Service, Learn and Serve America, National Service-Learning Clearinghouse, n.d.). Over the past two decades of research and practice in higher education pedagogy, a series of tenets have emerged to demarcate service-learning as an experiential learning practice (Cipolle 2010; Kolb 2015). Service-learning is a way for students to apply their "in-classroom" knowledge to the world around them by engaging in the preparation, action, monitoring, reflection, and assessment of field projects (Wang and Rodgers 2006). Further, a service-

learning approach provides the opportunity to link classroom knowledge and skills acquisition to employment-related skills, such as evaluation (Blum-Ross 2011) and fieldwork skills (Watson 1995). Finally, service-learning is a key mechanism for establishing partnerships with communities (broadly defined and construed) and for fostering classroom embedded community partnerships (Frank et al. 2008).

Service-learning is positioned within several bodies of overlapping literature, two of which are of particular importance for this case study. First, service-learning is a mechanism for furthering community engagement, a key strategy and often mandate for furthering relationships and collaboration between communities and higher education institutions (DePaola 2014). The second area pertains to the recognition of the value of high-impact practices in higher education. In 2013, the National Survey of Student Engagement (NSSE) administrators identified six high-impact practices showing positive associations with student learning, retention, and progress towards graduation. Service-learning participation has significant positive effects on numerous outcome measures (Kolb 2015; Yates and Youniss 1996). There is a vast literature that finds service-learning positively impacts multiple dimensions of student success (Conway, Amel, and Gerwien 2009; Novak, Markey, and Allen 2007), including academic outcomes, personal outcomes, social outcomes, and citizenship outcomes. (For further insights on these categories, see Billig 2002; Billig and Eyler 2003; Conway, Amel, and Gerwien 2009; Eyler and Giles 1999.) In addition, and key for this project, service-learning can facilitate moral development (Bernacki and Jaeger 2008) and identity transformation (Kiely 2005) as students unite disciplinary content with their own personalities and life goals.

Despite the substantial, empirically-grounded positive results of service-learning, significant barriers exist that inhibit widespread adoption of service-learning. Faculty report a lack of support and recognition for service-learning pedagogies and challenges to bringing those activities to publication. For administrators, diminishing resources makes it difficult to support faculty who wish to pursue service-learning instruction. Finally, for staff involved with service-learning, constricting resources and retrenchment into university silos poses barriers for meaningful partnerships with academically-based colleagues. In addition to these practical and tactical barriers to service-learning implementation, skepticism continues to exist about the effectiveness of service-learning pedagogy (Eyler and Giles 1999; Markus, Howard, and King 1993; Novak, Markey, and Allen 2007; Steinke and Buresh 2002).

Service-Learning in Anthropology

In anthropology, service-learning has been adopted as a favorable practice in many ways. For example, service-learning pedagogy lends itself to the teaching and practicing of anthropological research methods, which are founded upon embedded, participant observers (Herbert 2008). Examples in anthropology include an emphasis on united community-based, participatory research with service-learning (Barone and Ritter 2010). In addition, given anthropology's history of cultural immersion, service-learning in the

context of study abroad and international educational experiences illustrate field-based examples of service-learning pedagogy (Syring 2014).

Through service-learning in anthropology, students are placed in a situation where they create meaning about the world and choose how they are going to interpret the person and place before them. The notion of "place" is important in service-learning, as the course material is then situated upon a particular stage of the natural or human-made environment (Evans-Cowley 2006; Warkentin 2011; Mooney-Melvin 2014; Schneller 2008). Further, the population for collaboration is important to consider when developing a service-learning course, because again, the course theories, methods, and case studies will come alive through the people with whom students interact. (For examples of people-based service-learning, see Cusack-McVeigh, Ogden, and Huntington 2016; Gonzales 2017; Hattori 2011; Menzies et al. 2011.)

Informed by these structures and pedagogical insights, I have regularly developed and implemented service-learning activities in upper-division courses in anthropology. These activities occur both in courses that are designated as "service-learning" with an "S" in the course catalogue (such as Medical Anthropology: Service-Learning) and are offered as experiential components within other courses, such as Applied Anthropology. For this case study, students were attending Eastern Kentucky University, a regional, state-funded university located on the edge of southeastern Appalachian Kentucky. The University is a medium-sized, teaching-comprehensive institution providing education to over 16,000 students each year. Over 85 percent of the students are from Kentucky, and about 40 percent of the total student population originates from the southeastern counties in Kentucky.

Perceptions of Risk

Eastern Appalachian Kentucky has been severely compromised by a long history of extractive industries and resulting environmental degradation. Water quality in particular is a significant problem with far-reaching implications. Contamination of the groundwater has resulted from infiltration of chemicals associated with the coal mining industry and factory production (such as textile industries), poor sanitation infrastructure for properly removing human and animal-waste byproducts, large and small-scale dumping of waste materials near waterways, and environmental aftereffects of mountaintop strip mining.

The political ecology of coal mining throughout eastern Kentucky is an acute example of how the environment shapes local industry, as relentless coal mining is attributed to the higher levels of energy found in the Appalachian Coal Basin as compared to other coal deposits (Harvey 1977). However, the rise in natural gas as a fuel resource and the opening of a global energy market has led to a de-emphasis on Kentucky's coal (Lewis 1991; Maggard 1994). Significant to the impoverishment of the Appalachian region today is the historic and purposeful de-investment in the economic development of the region (Caudill 1962) and an extraction of natural resources dictated by a global market, rather

than community-based or regional need. Neoliberal economic policies and practices have rendered areas of the so-called "developed" world akin to economies and social structures found in the Global South and are likened to a "third world" political economy and political ecology (see Bryant and Bailey 1997). Indeed, scholars have compared the Appalachian region of the United States to a global entity unto itself, laden with political economic and ecological struggles of power (Reid and Taylor 2002).

In Hazard, Kentucky, where community members talk about their water as "bad," little research focuses on barriers to mobilizing action to address poor water quality. Between 2006 and 2008, in an effort to invest ownership of water quality testing within the community, 1,660 water samples were collected from sites across eastern Kentucky. Throughout the project, dubbed the "Big Dip," more than 60 volunteers from the region participated in water sampling.[1] Ten years later, community volunteers again gathered to test a sub-sample of sites included in the original project. The "Big Dip Redux" project itself swelled from demand within the Hazard community and included partners from the local community and technical college faculty and staff, a non-profit dedicated to clean waterways, and interested citizens. The goal of the Big Dip Redux was to support community volunteer efforts to re-sample 20 percent of the original 1,660 sites in September 2017 for pH, conductivity, and iron.

Anthropological Methods and Service-Learning Practice

Community-Based Methods

During the Big Dip Redux, twenty-four anthropology students enrolled in a Medical Anthropology: Service-Learning course partnered with the community of Hazard to understand two broad areas: perceptions of risk and control related to environmental hazards and motivation for participating in civic action. With an overall goal of sustained community action and mobilization of resources to achieve better water quality, it was essential to understand the community participants' ideologies of health risks connected to poor water quality and other environmental threats.

Student researchers distributed information about a survey using a script, distributed cards with the survey link, and answered questions about the research project. The survey was available via an internet link for participants to complete for a full week after the conclusion of the Big Dip Redux project. The survey included three subsets. The first component was an Environmental Health Risk Assessment, which included 11 items adapted from Princeton Survey Research Associates (2000). These items ask participants about their awareness of environmental health risks and if they perceive that they or

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1 The Big Dip Project is a significant example of coalition practice in Appalachia and involves community-based organizations, community-level advocates and activists, partners in higher education, and many more stakeholders. To maintain the focus on teaching and learning in anthropology, there is limited space to discuss this parallel project. For more information about the 2006-2008 Big Dip project, please visit http://env.eku.edu/big-dip.

members of their families have experienced negative health outcomes as a result of environmental threats. The second component included the Activism Orientation Scale, 35 items that are rated by the participant via a 5-point Likert scale, developed by Corning and Myers (2013). This scale seeks to understand a participant's likelihood to engage in civic activities and activism related to unspecified social issues. Finally, participants were asked questions about their demographic information to provide context and ascertain patterns in the risk perception and activism orientation data.

Service-Learning Methods

While in Hazard, I asked students to engage anthropological methods in two ways.[2] First, as participant observers, students collected behavioral information from community members who participated in water sampling activities. Research team members were stationed at the central water quality testing area and observed the morning volunteers returning samples as the afternoon volunteers prepared for deployment. Students were instructed to record their observations during their travel to and from Hazard, while in Hazard, eating lunch, walking around, etc. They were asked to consider: What do I see? What do I hear? What do I not see/hear? How do I feel? How are others feeling? The student field notes were intended to record and document experiences and observations of the field site. However, the field notes also served as an essential tool for me to understand their acquisition of disciplinary knowledge, their personal struggles and transformations, and their perceptions of fieldwork.

In addition to the field notes, four graded reflection papers captured students' understanding of the problem, the project, and themselves throughout the semester. These field work reflections form a significant data set to evaluate the acquisition of disciplinary content and identity transformation. Students were informed in the syllabus and by the instructor that the course materials, including field notes and reflection papers, would be used for assessment and research purposes.[3] To that end, the creation of the prompts, the due dates, and the connection between the reflections is fundamental to pedagogical research. I crafted these prompts and was inspired by examples in service-learning research and pedagogy. The four reflections were assigned four times: two times prior to the field work service-learning weekend and two times after the field work. The assignment instructions are shared below.

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2 All student research team members completed Institutional Review Board investigator training (CITI certification) and were listed as research personnel on the Human Subjects Review proposal.
3 Note that the research analysis of the reflection papers occurred after the semester concluded and were de-identified. The author encourages all scholars of teaching and learning to consult with your Institutional Research Board or other human subjects review body to learn more about how your proposed project can be approved for research purposes.

REFLECTION #1

Review the Big Dip Redux materials in the folder on BlackBoard, <u>carefully</u>. What is the problem being addressed in this service-learning project? What can you *personally* do to address this problem? Be sure to acknowledge points of view, create a central idea, explain any relationships in the issue, summarize key issues and establish a conclusion.

REFLECTION #2

Throughout the last month, you have participated in preparing to "go to the field." Use this reflection to consider the work you have completed to date. The reflection should include a combination of the following:

1. What were the purposes of the activities?
2. How did the activities affect your point of view of the social problem or affected population?
3. What were your assumptions about the social problem or affected population?
4. What were the concepts (theories, definitions, axioms, laws, principles, models) you drew upon to understand the service-learning experience? Be specific here and cite sources from the book.
5. What information (data, facts, observations, experiences) did you come away with?
6. What are your interpretations and inferences (conclusions, solutions) from the experience?
7. What are the implications and consequences of your service-learning experience?

REFLECTION #3

You are now well underway to completing a "fieldwork experience" related to health and poverty in Eastern Kentucky. Consider your fieldwork experience in this reflection, which should include a combination of the following:

1. What were the purposes of the activity?
2. How did the activity affect your point of view of the social problem or affected population?
3. What were your assumptions about the social problem or affected population?
4. What were the concepts (theories, definitions, axioms, laws, principles, models) you drew upon to understand the service-learning experience?
5. What information (data, facts, observations, experiences) did you come away with?
6. What are your interpretations and inferences (conclusions, solutions) from the experience?

7. What are the implications and consequences of your service-learning experience?

REFLECTION #4

Review ALL of the Big Dip Redux materials we have examined this semester, <u>carefully</u>. Now, reconsider your original reflection paper: What is the problem being addressed in this service-learning project? What can you *personally* do to address this problem? Be sure to acknowledge points of view, create a central idea, explain any relationships in the issue, summarize key issues and establish a conclusion.

It is essential to develop a methodology for both primary data collection for the community and pedagogical data collection. Note that in the reflection assignments there is a mirroring of prompts prior to, and after, the field work itself, allowing students to consider the same questions through different experiential lenses.

Reflection assignments were graded throughout the semester as a component of the course requirements. Feedback related to the course content was shared with students, though a lesser degree of feedback and direction was provided related to emotions and personal encounters. In this way, I graded student work according to the core student learning outcomes for the course. Supporting the reflection papers were course materials, films, and discussions related to water quality in Appalachia as that topic pertained to course materials.

Environmental Health Risk and Activism Potential

Twenty Big Dip Redux participants completed the surveys. Results showed that community members often identified environmental factors as contributing to disease rates. According to the responses, community members believed that environmental factors play a major role in causing asthma, sinus and allergy problems, and colds and flus. The severity of these illnesses is less than that of others listed in the survey, such as cancers and birth defects.

In addition, the survey prompted respondents to consider whether they have enough information about what they can do to protect themselves and their families from environmental health problems. These results indicate that 50 percent of those who responded to the survey did not have enough information to protect themselves from environmental health risks.

Importantly, the results state that 10 percent of people surveyed felt that they could make a major impact on environmental factors that affect their health. Only half of the remaining respondents felt they could do even a moderate amount to positively influence these conditions. One person felt they had no power over their environmental health risks.

Further, the results show that most community members are "likely" or "extremely likely" to participate in local politics. Examples of this include wearing a T-shirt or button with a political message, sending a letter/email to a public official, or voting in a non-presidential election. Community members are likely to participate in politics if they know it would have an impact on local policy to make needed improvements. Promoting changes by wearing a political pin or T-shirt or voting in an election can bring needed improvements and could help community members feel like they have more control over their local policies. Political participation from community members may positively influence their community.

The goal of the Big Dip Redux service-learning project was to understand how community members think about environmental risks, health, and how participants think about their motivation to take part in change-making activities. These data are essential for establishing data-driven, community-informed interventions to strengthen individual and community-level well-being within the global marketplace. Results indicate that community members are aware of the health risks in their environment, though additional information about what to do about those environmental threats are needed. Community members indicate a preparedness to participate in processes that will result in cleaner and safer environments, which may increase the overall level of environmental health risk awareness among other community members. The results of the surveys were shared with community members at the conclusion of the semester, presented by students who analyzed, synthesized, and visually summarized the data and our interpretations.

Lives in Sacrifice

These perceptions of environmental risk illustrate the lives of those living in the sacrifice zone, a phrase used to describe the Appalachian coal regions that have been and continue to be mined, stripped, deforested, and polluted to support global profit interests. The political economic processes that shape anthropological analyses of a globalized world are often the focus of our undergraduate instruction. In one set of student field notes, a student stated, "Why are there so many failing sewer systems in the region that contribute to poor water quality? Why am I just now hearing about this? My own state, literally only a couple hours away, and the water is unsafe to drink? I wonder just how many lives this is affecting…"

Assessment of learning connects the teaching, scholarship, and service arms of the service-learning project. Through carefully crafted assessment instruments methodologically placed throughout the service-learning experience, data related to service-learning, the research question at hand, and community-based endeavors can be obtained. In this case study, the direct measure of student learning is assessed through Fieldwork Reflection assignments. In analyzing these assignments, two themes emerged that illustrate how students acquired knowledge of core anthropological concepts through experiential learning. First, students came to fully understand the technical details related to ethnographic research by doing — the stress of completing human

subjects training, reflecting on anxieties about culture shock, to interacting with people on the ground to understand their lived experiences. Second, students discussed the complications of limiting their understandings of inequalities in simplistic, causal fashions when they heard firsthand the many ways that people discuss their daily survival.

To capture the students' engaged ethnographic process, there were four points in the service-learning fieldwork where students provided responses to reflection prompts. Using reflection papers is a mechanism for supporting emotional transformation, such as increased empathy, through service-learning (Lundy 2007). Indeed, reflection is often considered a "critical component" of service-learning because it prompts students to construct knowledge through experience (Bringle and Hatcher 1999).

These reflection assignments were then coded for themes to map the educative process, in a manner consistent with qualitative data analysis. For this particular project, I attended to the data through a grounded theory approach. With the assistance of three students, the data were analyzed and a codebook was developed with structural codes (descriptions of the characteristics of the data) and thematic codes (thematic content). Our team-based approach to data analysis carried the benefits of increased reliability, better validity, clarity of code constructs, review of core versus periphery code constructs, and the identification of exemplary data segments (Ryan 1999; Guest and MacQueen 2008; Neuendorf 2002). In addition, students gained an additional research-related skill set.

Perceptions of "the Other"

Early in the semester, students discussed how different the field site felt from their hometowns. For example, one person said, "In my hometown, I never had to worry about the quality of my drinking water. Before I came to college, I never realized that anyone in Kentucky would have to."

In terms of anthropological content, two important trends emerged in this first reflection. Initially, students articulated that the people of Hazard were unresponsive to poor environmental conditions and behaved in a dissimilar way from people in their "own culture." The following statements from two different students illustrate this sentiment:

> I do not mean to speak for any of the locals but you can tell there is the general idea, as it is human nature after all, to say, 'Well, I do not want to take the initiative to do anything because that is not my job!' So, when you have all of these people who do not think it is their job to improve the community, and nobody wants to take responsibility then, the issue grows into something bigger.

> Attempting to influence a group of people to change their way of thinking, especially about the standard of water quality, will take time and energy. People are not readily acceptable of new ideas. To bring about an active change, which inspires a paradigm shift, will take enormous amounts of resources. What we can do is start taking steps to let people know that what they are doing is harmful.

In these excerpts, students imagine local community members as "Others," suggesting that they do not "take the initiative" or "take responsibility." This distancing is an important step in anthropological understanding, as recognition of difference and diversity allows us to establish ourselves as objects of knowing.

Parallel to expressions of distancing themselves from the community members were field note reflections suggesting that the people were uneducated about the environment and their health.

> The underlying problem is not the poor water quality itself. The underlying problem is the cultural acceptance of the poor water quality. If we set a high standard in the community, it could influence people to improve their own problems that are attributing to the poor water quality.

> It is possible that many of the community members believed that the water quality issue would just be 'taken care of' without having to call attention or do any action themselves to fix it.

Through the field note reflection data, students' understandings of the "Other" is made visible. Further, they established their own ideologies regarding poor water quality in Appalachia — inaction and lack of awareness among the local peoples. For some students, these explanations were the only reasonable framework to understand why water quality would remain poor for at least 10 years, since the original Big Dip occurred.

It is important to frame the process and admission of distancing within the practice of learning anthropological concepts. To study diversity, in all its many possibilities, requires first a recognition of difference. This process, which we often tell amidst a tale of culture shock, is challenging. For some students, they do not move past the initial stage of noting difference. However, through service-learning practice, in this case narrated as anthropology field work, the possibility for cultural relativism exists.

The Rigors of Anthropology Field Work and Service-Learning

Anthropologist Margaret Mead is credited with stating, "The way to do fieldwork is never to come up for air until it is all over." This quote was referenced by Melissa, a student participant in the service-learning course, as she pored through the course data. In the second field work reflection data set, the emphasis is on preparation work to enter the service-learning field site. Thematically, students expressed a commitment to understanding the methods and ethics of anthropology field work because they were applying the concepts nearly immediately. This precipitated both excitement and anxiety, and a well-placed exclamation mark after my instructions.

Here students express their process of preparation, and their reflections about the usefulness of the course context in an application environment:

> While doing my preliminary research and fieldwork for this service-learning activity I took care to ensure that I understood the theories and principles of ethnography and ethical research.

What I found to be the most helpful in preparing myself for the Service Learning Project was our class discussion of the relationship between biology and culture, and how they are interconnected and result in consequences that feed a continued cycle of behaviors and health outcomes.

The information that I learned from the Collaborative Institutional Training Initiative (CITI) training was invaluable to my educational career because it not only prepared me for this service-learning project but also introduced me to processes and skills that I will need to know in my future academic and professional career.

These responses reflect a commitment to the anthropology content, as well as an increasing awareness that the skill set is applicable and transferrable. For example, understanding ethical treatment of human subjects is a valuable asset in a number of fields, and obtaining a certificate in Human Subjects Training is an additional benefit for career development.

A second theme related to the rigors of anthropology field work was a series of reflections about the potential of field work to create positive social change. Students spoke of their attainment of fundamental anthropology concepts and a desire to "help others" through anthropology fieldwork, as shown here:

This field work is a brilliant way of intertwining the problems of people that are ill by polluted water and anthropologists that are willing to help people that cannot help themselves.

I am excited to participate in this water sampling project because I never realized what a grand scale issue this was, and so close to home! By involving myself in this project I am learning more about my community, and the stress of contamination that is affecting our ecosystem right before our eyes.

This shift is important in that students have moved from "Othering" Appalachians to acknowledging the problem of water security in "my community" and their potential role in participating in community-level solutions.

Structure and Agency

One of the most sophisticated aspects of knowledge acquisition in the social and behavioral sciences is social theory. In the upper-division course where this service-learning case study is situated, our readings were primarily guided by political economy. Political economy is a theoretical perspective that emphasizes economics, politics, and history and the ways social actors culturally construct these factors. Within anthropology and other fields, political economy is useful because it creates the space for understanding how macrostructural political and economic forces affects local level power relations (Roseberry 1998; Wolf 2001). More specifically, a political economy of

health framework "holds that health and disease processes are generated by and embedded in social and productive relations" (Morgan 2001, 48).

On a daily basis, political economy manifests itself in a social discourse that suggests to students that "poor people" are often unwilling or unable to be involved in their communities, translated as uneducated people who make irresponsible choices by students in the first set of field work reflections. Yet in Hazard, students witnessed firsthand and became participants in the tension between structural pressures and agency, problematizing simple assumptions that individual-level solutions are the source of social change.

In many ways, service-learning exposes the pain and realities of structural inequalities. Thematically, this is reflected in field work reflections wherein students focus on a revised awareness of ownership of environmental problems and attention to political economic structures. Students expressed a transition from individually-located blame to structurally embedded inequalities:

> I came away from this service learning experience with the knowledge that many people in the communities who are affected by poor water quality are invested in improving their situation and helping raise awareness of the issue.

> I have realized since travelling to Hazard that people there live under real hardship and may not have the same level of agency most Americans take for granted. These people may not necessarily be able to help themselves; they may need the aid of legislators, educational institutions, and other groups to overcome their water quality issues.

These snapshots of recognition that agency is limited by structures is complimented by additional field work reflection entries that directly note political economic structures that create and exacerbate impoverishment and impede positive social change:

> The problem of water quality in the Eastern Kentucky region of the Appalachians has many causal factors as well as outcomes for the communities being heavily affected. The legislation that goes into making environmental decisions, perceptions of the coal industry, and communal access to clean/safe water all play a part in the overall health of a community and its surroundings. Testing water quality and allowing the community to be involved makes for an open conversation about the issue of water quality and gives a larger picture of exactly how a community is affected.

> Global conditions and relations, political-economic policies and legislation, and cognitive processes influenced by cultural values and experiences all work together to shape how the local communities think about their health risks.

For this particular case study, the field work weekend occurred early in the semester—September 11 to correspond with former President Obama's call to memorialize the New York City terrorist attacks with a day of service. This left the

students with the bulk of the semester to analyze the survey data presented here, develop a brief written report to share with the community, and a self-selected small group of three students prepared an oral presentation for a follow-up discussion with Big Dip Redux key stakeholders.

After the service-learning field work experiences, student reflections indicated that they entered a world where their meaning systems were challenged. In the final reflection paper, students discussed the process of confronting and overcoming their biases led to a greater enthusiasm to collaborate and take further action:

> In participating in this service learning activity I have learned that I held subconscious preconceptions and stereotypes about Eastern Kentuckians. I held assumptions that… they simply needed to be shown how bad their water actually was. I learned that they already know that they have bad water, and are aware their water causes health problems.

> Researchers need to approach these people, not as uneducated victims, but as peers ... We need to respect them and work with the community to address the issues which they deem to be valuable.

Being able to confront and overcome their biases led to a greater enthusiasm to collaborate and take further action.

> I do not feel my work should end there. I heavily contemplate how this project can continue, into not just data, but real results that will help the community succeed. I wish to promote activism in more than just the students in the community.

> Participation in a service-learning project yields benefits for an exponentially large number of people. One must "think global and act local." A service-learning project is the epitome of that saying. In reality, this local research project will have a moderately quick impact on local communities and researchers. Results could yield statewide or possibly countrywide changes in water-protection and/or mining legislation in the distant future. To make a worldwide impact, one must first act locally.

Finally, service-learning allows students to learn in more ways than one. Seeing these issues and contributing directly is a lesson in empathy and raises awareness. When more people know about the issue, more people are compelled to make a change beneficial to society.

Service-Learning and Futures of Higher Education in the United States

In this paper, I have looked at several ways that service-learning helps students, community members, and faculty work together to advance multiple goals. A student reflection summarizes our process:

> Looking back on my reflection papers, I am shocked about how much I have learned about the water quality issue in eastern Kentucky and its implications. I did not have much knowledge about this region of the state at the beginning of this project. I had negative assumptions about Hazard, and although I was intrigued by our research, I was not really looking forward to spending time in that area. My attitudes about the region, the people, and the issue have greatly evolved over the past few months.

Through service-learning, students and faculty partner with communities, often resulting in useful data for communities to leverage. In this case, the results supported local non-profit organizations in developing more focused outreach materials to ensure that their messaging matched community members' perceptions. By shifting our gaze from a singularly located research focus on environmental health risks among the participants interviewed in Hazard, we exposed a process for understanding poverty among the students.

Liberation Pedagogy

This paper illustrates that immersive, service-learning activities are vital pathways toward deeper disciplinary learning and identify transformation among students. First, we see how students construct notions of poverty through service-learning and provides insight into how national and global ideologies of political economies are internalized within local populations. By shifting our gaze from a singularly located research focus on environmental health risks among the participants interviewed in Hazard, we exposed a process of understanding related to poverty among the students. Further, through the students' field notes, we can make visible the political-economic processes that seep into the creation of selfhood. As one sees in the reflections, students did not initially view themselves as allied with the people in our field site. This was particularly complicated since most of the students originate from Appalachian-designated counties in Kentucky.

Thus, this example of service-learning and the resulting data challenge us to move to new areas for practice and engagement. In this model, the premise is that mobilization for social justice in Appalachia — indeed, in any geographic area or community — begins with ideological transformation at the individual level. Through service-learning, students are offered the opportunity to liberate themselves from discriminatory and oppressive ways of thinking about the Other. Through immersion and collaboration, de-objectification is possible.

What, then, are the possibilities for an anthropology-inspired, liberation pedagogy to redress the structural inequalities in Appalachia? In the current neoliberal educational economy, both students and community members hear conflicting messages about higher education. In eastern Kentucky, it is viewed as "way out" of poverty, and consequently the region. Yet, there is a recognition within the region that survival is possible if people and structures work to strengthen the region from within. Service-

learning is therefore one connector between these local struggles and macro structures, with very real possibilities for social justice advocacy and activism.

Conclusion

Higher education faculty and staff are required to adapt to changing political and economic realities that demand reimagined distribution of effort models, which may challenge the implementation of high-impact educational practices. Using this academic service-learning course as a case study, we can begin the conversation about how to create and implement an assessment plan that serves as a nexus for simultaneously advancing teaching, scholarship, and service. It is essential for faculty, administrators, and staff to establish models that bridge multiple areas of effort to sustain high-impact learning environments. The results of this case study show that service-learning is a mechanism for both community-based research collaboration and measurable, positive impacts upon student learning via service-learning. This is particularly compelling with people and in places where political-economic structures create and maintain systemic inequalities, such as Appalachian Kentucky.

Acknowledgements

References

Adams, Nancy, Stanley Alexander, Richard Bieker, Robert Dewhirst, and Amy Shriver Dreussi. 2016. "The Development of a Pre-Test and Post-Test Assessment Survey for an Introduction to Cultural Anthropology Course." *National Social Science Journal* 48 (1): 19–30.

Ahmadi, Zia. 2011. "Technology-Enhanced Project-Based Learning in a Large Undergraduate Anthropology Lecture Course." Kansas State University Thesis, Department of Curriculum and Instruction Programs.

Aleamoni, Lawrence M. 1978. "Are There Differences in Perceived Teaching Effectiveness Between Males and Females in Anthropology?" *Paper Presented at the Annual Meetings of the American Anthropological Association.* Los Angeles, CA.

Barone, T. Lynne, and Beth R. Ritter. 2010. "Applied Anthropology and Community Service-Learning." *Practicing Anthropology* 32 (2): 21–25.

Barry, Kristin, and Carol Street. 2017. "Immersive Indiana: Constructing an Augmented Reality in Columbus." *Communications in Computer and Information Science* 725: 116–28.

Bernacki, Matthew L., and Elizabeth Jaeger. 2008. "Exploring the Impact of Service-Learning on Moral Development and Moral Orientation." *Michigan Journal of Community Service Learning* 14 (2)*:* 5–15.

Billig, Shelley H. 2002. "Support for K–12 Service-Learning Practice: A Brief Review of the Research." *Educational Horizons* 80 (4): 184–89.

Billig, Shelley H., and Janet Eyler. 2003. *Deconstructing Service-Learning: Research Exploring Context, Participation, and Impacts.* Greenwich, CT: Information Age Publishing.

Blum-Ross, Alicia. 2011. "Teaching Evaluation: Putting Anthropological Research Skills to Work." *Teaching Anthropology* 1(1).

Bringle, Robert G, and Julie A Hatcher. 1999. "Reflection in Service Learning: Making Meaning of Experience." *Educational Horizons* 77 (Summer): 179–85.

Bryant, Raymond L., and Sinead Bailey. 1997. *Third World Political Ecology.* New York: Routledge.

Budka, Philipp, Elke Mader, Johann Stockinger, Katrin Prilisauer, and Elisabeth Anderl. 2007. "Interactive Computer Aided Learning in Social Science Education: Strategies, Scenarios, Tools, and Evaluations of an e-Learning Environment at the Department of Social and Cultural Anthropology of the University of Vienna." In *Interactive Computer Aided Learning Conference Proceedings: EPortfolio and Quality in e-Learning*, edited by M. Auer, 1–12. Kassel, Germany: Kassel University Press.

Caudill, Harry. 1962. *Night Comes to the Cumberlands.* Boston MA: Little, Brown and Co.

Cipolle, Susan Benigni. 2010. *Service-Learning and Social Justice: Engaging Students in Social Change.* Lanham MD: Rowman & Littlefield Publishers, Inc.

Conway, James M., Elise L. Amel, and Daniel P. Gerwien. 2009. "Teaching and Learning in the Social Context: A Meta-Analysis of Service Learning's Effects on Academic, Personal, Social, and Citizenship Outcomes." *Teaching of Psychology* 36 (4): 233–45.

Corporation for National and Community Service, Learn and Serve America, National Service-Learning Clearinghouse. n.d. "What is Service-Learning?" Accessed May 1, 2014. www.servicelearning.org/what-service-learning.

Cusack-McVeigh, Holly, Sherelyn Ogden, and Henry Huntington. 2016. "Learning to Listen: Community Collaboration in an Alaska Native Village." *Collaborative Anthropologies* 8 (1–2): 40–57.

DePaola, Tom. 2014. "Collaborating for Social Justice Through Service Learning." *New Directions for Community Colleges* 165: 37–47.

Evans-Cowley, Jennifer. 2006. "Service-Learning in Disaster Recovery: Rebuilding the Mississippi Gulf Coast." *Journal of Higher Education Outreach and Engagement* 11 (4): 109–24.

Eyler, Janet, and D.E. Jr. Giles. 1999. *Where's the Learning in Service-Learning?* San Francisco, CA: Jossey-Bass.

Fagan, Brian M., and George H. Michaels. 1992. "Anthropology 3: An Experiment in the Multimedia Teaching of Introductory Archaeology." *American Antiquity* 57 (3): 458–66.

Filippou, Filippos, Evangelos Bebetsos, Nikolaos Vernadakis, Eleni Zetou, and Vassiliki Derri. 2014. "The Effect of an Interdisciplinary Greek Traditional Dance, Music, and Sociology Program on Male and Female Students' Anxiety." *Procedia- Social and Behavioral Sciences* 152 (October): 1237–41.

Frank, Gelya, Sheila Murphy, Heather Kitching, Duane Garfield, and Nancy McDarment. 2008. "The Tule River Tribal History Project: Evaluating a California Tribal Government's Collaboration with Anthropology and Occupational Therapy to Preserve Indigenous History and Promote Tribal Goals." *Human Organization* 67 (4): 430–42.

Gonzales, Angela A. 2017. "Sowing the Seeds of Social Justice through Service-Learning with American Indian Tribal Partners." *Practicing Anthropology* 39 (2): 18–21.

Guest, Greg, and Kathleen M. MacQueen, eds. 2008. *Handbook for Team-Based Qualitative Research*. Lanham MA: AltaMira Press.

Harvey, Curtis E. 1977. *The Economics of Kentucky Coal*. Lexington: The University Press of Kentucky.

Hattori, Anne Perez. 2011. "Teaching History through Service Learning at the University of Guam." *The Journal of Pacific History* 46 (2): 221–27.

Herbert, Marc K. 2008. "Teaching Research Methods through Service-Learning." *Anthropology News* 49 (6): 15.

Kelly, Lauren, Neha Raheel, Juliet Shen, and Arjun Shankar. 2017. "Anthropology, Film, Pedagogy, and Social Change: Reflections from an Experimental Course." *American Anthropologist* 119 (1): 147–53.

Kiely, Richard. 2005. "A Transformative Learning Model for Service-Learning: A Longitudinal Case Study." *Michigan Journal of Community Service Learning*, 5–22.

Kolb, David A. 2015. *Experience as the Source of Learning and Development, Second Edition*. Upper Saddle River NJ: Pearson Education.

Leach, Melinda, and Gretchen Chelsey Lang. 2006. "The Not-so-Stony Path to Program Assessment and, Along the Way, Transforming a Senior Capstone Seminar in Anthropology." *University of North Dakota Assessment Committee Newsletter* November: 1–7.

Lewis, Anne. 1991. *Fast Food Women*. Whitesburg, KY: Appalshop Films.

Ludlow, Larry H., Sarah E. Enterline, and Marilyn Cochran-Smith. 2008. "Learning to Teach for Social Justice-Beliefs Scale: An Application of Rasch Measurement Principles." *Measurement and Evaluation in Counseling and Development* 40 (4): 194–214.

Lundy, Brenda L. 2007. "Service Learning in Life-Span Developmental Psychology: Higher Exam Scores and Increased Empathy." *Teaching of Psychology* 34 (1): 23–27.

Maggard, Sally Ward. 1994. "From Farm to Coal Camp to Back Office and McDonald's: Living in the Midst of Appalachia's Latest Transformation." *Journal of Appalachian Studies* 6: 14–38.

Markus, Gregory B., Jeffrey P. F. Howard, and David C. King. 1993. "Notes: Integrating Community Service and Classroom Instruction Enhances Learning: Results From an Experiment." *Educational Evaluation and Policy Analysis* 15 (4): 410–19.

Mayhew, Matthew J., and Sonia Deluca. Fernández. 2007. "Pedagogical Practices That Contribute to Social Justice Outcomes." *The Review of Higher Education* 31 (1): 55–80.

Meens, David E. 2014. "Democratic and Social Justice Goals in Service-Learning Evaluation: Contemporary Challenges and Conceptual Resources." *Michigan Journal of Community Service Learning*, 41–54.

Menzies, Charles R., Caroline F. Butler, Angela Cavendish Wilson, and N. Guppy. 2011. "Collaborative Service Learning and Anthropology with Gitxaała Nation." *Collaborative Anthropologies* 4 (1): 169–242.

Mooney-Melvin, Patricia. 2014. "Engaging the Neighborhood." *Journal of Urban History* 40 (3): 462–78.

Morgan, Lynn. 2001. "Latin American Social Medicine and the Politics of Theory." In *Building a New Biocultural Synthesis: Political-Economic Perspectives on Human Biology*, edited by Alan H. Goodman and Thomas L. Leatherman, 407–24. Ann Arbor: The University of Michigan Press.

Neuendorf, Kimberly A. 2002. *The Content Analysis Guidebook*. Thousand Oaks CA: Sage Publications.

Novak, Julie M., Vern Markey, and Mike Allen. 2007. "Evaluating Cognitive Outcomes of Service Learning in Higher Education: A Meta-Analysis." *Communication Research Reports* 24 (2)149–57.

Nuñez-Janes, Mariela, and Alicia Re Cruz. 2007. "The Pedagogy of Teaching Online Graduate Courses in the Program of Applied Anthropology." *Practicing Anthropology* 29 (1): 20–23.

Pearce, Nick, and Sarah Learmonth. 2013. "Learning Beyond the Classroom: Evaluating the Use of Pinterest in Learning and Teaching in an Introductory Anthropology Class." *Journal of Interactive Media in Education* 2013 (2): 12.

Pedelty, Mark. 2001. "Teaching Anthropology through Performance." *Anthropology & Education Quarterly* 32 (2): 244–53.

Reid, Herbert, and Betsy Taylor. 2002. "Appalachia as a Global Region: Toward Critical Regionalism and Civic Professionalism." *Journal of Appalachian Studies* 8 (1): 9–32.

Roseberry, William. 1998. "Political Economy and Social Fields." In *Building a New Biocultural Synthesis*, edited by Alan Goodman and Thomas Leatherman, 75–91. Ann Arbor: University of Michigan Press.

Ryan, Gery W. 1999. "Measuring the Typicality of Text: Using Multiple Coders for More Than Just Reliability and Validity Checks." *Human Organization* 58 (3): 313–22.

Schneller, Andrew Jon. 2008. "Environmental Service Learning: Outcomes of Innovative Pedagogy in Baja California Sur, Mexico." *Environmental Education Research* 14 (3): 291–307.

Steinke, Pamela, and Stacey Buresh. 2002. "Cognitive Outcomes of Service-Learning: Reviewing the Past and Glimpsing the Future." *Michigan Journal of Community Service Learning* 8 (Spring)*:* 5–14.

Syring, David. 2014. "Service-Learning, Sustainability, and the Need for Cosmopolitan Experiences in Undergraduate Education: A View from Anthropology." *EJournal of Public Affairs* 3 (3): 72–84.

Walker, Harry, and Athina Chatzigavriil. 2017. "Evaluation of the Use of Blog Posts as a Method of Assessment for AN300: 'Advanced Theory in Social Anthropology' (2016-2017)." London, England: The London School of Economics and Political Science.

Warkentin, Traci. 2011. "Cultivating Urban Naturalists: Teaching Experiential, Place-Based Learning through Nature Journaling in Central Park." *Journal of Geography* 110 (6): 227–38.

Watson, C.W. 1995. "Case Study: Fieldwork in Undergraduate Anthropology: For and Against." *Innovations in Education and Training International* 32 (2): 153–61.

Wieczkowski, Julie, Lisa Marie Anselmi, Susan E Maguire, and Melanie M Mayberry. 2016. "Flipping Anthropology: An Assessment of Student Knowledge and Evaluation in a Flipped Introductory Anthropology Course." Atlanta, GA: American Association of Physical Anthropologists Annual Meetings.

Wies, Jennifer R. 2016. "Advancing Equity in Higher Education." *Anthropology News* 57 (8): e82–83.

Wies, Jennifer R., and Alisha Mays. 2016. "Teaching Anthropology in the Sacrifice Zone." *Anthropology News* 57 (9): e41–43.

Wolf, Eric. 2001. *Pathways of Power: Building an Anthropology of the Modern World.* Berkeley: University of California Press.

Yates, Miranda, and James Youniss. 1996. "A Developmental Perspective on Community Service in Adolescence." *Social Development* 5 (1): 85–111.