



## Media Sovereignty and Digital Activism: Transdisciplinary Service-learning with Indigenous Peoples in the Brazilian Amazon

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### Abstract:

This article describes and analyses a collaborative project that combines service-learning and community engagement (SLCE) objectives and goals with anthropological commitments to support an Indigenous filmmaking collective media centre in one Mëbêngôkre-Kayapó community, Brazil. We adapted curricular designs already in place in SLCE semester-long or summer abroad programs to incorporate decolonizing methodologies and symmetrical anthropological approaches to co-create media centre design recommendations for community partners. We designed the project to provide opportunities in which partners could critically engage with histories of mis/representation of Indigenous Peoples, dialogically learn about diverse cultural worldviews and ontologies, and confront stereotypes that are commonly associated with Indigenous Peoples engagement with technologies. We discuss how this work influenced how initial design recommendations for the media centre and collective. We conclude by reflecting on this projects' approach to community-based projects and the synergistic outcomes and tensions that can result from co-creating transdisciplinary projects centred on addressing sovereignty and activism. Finally, we suggest that supporting digital activism and media sovereignty relies on fortifying relational networks of collaboration and respect.

**Key Words:** Engaged Anthropology, Decolonizing Anthropology, Symmetrical Anthropology, Service-Learning and Community Engagement, Media Sovereignty, Indigenous Peoples, Brazil

### Introduction

In Marisol de la Cadena's 2015 monograph on onto-epistemological considerations in the Andes, *Earth Beings: Ecologies of Practice Across Andean Worlds*, she calls upon John Law's articulation of partial connections as an orienting concept from which the book unfolds. De la Cadena emphasizes, "the argument is that 'this' (whatever 'this' may be) is included in 'that,' but 'this' cannot be reduced to 'that'" (Law 2004:64 qtd. in de la Cadena, 2015:4). From here, de la Cadena crafts her discussion of Mario and Nazario Turpo, runakuna Quechua peoples in the Peruvian Andes, and describes her relationship with the two men as she explores indigenous politics and being in place by means of a process she describes as "co-laboring." By "co-laboring" de la Cadena gestures toward the co-constituted, dialogical relationship sustained through her interactions with Mariano and Nazario, and the power-laden contexts in which doing anthropology was enacted and from which asymmetrical human-environmental relationships are forged. In the same year, Paul Stoller (2015) commented on YouTube video that "ethnography is our contribution to the world" and emphasized the power of the digital media age to reshape the obligation that scholars must pass on knowledge "to the next generation in a highly accessible way." Several years prior, Nick Couldry and James Curran (2003) suggested that "media" power is a type of social power linked to a consumptive and neoliberal landscape that both structures and allows for resistance. Ginsburg, Abu-Lughod, and Larkin (2002) elaborate that "technologies of representation" can have territorial lives of their own, creating different spaces for contestation and cultural appropriation.

This article places these comments in dialogue with one another by describing and analysing a collaborative project that interweaves engaged, symmetrical, and decolonizing anthropology research principles with service-learning and community engagement (SLCE) objectives. The goal of this project was to support the co-creation of an Indigenous

filmmaking collective and centre (Kôkôjagôti) in one Mēbêngôkre-Kayapó community in the Brazilian Amazon. In 2012, Mēbêngôkre-Kayapó community members in the village of A'Ukre began to develop and engage with a series of partners to fulfil their growing needs for “in house” low barrier to entry, sustainable media infrastructures and capabilities in a no energy and no internet environment. By 2014, this project included a collective of indigenous and non-indigenous artists, engineers, anthropologists, and practitioners. Institutionally, it was carried out with the community in collaboration with individuals from Purdue University and The Federal University of Uberlândia (Universidade Federal de Uberlândia-UFU) and with endorsements, permissions or support from the National Indian Foundation (Fundação Nacional do Índio-FUNAI), and the Mēbêngôkre-Kayapó non-governmental organization, the Protected Forest Association (Associação Floresta Protegida-AFP). This paper focuses on one of the first phases of the project when faculty co-advisors worked with the community and a team of students to assist with providing design recommendations as the A'Ukre based Mēbêngôkre-Kayapó film collective was preparing to build and outfit a newly planned media centre.

In order to cultivate a co-labouring process, the project started from the assumption that “a community’s needs are best assessed by the community itself” and embraced commitments to “relationality, responsibility, respect and reciprocity” from the point of project conceptualization to design recommendations (Brayboy et al., 2012: 435). One of the key pathways to cultivate relationality is through commitment to long-term engaged ethnographic practice to build community partnerships (Low & Merry, 2010). This allows for the time investments needed for non-indigenous and indigenous collaborators to build respect and trust, shared accountability, and foster responsible project co-governance strategies (Cargo & Mercer, 2008: 337; Steinman, 2011). More specifically, Lincoln and González y González (2008:785) suggest researchers integrate the following strategies to enact decolonizing projects: “(a) working bilingual data, (b) considering non-Western cultural traditions, (c) multiple perspectives in texts, (d) multivocal and multilingual texts, and (e) technical issues to ensure accessibility.”

Within pedagogical contexts, Fukuzawa et al. (2020:43) show how respectful and relational partnerships can be further sustained by integrating indigenous knowledges and worldviews in curricular designs and philosophies. Similarly, Indigenous studies scholars note the critical importance integrating and recognizing indigenous intellectual sovereignty (Haig-Brown 2003; Kovach 2010; Smith 1999). Oral storytelling traditions (Cameron 2012; Christenson 2012; Cruikshank 2000), the valuation of plural systems that combine scientific and Indigenous knowledges (Johnson 2012; Zanotti and Palomina-Schlaza 2016), acknowledgement of the ‘deep colonization’ that still takes place in settler colonial worlds (Rose 1996; Wolfe 1999), and the emphasis on crafting projects with, by, and for Indigenous Peoples are central to this work (Chernela 2005; Howitt 2001). Relationality, responsibility, respect, and reciprocity, thus, refers both to a processual commitment to “the ways in which relationships are enacted and connected” (Brayboy et al., 2012: 433, 436; see also Tuhiwai Smith, 2013) that is interwoven with substantive and pedagogical commitments to indigenous knowledge holders, languages, and worldviews.

In the pages that follow, we describe how we applied processual, pedagogical, and substantive goals of decolonizing methodologies with engaged and symmetrical ethnography to SLCE projects, in this case an SLCE project that combined (1) semester-long SLCE projects in engineering programs at home institutions in the US and (2) summer abroad experiences in Brazil with community partners. In so doing, we discuss the tensions and benefits of integrating decolonizing principles within engaged anthropology project practices, especially by working with student teams who had limited exposure to these principles prior to joining the project. We show how we worked across themes of digital activism and media sovereignty to build respectful and relational pedagogies. To meet our goals, we adapted curricular designs already in place in SLCE semester-long or summer abroad programs to incorporate decolonizing methodologies and anthropological sensibilities to co-create media centre design recommendations for community partners. To this end, we designed the project to provide opportunities in which non-indigenous settler scholars could critically engage with histories of mis/representation of Indigenous Peoples, dialogically learn about diverse cultural worldviews and ontologies, and confront stereotypes that are commonly associated with Indigenous Peoples engagement with technologies (Ginsburg, 1991; Wilson & Stewart, 2008). This raised awareness about injustices and biases, leading, in some cases, to a critical review of worldviews and stereotypes, as well as to a greater awareness of indigenous media and governance. We discuss how this work influenced initial design recommendations for the media centre and filmmaking collective. We conclude by reflecting on this projects’ approach to SLCE projects and the synergistic outcomes and tensions that can result from co-creating transdisciplinary projects centred on addressing sovereignty and activism.

## Project Origins: The Making of a Media Project

The work described in this article is connected to broader project that started out of long-term ties that two of the co-authors have with A'Ukre, a Mēbêngôkre-Kayapó community. Mēbêngôkre-Kayapó Peoples are one of more than 250 Indigenous Peoples in Brazil and forge their livelihoods in the central Brazilian Amazon, where they live in a series of contiguous and non-contiguous federally demarcated Indigenous Lands across more than 40 villages (Zimmerman et al., 2001). A'Ukre is in the eastern part of the Mēbêngôkre-Kayapó Indigenous Lands, on a tertiary tributary of the Xingu River in the southern portion of the state of Pará where Indigenous Peoples, settler and extractivist communities, agro-industrial development, hydroelectric projects, and mining communities consistently place pressure on Mēbêngôkre-Kayapó stewardship of their lands and self-determination possibilities (Zanotti, 2016). Founded in 1979, more than 380 community members live in the village and have created a congenial landscape for nurturing and supporting their lifeways. These strategies range from engaging in subsistence and self-determined foodways, mixed market activities, political activism, sports, popular festivals and events, and continuation of ceremonial and ritual life (Zanotti, 2016). In addition to political and media activism, Mēbêngôkre-Kayapó communities have created robust partnerships to respond to shifting environmental, political, and sociocultural worlds. For A'Ukre, this includes but is not limited to a short-term community-corporate partnership with the Body Shop, a longer-term community-non-governmental (NGO) organization alliance (International Conservation Fund of Canada, Wild Foundation, and the Protected Forest Association (Associação Floresta Protegida-AFP), community-researcher partnerships, and community-institutional arrangements (Morsello, 2006; Turner, 1995; Zanotti, 2016).

The ongoing media project discussed in this paper is comprised of a network of indigenous and non-indigenous artists, engineers, anthropologists, practitioners, and institutions which supported the creation of a transdisciplinary project that responded to A'Ukre's media sovereignty efforts in a time of acute and rapid change. As mentioned above, this project is composed of alliances among individuals at Purdue University, UFU, and local indigenous NGOs, all of whom had established relationships and ties to the community of A'Ukre. This work has also benefited from past collaborations with the University of Maryland. Through multiple levels of collaboration and relationships built across disciplines, several projects with A'Ukre, including this media project, seek to support activism and sovereignty.

The project started in 2012 when two of the faculty co-advisors of the project, Soares and Zanotti, were invited to participate in dialogues with community members and leaders about building a media collective and centre in the village. Soares and Zanotti had long established relationships with the community through previous research projects and collaboration on an ongoing SLCE summer study abroad experience in A'Ukre. Through these experiences, both scholars had established trustful and transparent working relationships with community leaders in the years prior to the start of discussions of the media centre and film collective. It was clear from these early conversations that leaders in the community as well as community members (including formal and informal discussions with men and women from different generations) had a variety of projects in mind that would support, for example, (1) addressing digital and physical repatriation of previously produced photos and films, (2) archiving of past, current and future media making efforts, (3) cultivating media activism for political gains, (4) making an elder storytelling series, (5) creating youth-oriented digital spaces to engage with cultural heritage, and (5) creating filmmaking collective and associated centre. When the discussions in the village started, we also knew of the long history that different Mēbêngôkre-Kayapó villages have had with media activism and production, including foundational work by Terence Turner (e.g. see Turner 1990, 1991, 1992 2002) with media makers in Gorotire village and other locales. This also included budding media work among different Mēbêngôkre-Kayapó communities at the time, including the then emerging work by Glenn Shepard and Richard Pace in Turedjam (Shepard & Pace, 2012) and André Demarchi's work in Moikarakó village (Demarchi, 2014). Simultaneously the Béture Collective, a Mēbêngôkre-Kayapó movement of indigenous filmmakers represented by the AFP, was formed in 2015 (Simone Giovine, personal communication).

The focus of our work with A'Ukre community members emphasized a collaborative design to support an emerging filmmaker collective and centre in the village. We sought to carry out this project through leveraging the strengths of SLCE projects. In general, service-learning refers to “skills acquisition, skills application and recognition on the part of the students of their potential as agents of change in the community” (Behrman, 2002:21)<sup>1</sup> and increasing SLCE courses are embracing community-based projects and participatory action principles (Behrman, 2002, 2011; Bodorkós & Pataki, 2009; Bozalek, 2011; Keene & Colligan, 2004). As noted above, early conversations with the community established how SLCE work carried out together should be guided by community desires for digital activism and media sovereignty. By media sovereignty, we extended Raheja's (2010) concept of visual sovereignty – or the control over aesthetics, representation, and distribution of film for and by Indigenous Peoples – to include entire media

assemblages. Media sovereignty, thus, encapsulates the capabilities of communities to govern media needs as they desire in low Internet and off the grid media environments to achieve overall goals for sustainable media solutions. This concept is inclusive of but not limited to energy requirements, physical and digital infrastructures, sustainable and open-source software and operating systems, data security, and data governance, management and curation.<sup>ii</sup>

In 2012, the community moved forward with their plans on creating a collective by selecting filmmakers and project advisors, and by 2014 the community had solidified both the initial filmmaking team and a non-Mēbêngôkre-Kayapó team charged with working toward design recommendations for the new centre. Importantly, the final filmmaking collective, which was eventually named the Kókôjãgoti Media Collective, included men and women filmmakers, which, as far as we knew was the first time a community had initiated a combined women and men’s media collectives. In meetings that took place in 2014, the community affirmed the creation of media centre as an ongoing and top priority. As neither of the faculty leads had the deep technical knowledge to assist with sustainable solar power design or software recommendations, they sought to collaborate with faculty, students, and programs at their home institutions.

In the fall of 2014, the non-Mēbêngôkre-Kayapó team explored what SLCE programs at their home institutions might be the best partner with and ultimately forged a connection with the EPICS program on Purdue’s campus. EPICS is a service-learning program focused on creating solutions to community identified problems through a user centred engineering design process (Zoltawski, Oakes & Cardella, 2012). One of the main strengths the faculty advisors identified in this program was that EPICS strives to build a student led classroom where undergraduate teams work together on multi-semester projects with faculty advisors, community partners (in this case the community of A’Ukre, UFU and AFP), and peers from a variety of disciplines (EPICS, 2009). Similarly, faculty advisors saw the reiterative design approach that encourages creative thinking and collaboration during all project stages that are continuously revisited including contextualization, ideation, prototyping, testing, and delivery as critical to collaborative work with A’Ukre (EPICS, 2009).

One of the co-authors who was fundamental in forging these ties quickly became a student leader for the new team. In January of 2015, the Brazil team was launched (henceforth GAPS Brazil) and became part of already established student team named the EPICS Global Alternative Power Solutions (EPICS GAPS) team. The GAPS Brazil team charge was to work with community partners on ideation and design recommendations for the media centre. The first semesters of the GAPS Brazil team included students that ranged from freshmen to seniors at the undergraduate level and graduate students, most whom were in engineering programs, although there were anthropology and dual degree and anthropology students also on the project. The goal was to deliver finalized recommendations during the regularly offered summer abroad course that the faculty advisors co-led in the community and continue ongoing work into the 2015-2016 academic year (Table 1).

The three-week, six credit SLCE summer abroad course is co-designed with the Mēbêngôkre-Kayapó community of A’Ukre, the AFP, Brazilian and US institutions of higher education. The course integrates engaged, environmental and symmetrical anthropology to provide opportunities for students to learn about local, indigenous livelihoods from Mēbêngôkre-Kayapó and non-indigenous professors. In this course, students are introduced to the cultural and ethical dimensions of working with local communities and NGOs through experiential learning modules and collaborative projects. Practical applications and the importance of intercultural understanding are stressed to broaden student perspectives about indigenous worldviews. Importantly, when the media project started, the faculty co-advisors integrated SLCE components in the aboard course so that the program could facilitate discussions about media centre recommendations.

<b>Project Timeline</b>
<ul style="list-style-type: none"> <li>▪ 2012 – Media Centre project started in A’Ukre. Initial filmmakers selected by the community. Summer SLCE abroad course.</li> <li>▪ 2013 – Mēbêngôkre-Kayapó filmmakers and leaders visit UFU, ongoing planning. Summer SLCE abroad course.</li> <li>▪ 2014 – Men’s and women’s filmmaking team finalized. Summer SLCE abroad course.</li> <li>▪ Spring 2015 – First EPICS GAPS Brazil team. Design recommendations resulted in prototype computers and kit for media centre.</li> <li>▪ Summer 2015 – Feedback and dialogue on prototype and design recommendations with community.</li> <li>▪ Fall 2015 – Troubleshooting – Feedback on safety and solar design. Experimental editing and communication technology skill acquisition.</li> <li>▪ Spring 2016 – Kókôjãgoti media centre built. Collaborative safety and solar design.</li> </ul> <p style="text-align: center;">Project is ongoing</p>

Table 1: Initial project timeline with Kôkôjãgoti media collective and community of A'Ukre.

Thus, from January 2015 onward, the ten students participating in the GAPS Brazil project worked with three faculty advisors, community project liaisons, and an anthropology graduate student consultant. The faculty advisors and project liaison served as the student communication point between A'Ukre and the GAPS Brazil team as they brainstormed software, hardware, power, and media centre design recommendations. In the initial GAPS Brazil team, three team members, including the graduate student consultant, had taken the SLCE summer course in 2014. These three students, including one of the co-authors, were integral to facilitating communication with community liaisons as the GAPS Brazil project unfolded. Moreover, as a small subset of the GAPS Brazil team members hoped to attend the SLCE course in 2015; the summer 2015 program would provide a mechanism to present GAPS team design recommendations to the entire community and Kôkôjãgoti filmmaking collective for comment and feedback. We also hoped to leverage the SLCE summer program to further objectives for students to learn how to evaluate with histories of mis/representation of Indigenous Peoples and to learn about Indigenous worldviews.

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## The Approach

Whereas EPICS teams prioritize user-centered design that is based on interactive feedback with community partners, a distinctive aspect of this project, including our engagement with the GAPS Brazil team, was to integrate symmetrical, engaged and decolonizing anthropological approaches to enact a co-laboring process among project partners (de la Cadena, 2015). In this section we describe our experiences with (1) integrating the symmetrical and engaged anthropological approaches in engineering SLCE programs and (2) amplifying decolonizing methodologies in anthropological SLCE summer programs to cultivate processual, pedagogical, and substantive processes to achieve community goals. Processually, we sought to build on collaborative project co-governance, trust, and communication already established with the communities to implement the program. Substantively and pedagogically, we sought to create Mëbêngôkre-Kayapó appropriate design recommendations and in doing so increase student understanding of Mëbêngôkre-Kayapó worldviews and livelihoods, media sovereignty and digital activism.

Both the GAPS Brazil team and the SCLE summer abroad experiences provide opportunities in which non-indigenous project participants could reflexively engage with histories of mis/representation of Indigenous Peoples, dialogically learn about diverse cultural worldviews and ontologies, and confront biases and stereotypes that are commonly associated with Indigenous Peoples engagement with western technologies (Conklin, 1997; Ginsburg, 1991). Decolonizing scholars suggest that SLCE project can “disrupt comfortable identities and the common ‘habits’ that support them” and to strive to create “...resulting experiences such as novel personal interactions and witnessing ... to transform the learner and the relationships between university and community partners” (Steinman, 2011:5). To achieve these processes of transformation, Steinman suggests that programs should reflexively approach “indigenous cultural worldviews” (2011:10) and provide a space for participants to reflect on biases and other stereotypes (see also Berhman, 2002; Bozalek, 2011; Manathunga, 2009; Mitchell, 2008, 2014). This approach can help achieve goals of relationality and respect that partners seek to achieve by mutually enacting out projects together. In this sense, we considered different ways of co-laboring with the community and the subsequent transformational processes that may occur as all project partners engaged with cultural difference (Benson, 2014; Latour, 1993, 2005; Low & Merry, 2010).

An additional benefit of our project was the ways we saw this work contributing to international development project literature within engineering fields. Scholars in these fields have discussed the need for engineering education to incorporate social science methods into projects to better craft collaborative projects and understand user experience (Garff et al., 2013; Jeffers et al., 2015; Vaz, 2000). The results of such integration have “demonstrate(ed) the critical

importance of understanding users' needs and preferences, customs, and technical knowledge" as well as revealed the limitations of projects that fail to assume an interdisciplinary approach (Garff et al., 2013:138). To this end, Garff et al. (2013:139) note, "cultural and language barriers, incompatibility of design techniques and understanding which methods are culturally appropriate, and the inability to communicate and follow-up with users due to geographic distance" are some of the steep obstacles in place. Frameworks and methods from engaged anthropology, such as reciprocally oriented and collaborative ethnographic projects, long-term community relationships, and commitment to contextual holism and ethics, are well-suited to providing foundational methodologies to align technically driven projects with approaches that are culturally sensitive (Kirsch, 2010; Low & Merry, 2010). The combined approach this project takes with its recognition of Indigenous principles and values and engaged and relational sensibilities, thus moves toward considering socio-cultural, artistic, and technical systems as coupled, relational, and complex.

In this project, we specifically sought to build on engineering these approaches by interweaving engaged, symmetrical, and decolonizing anthropological principles to SLCE experiences. In this case, we applied these principles to the already established SLCE-learning goals in EPICS programs and incorporated new SLCE goals into the summer abroad experience to cultivate spaces for dialogue and learning around design recommendations. In this way, we created a design process with A'Ukre that interwove processual, pedagogical and substantive, aims to support mutual learning and respond to community desires. As a result, we saw benefits in moving beyond a configuration of engaged SLCE programs as a scholar-community dyad to a plural approach to partnership building. The next section deepens the exploration of adopting this approach to show how we tied together diverse approaches as we supported community goals through EPICS and SLCE project work.

### **Interweaving Media Sovereignty and SLCE Projects**

In this section, we show how themes of digital activism and media sovereignty, guided by engaged, symmetrical, and decolonizing anthropology, shaped the SLCE components of the GAPS Brazil project and summer program with the community of A'Ukre. Different from other EPICS groups that primarily work with non-indigenous peoples and do not include anthropologists as faculty advisors, the guiding themes of digital activism and media sovereignty required GAPS Brazil students to consider anthropological and decolonizing approaches as student team members learned new concepts in order to understand the principles of ethnography, and by extension concepts of relationality, representation, and respect. This was achieved through interlocking these concepts within EPICS built-in expectations for student work, which includes professional development skill sessions, systematic reflection in project notebooks, engagement with experts on project design questions, and working with and establishing a communication plan with community partner liaisons (EPICS, 2009; Silvosky et al., 2014). In the summer course, similar outcomes were achieved through integrating decolonizing approaches in course expectations as measured by qualitative and quantitative reflections required prior to, during, and after the course. Below we detail two aspects of the project that reveal the benefits and tension of doing this type of work. First, we discuss the strategies we used for students to learn about Indigenous Peoples' worldviews and representations of Indigenous Peoples. Second, we detail how the GAP Brazil team attempted to align their design process with community goals of media sovereignty, noting how software, hardware, and digital infrastructures became key sites of contestation and conversation.

#### *Indigenous worldviews, representation, and ethics*

To meet our pedagogical goals, we leveraged the strengths of the EPICS program to develop modules that engaged with topics of digital activism and media sovereignty for students to confront indigenous representation and stereotypes and Mēbêngôkre-Kayapó worldviews. In order to achieve this goal, we set expectations and introduced key concepts at the first GAPS Brazil team meeting each semester. With faculty advisors, the student project manager incorporated materials and activities for GAPS Brazil team members to gain skills in human-centered design principles that are grounded in larger discussions on indigenous design and media sovereignty. For example, we engaged with the expertise of community partners, co-advisors and the student project manager to discuss Mēbêngôkre-Kayapó priorities and goals through contextualizing these goals within the broader values of Mēbêngôkre-Kayapó life in A'Ukre and how they intersected with media center possibilities.

Specifically, the student project manager assisted with facilitating discussions and making available resources on Mēbêngôkre-Kayapó everyday practices and worldviews, thus encouraging those students on the GAPS Brazil team with limited experience working with non-Western or Indigenous users to directly confront stereotypes that might be in place. In so doing, students gained an understanding of Mēbêngôkre-Kayapó digital activism and media sovereignty to consider what a human-centered design approach might look like in this context. As such, the EPICS approach, which, amongst other factors, consider user experiences, user engagement, and connection with users,

served as a conducive foundation from which to generate discussions focused on indigenous worldviews and design principles grounded in media sovereignty (see Zoltawski, Oakes & Cardella, 2012).

In addition to providing opportunities for learning and engagement about Mēbēngōkre-Kayapó worldviews, discussions also focused on historical legacies of misrepresentation of Indigenous Peoples and dominant stereotypes. We found many students came to the program with exposure to Euro-American ideals of “authentic” and Amazonian Indigenous Peoples as “uncontacted” “primitive,” and “pristine” (e.g. see also Hutchins, 2007). We attempted to directly address these pre-conceived notions within the GAPS Brazil teams. Focused discussions, required reflections in lab notebooks, and communication on expert indigenous and non-indigenous knowledge holders served as critical spaces to cultivate in-person difficult dialogues and ongoing reflections. As a collection, activities provided mutual learning opportunities to engage with community partners and also to provided opportunities to learn how Mēbēngōkre-Kayapó peoples have represented themselves and the politics of indigenous representation writ large (Conklin & Graham, 1995; Conklin, 1997).

For example, in one semester, students were asked to watch the documentary *Reel Injun* that focuses on Hollywood representations of Native American Peoples and the actors who portrayed them. Students were guided through a series of questions about representation and stereotypes to trouble and disrupt commonly held assumptions and identify dominant narratives. Students, many of whom did not have prior experience with Indigenous studies scholarship or collaborative projects with Indigenous Peoples, learned how these stereotypes and assumptions played a role in how Indigenous Peoples are talked about and perceived. In another example, students discussed the misperception that Indigenous Peoples do not engage in market activities for self-determined development programs, and how in many community-company partnerships issues of representation and intellectual property often occur. During one meeting, team members talked about the Mēbēngōkre-Kayapó’s experiences with the Body Shop project, a United Kingdom-based cosmetic company, and the company’s choices to use images of Mēbēngōkre-Kayapó individuals for their marketing materials. Students discussed the tensions around permission, consent, and image use by a non-indigenous company. As students examined this case, they considered how decision-making and consent interplays with representation. This discussion was particularly important for students to consider questions of trust, ownership, and empowerment, especially in the context of photography and film, as they moved forward with design recommendations (see Cargo & Mercer, 2008).

Results of these activities varied, and we found transformations in students were the most pronounced for those who participated in both on-campus EPICS programs and summer SLCE experiences. In the summer SLCE program to Brazil, participating students have an opportunity to visit A’Ukre and learn about different aspects of Mēbēngōkre-Kayapó lifeways. Similar to EPICS, we leveraged built-in course expectations to integrate engaged and symmetrical anthropology principles with decolonizing methodologies to address our goals of cultivating a relational practice. These included expectations such as reading assigned articles, Mēbēngōkre and Portuguese language learning, writing daily reflective journals, learning from Mēbēngōkre-Kayapó leaders and professors, and the completion of structured reflections required prior to, during, and after the course.

For example, at the end of the experience, one student discussed the abroad course as “a lifetime experience that changes everything about your perception and your interests ... this experience has given me energy to fight for [indigenous rights].” Another student was encouraged by working with residents in A’Ukre and challenging commonly held stereotypes of ahistorical Indigenous Peoples with limited agency by commenting, “culture changes ... If it’s changing it’s because the Mēbēngōkre-Kayapó want it to change.” Through reflection, students incrementally and reflexively address their own stereotypes. Many students highlighted how the course challenged them to engage with Indigenous worldviews, multiple perspectives, and bilingualism. These features of the course align with the substantive aspects of programs Lincoln and González y González (2008) suggest are critical for decolonizing methodologies.

Importantly, one of the co-author’s experience as a study abroad student in the summers of 2014, 2015, and 2016 and her work as a Brazil GAPS team leader shows the strengths of combining these programs as well as supporting the participation of students in SLCE semester and summer programs to cultivate long-term partnerships with students. For this particular co-author, her anthropological and engineering background and abroad experiences greatly influenced how she contributed to the GAPs Brazil team as a project manager. She facilitated discussions about Mēbēngōkre-Kayapó livelihoods, and served as the first point of contact to initiate conversations about culturally relevant design with project partners as the team worked with the community to design elements of the media center.

Even though most the GAPS Brazil team were not able to join the summer abroad experience, team leaders, like the project manager and graduate student consultants, served as important mentors for students during this process.


*Designed for Sovereignty and Self-Determination*

Through EPICS and summer SCLE courses, the project leveraged curricular designs to interweave media sovereignty principles in the design process while cultivating student understandings of the politics of representation and indigenous worldviews. As students learned about the broader context of Mēbêngôkre-Kayapó livelihoods, they also sought to integrate the community goals of a sustainable media center to their design recommendations. The GAPS Brazil team began their work by asking, “What are the possibilities for supporting a Mēbêngôkre-Kayapó media center in the Brazilian Amazon?” As a new emerging project, this question led the students into a series of brainstorming, researching, and first stage prototyping endeavors where they drafted and consulted with faculty advisors and community partners on a wide range of avenues to pursue. Several different initiatives and projects emerged out discussions the GAPS Brazil team had with project advisors and community partners. These included ideas for sustainable solar energy, adaptable building structure, data storage and curation options, electronic waste management, sustainable power, music making studios, flexible and interactive working areas, accessible and culturally appropriate and locally viable computer operating system and software recommendations, which included multilingual hardware and software components of laptops desired by filmmakers. The GAPS Brazil team considered how they could incorporate user autonomy and control of images into software, network, or data management recommendations. The goal was to deliver a prototype solar power system and set of computers for the media collective to engage with, sample, and provide feedback on in the summer of 2015.

In the design process, attention to the media sovereignty developed into questions of how the media center design would protect or put at risk Mēbêngôkre-Kayapó filmmaking while supporting filmmaker stated desires for developing their own creative work and widespread sharing of that work through digital activism. For example, the team envisioned the filmmakers, the initial users of the media center, would need to make important decisions about the computer’s operating system, which would heavily influence all software characteristics of the media center. Initially, options seemed to be limited to the conventional systems of PC and Apple, both of which were already familiar to filmmakers. PC laptops and desktops were popular and prevalent in the area and the filmmakers already had experience with an amateur video editing programs designed for PCs.

After discussions of access and Indigenous media rights, the team and faculty advisors felt conventional systems may send the media center down a path of costly updates, prescribed media software, and an overall lack of flexibility for collaboration across platforms—although the team also recognized benefits of PC (widely used in the area) and Apple (commonly used by film NGOs the team knew to be active with indigenous peoples in Brazil) options. Turning to open source software, the GAPS Brazil team proposed a dual boot PC and Linux operating system on the prototype laptops to be installed in the center. Upon consultation with the filmmakers, the team chose Linux as a possible operating system that would enable access to free software and updates, adaptability in system design, customization of user interface and database management, as well as the ability to collaborate across platforms through computer hard drive partitions. One option discussed, but ultimately not chosen, was how a computer open source operating system could be coded to connect to external computers but remain hidden from the world-wide web. To make this possible for a summer delivery date to the community, GAPS Brazil student team had to build their knowledge about computer programming, and software installation which was not in their current expertise.

The 2015 spring semester GAPS Brazil team purchased and completed the dual boot system for two desktop computers by the end of spring semester. An ad-hoc summer team of faculty advisors and students finished the dual boot process for four additional computers and thus set up six dual boot Windows and Linux computers, associated kits, and a solar prototype (Table 2). The ad-hoc team added color-coding and names for each of the computers so that identical computers and kits could easily be distinguished from one another and anticipated future problems could be tracked easily. While filmmakers could add their own username and password, the idea was that original naming and color conventions would serve as the administrative accounts and provide easy to remember ways to recall and discussion computer issues and problems. In addition, the GAPS Brazil team worked on a proposed a solar system design, which they presented as a prototype to A’Ukre during the summer 2015 abroad program. A small subset of GAPS Brazil team members joined the summer SLCE abroad program to do so.

Colour Coding	Computer Names	Hardware	Software PC	Software Linux
	Jaguar	mouse external hard	Spybot Malwarebytes	Deja Dup Audacity



	Caiman	drive	TrueCrypt	Cinerella
	Otter	mouse pad	Cobian	Openshot
	Macaw	microfiber	Picasa3	Smtube
	Howler	small usb 8GB	VLC	ffmulticonverter
	Monkey	usb card reader	Audacity	Picasa
		laptop cord	Pinnacle	Gimp
		carrying case	Office Livre	Tellico
		hard drive case		VLC
		headphones		
		screen protector		
		adapter		

Table 2: Hardware, software, and user decisions for six dual boot Linux and Windows Computers prepared for the media makers in A'Ukre.

As just one example, once in A'Ukre, the benefits and challenges of an open source system were quickly realized in unanticipated ways. As the group dialogued with the community and filmmakers about their experiences with operating systems; it was clear that not only familiarity with the system was key but also that viruses, picked up through downloads in cybercafes in the local towns or sharing across devices, were one of the main concerns about maintaining the safety of their digital archives. The team talked about how the Linux software was largely resistant to computer viruses that would render data obsolete and was becoming a large concern through rapid media circulation. Yet, by the spring of 2016, we received reports from the film collective that despite the benefits of the Linux system, the filmmakers preferred the PC side and saw the dual boot as problematic as it reduced storage capabilities and unfamiliarity caused more problems than benefits. Several filmmakers indicated their interest in reducing exposure to and infection from computer viruses, though, and potential more training in using Linux as well as desires for access to Apple operating systems, which they argued could also be more resistant than PCs to viruses. Overall the filmmakers preferred to move towards the goal of adopting Apple systems and professional-grade video editing programs, increasing data curation and sharing literacy, and more sustainable in-house filmmaking possibilities. Thus, while ideas about media sovereignty influenced design recommendations and prototypes delivered to the community, discussions about filmmaker preferences, individual and collective data management and sharing, privacy and security, including long-term virus protection and mitigation remain ongoing. Nevertheless, the community and filmmakers were pleased with the wide range of recommendations the student teams proposed, noting how open source software and experiments with platforms, raised their awareness about possibilities for the filmmakers and additional tools to make decisions that aligned with their goals and desires.

## Discussion

Students who joined the GAPS Brazil team with the intention to develop design recommendations for the community of A'Ukre, found that the solution is wrapped up in a much larger context of understanding indigenous worldviews, forms of representation, media sovereignty, and relationality. The integration of symmetrical and engaged anthropology in the design process and decolonial methods of understanding community needs with the GAPS Brazil teamwork was central to “making space” within SLCE approaches (Steinman, 2011). Our approach shifted SLCE focus away from a unidirectional emphasis on student skills and outputs directed at communities to instead formulate deliberate, symmetrical and critically informed relationships where students, communities, faculty, and other stakeholders co-labor to support shared goals, in this case, media sovereignty.

First, the project leveraged emerging and longstanding ties that non-indigenous individuals and institutions had with community partners to fortify processual aspects of the project design. Long-term professional and personal ties faculty leads had with the community were important individual relationships that fortified respect and reciprocity between local leaders and filmmakers in A'Ukre. Institutional relationships, between, for example, UFU, Purdue and the community of A'Ukre further demonstrated the strengths of engaging long-term networks and partners in new collaborative possibilities. The way this multi-actor project of students, scholars, engineers, anthropologists, and Mẽbêngôkre-Kayapó filmmakers has unfolded demonstrates the complexities of collaboration across disciplines, spaces, and communities.

Second, as faculty either co-advised or co-led the SLCE GAPS Brazil program and SLCE summer study abroad course, this provided a means by which communication could take place in person and virtually between and among students and project partners. Importantly, the abroad course currently serves as space from which GAPS Brazil students can travel to A'Ukre and discuss in-person their work. The design process was thus fortified by knowledge

exchange, testing, and communication within the community and project partners, with whom the team was in communication. In this way, the GAPS Brazil team provides a space for yearlong troubleshooting on media center design questions through discussions with project partners, and when available, different individual filmmakers. Community-wide discussions held during the summer courses were necessary to create in-person conditions for feedback and bring up new questions. These meetings were all the more critical as consistent direct communication with filmmakers is difficult throughout the year, as it depends upon filmmaker's frequency of travel to town, where they can access the internet and chat with the team.

Third, we integrated pedagogical objectives of increasing student understandings of indigenous worldviews and representation as they cultivate a responsive design process for A'Ukre. The challenges of navigating symmetrical and decolonizing collaboration were evident as extensive discussion of community lifeways was integrated into the EPICS classroom. We found the most change in preconceptions about Indigenous Peoples and representations occurred with students who participated in the GAPS Brazil project and took the summer program. Yet, not all GAPS Brazil team members had the training or time in their schedules to take the summer abroad program. The combination of engaged and symmetrical anthropology and engineering design tools in a student setting offered an example to students the potential productivity of collaborative projects, although disciplinary tensions were inherent as students struggled through new content and materials. Despite the obstacles, this collaboration has demonstrated the need to continue experimenting with course objectives and activities that align with broader goals of community media sovereignty.

Finally, the student design recommendations were in direct response to community desires. Several different initiatives and projects emerged out discussions the GAPS Brazil team had with project advisors and community partners, including ideas about open source software, sustainable solar design, individual and collective data management and sharing, privacy, and security including long-term virus protection and mitigation. Design recommendations were initially received well in A'Ukre, although not all recommendations were adopted, and new challenges emerged. The cost burdens of different programs and issues with in-house fixing computers and addressing viruses remain. The non-indigenous partners continue to work with the community on these issues and trouble shoot problems of media management, reliable power, digital space and strive towards the long-term goal of a sustainable, resilient media system with a focus on media sovereignty.

## Conclusion

In this article, we described the initial years of a collaborative project that was forged out of long-term ties between indigenous and non-indigenous filmmakers, engineers, anthropologists, and practitioners. The project aimed to support media making and media creation to advance media sovereignty in A'Ukre. To achieve and enact these goals, non-indigenous partners integrated processual, pedagogical, and substantive practices in the project to advance decolonizing methodologies. Non-indigenous partners also engaged undergraduate and graduate students through an EPICS team and SLCE abroad experience. Incorporating student teams into the media project has resulted in the convergence of community-based project goals with service-learning, engineering projects in community service, and international program goals and objectives of forging meaningful transdisciplinary partnerships.

Importantly, decolonizing approaches and symmetrical anthropology serve as an important methodological foundation for this project and a continued space to invite reflexivity and transformation. Davison-Hunt and O'Flaherty (2007:291) argue that researchers often stand for "bearers of technological packages" or "extractors of knowledge", identity markers, which can serve as barriers to working with, by, and for Indigenous Peoples. Constant attention to power relationships and the construction of reciprocal relationships is thus critical to practice. From long-term ties the faculty co-advisors had with the community to decisions made about the computer operating system (Linux-PC) to student learning about Mëbêngôkre-Kayapó livelihoods, non-indigenous participants engaged in transdisciplinary approaches to digital media to attempt to sustain a dialogical relationship with the community. This relationship was not without its challenges. It not only invited students to apply human-centered design skills to a local context but also invited them to consider their own positionality and confront stereotypes about indigenous worldviews. While students sometimes grasped concepts, and experienced working with and alongside community members differently, their interest in engaging in discussions of decolonizing methodologies, symmetrical anthropology and media sovereignty allowed them to open up to different possibilities of how to understand the design process. Through the integration of pedagogical goals within the project, GAPS Brazil students, but especially the project manager, attempted to directly confronted "technologies of representation" to create new spaces of community-engaged practice that allowed for

community-direction to be the primary driver of decision-making around the components of the media center. While not all research projects lend themselves to large undergraduate and graduate student teams or can embed service-learning and abroad coursework into project workflows, in this case, we find that these experiences have only augmented work and amplified student and community experiences, although challenges remain on how to interweave these goals into the pedagogical aspects of the courses.

In other areas, one new innovative approach to SLCE programs has been developed by scholars who have created place-based learning communities, which aim to: “support people in responding to their own needs, developing a capacity to generate their own projects, creating supportive relationships with other actors through the building of dynamic processes for the coproduction of locally relevant knowledge” (Davidson-Hunt & O’Flaherty, 2007:295). Behrman (2011:79-80, 93 italics in original) posits that this type of service-learning can “*systematically generate[s] transformative local knowledge*” which in turn “creates new pathways for community dialogue”, that then unfolds in an iterative process of: “awkward developments, refinements, adjustments, challenges, and unexpected outcomes.” Bodorkós and Pataki (2009:1124) also suggest that community-based projects can “connect research with grassroots activism, in order to contribute towards progressive social change.” Similarly, we have found that to develop symmetrical anthropology projects we must provide a space to “have researchers also reflect on their own positionality and privilege” (Bozalek, 2011:470). We suggest, combining the goals of SLCE with engaged anthropology principles and decolonizing forms of practice can better draw attention to the *processes* of building service-learning projects and sharing knowledge, and provide some tools from which to start to consider the critical reflexivity required in this practice to expose students to the transformative and power-laden contexts of the partnership (Cargo & Mercer, 2008).

We propose that an engaged approach to community-driven projects benefits from a framework to attend as best as they can to the following: (1) meaningfully engagement with communities that might be ethnically, socioeconomically, or culturally diverse to challenge stereotypes about indigeneity or media making while simultaneously recognizing indigenous worldviews and knowledge holders; (2) a consideration of how transdisciplinary learning programs and platforms can support community goals of media sovereignty and digital activism; (3) communication and dissemination strategies of projects with the goal of transformative knowledge building; and (4) attention to the challenges of co-laboring on a project whose ultimate goals support Indigenous self-determination efforts and long-term sustainability of the projects they seek to support. We hope that future researchers working with student teams and communities at this nexus would consider this expansive approach to engaged anthropology enacted with, by, and for Indigenous communities.

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## Notes:

<sup>i</sup>We adopt Cargo and Mercer's (2008:327) use of the "umbrella term" practice research here to refer to several different approaches and frameworks including community-based participatory research, participatory rural appraisal, empowerment evaluation, participation action research, community-partnered participatory research, cooperative inquiry, dialectical inquiry, appreciative inquiry, decolonizing methodologies, participatory or democratic valuation, social reconnaissance, emancipatory research, and action research with participatory philosophies.

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