

CRITICAL SETTLER CONSCIOUSNESS
IN COMMUNITY OF PRACTICE AND INDIAN EDUCATION FOR ALL IMPLEMENTATION:
A NARRATIVE INQUIRY IN THRESHOLDS OF TRANSFORMATION

by

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DEDICATION

This work is dedicated to my Mother and my Grandmother. They both wanted to be writers and had children instead.

To Westleigh, who I gave birth to in my first semester of Graduate School.

To Bradford for helping me say “Both, Yes, and More.”

Being a mother and fulfilling the dreams of my Mother and my Mother’s Mother are gifts beyond measure. Though they do not come not easy, they are worth it. I will cherish them endlessly and gratefully.

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ABSTRACT

Very little work examines the role of Indian Education for All (IEFA) in shaping the college learner environment beyond teacher education programs. In fact, many faculty may not even consider implementing IEFA as a part of their teaching expectations. Despite Montana's legal mandate for "every educational agency" and "all educational personnel" working as "related to the education of each Montana citizen" (MCA 20-1-501) through IEFA, several factors may hold faculty from fulfilling this responsibility through curricular IEFA implementation at postsecondary institutions in Montana. One, IEFA is unfunded at the college level. Two, traditionally, faculty work autonomously in a system that values academic freedom. Three, most disciplines work within a traditional western paradigm that honors positivism, which may be at odds with Indigenous Knowledge Systems that center relational, spiritual, and subjective ontologies and epistemologies. Addressing this requires a system of change that can take shape through faculty communities of practice. This critical narrative inquiry delves into the experiences of non-Indigenous engineering faculty who worked within a learning community while approaching how to integrate IEFA into their curriculums. One-on-one interviews narratively encouraged participants to share their stories of implementing IEFA and their experiences engaging with an intimate, discipline designed learning community. Using the Transformational Indigenous Praxis Model (TIPM) layered with critical settler consciousness (CSC) and Culturally Disruptive Pedagogy (CDP) as a lens to participant experiences, the learning community provided a space that sparked engagement with their CSC in ways that allowed participants to move toward authentic IEFA implementation and employing transformational pedagogy. Communities of practice may be employed to help non-Indigenous settler scholars move toward authentically implementing IEFA. For these faculty, the learning community provided a space to engage in CSC development and pushed them to address their own resistances and responsibilities while in relationship with each other, working together as experts and novices to find ways their disciplines will need to engage IEFA. This project may serve as a tool or heuristic for non-Indigenous people beginning to engage their CSC in meaningful ways and requires desettling of the self and responsibility to Indigenous peoples to face and combat damage done by white supremacy and colonialism.

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CHAPTER ONE

INTRODUCTION

Introduction

In Montana, education stakeholders hold in their grasp the means for significant and transformational educational change: implementation of Indian Education for All (IEFA). Montana is the first state to codify into law a constitutional commitment to the recognition of, preservation of, and education about American Indian cultural heritage in cooperation with Indigenous tribes. With full implementation the state could serve as an example of the powerful impact of equitable learning through multiple perspectives of ways of knowing and being by prioritizing relationships to this policy, with the American Indian peoples who share knowledge through it and the students who learn within the curriculums stemming from it.

Twenty-three years ago, the Montana State legislature passed IEFA into law, MCA 20-1-501. This law was to ensure “every Montanan, whether Indian or non-Indian” would learn about and build appreciation for American Indian cultural heritage in cooperation with Montanan tribes. Further, that “**every** educational agency” and “**all** educational personnel” working as “related to the education of each Montana citizen to include information specific to the cultural heritage and contemporary contributions of American Indians, with particular emphasis on Montana Indian tribal groups and governments” and finally that “ **all** school personnel should have an understanding and awareness of Indian tribes to help them relate effectively with Indian students and parents, that educational personnel provide means by which school personnel will gain

an understanding of and appreciation for the American Indian people” (MCA 20-1-501, emphasis is my own).

Indian Education for All (IEFA) requires relationships; the policy demands that work be done with Montana tribes, that educators be provided a means by which these relationships are developed, and that learning about American Indian cultural heritage is designed in a “culturally responsive manner” for the good of Indigenous and non-Indigenous Montanans. Despite decades of effort to support the good intentions of the IEFA policy, these relationships and intentions are not being fully honored. *Yellow Kidney, et al., v. Montana Office of Public Instruction, et al.,* is a current suit against the Montana Office of Public Instruction for failing to honor the purpose and meanings of the IEFA policy. Plaintiffs include Montana guardians of public-school students, eighteen students ranging in grade level, and the Assiniboine and Sioux Tribes of the Fort Peck Reservation, Confederated Salish and Kootenai Tribes of the Flathead Reservation, Fort Belknap Indian Community, Little Shell Tribe of Chippewa Indians of Montana, and Northern Cheyenne Tribe (NARF 2022).

As the state’s honoring of constitutional commitments is currently and seriously called into question and accountability demanded, “**all** educational personnel” (MCA 20-1-501) must grapple with how IEFA policies, made to ensure Indigenous Knowledge Systems are centered, are not being fully realized within the Montana school systems’ curriculum. Though the IEFA mandate spans the K-20 system, few instructors and administrators have a fingerhold on implementation of IEFA at postsecondary institutions. These intrinsically motivated few individuals work outside a substantially

supportive infrastructure (that provides time, resources, and skills to help implementation) assuming personal responsibility to create honoring and culturally responsive curriculum. One important quality to consider with the incorporation of IEFA into postsecondary education is that faculty follow Indigenous knowledge and hold its value “to help them relate effectively with Indian students” (MCA 20-1-501). Central to this tenet is how relationships and relationality can work to create an educational space in which Indigenous and non-Indigenous students feel connected to self, each other, faculty, and curriculum. Faculty have an opportunity to engage with IEFA in a robust manner to support a culture of relationality among students and themselves. The goal of this research is to describe the experiences of faculty who have embraced IEFA and are working to center it within their curriculum. As a foundational Indigenous value, engaging with relationality may in fact provide the glue for IEFA implementation at the post-secondary level.

Statement of Problem

Though much work has been done over the last few decades, IEFA has found little traction within higher education. Perhaps this is due to funding only provided by legislation for k-12 education despite evoking “all educational agencies” and because of questionable words like “encourage” present in the language of the law. Despite the provision for developing relations in the wording, the concentration of IEFA implementation efforts have been mostly content and curriculum based and at the K-12 level. Furthermore, the aforementioned lawsuit brings up issues of implementation

accountability and financial accountability as explained by plaintiff Cammie DuPuis-

Pablo (Confederated Salish and Kootenai Tribes):

I know that MOPI (Montana Office of Public Instruction) uploads some videos and content for teaching IEFA, however, there seems to be a break down between providing this information and teachers having and using what they need to teach students... Teachers definitely need more support at the state level. MOPI needs to make sure that teachers have what they need, that schools stay on track, and that everyone is getting the IEFA curriculum right. (NARF 2022)

As DuPuis-Pablo points out, teachers may not have what they need to teach students: a working and confident knowledge of Indigenous culture, history, and worldview. This breakdown is likely connected the lack of support for desettling work at all levels of education, which could be a structural barrier for IEFA implementation at multiple levels. If structural support for IEFA is failing, then perhaps the relationships suggested in the law have not been properly cultivated.

There are several possible snags holding back instructors in postsecondary institutions in Montana from the inclusion of IEFA in curriculums. One, IEFA is unfunded at the college level. This allows for few resources including time, money, and Indigenous expertise, limiting support to faculty to implement the policy. Two, traditionally faculty work autonomously in a system that values academic freedom. Therefore, the extent to which faculty engage in IEFA development and implementation in the classroom relies on uneven individual prioritizations. Even faculty who may desire to incorporate IEFA in the classroom are constrained by a tenure and promotion system that values research, which likely to various levels depending on institutional type, over new curricular developments. Lastly, most disciplines work within a traditional western

paradigm that honors positivism, which may be at odds with an Indigenous Knowledge System that centers relational, spiritual, and subjective ontologies and epistemologies.

To release these snags requires a system of change, one that honors collectivism over individualism where a community of faculty come together in a grassroots endeavor to shift the longstanding paradigm. Fundamentally, IEFA is positioned to build relationships among faculty who choose to work collectively through a shared purpose. This can take shape through communities of practice, developed beyond support systems for faculty excellence. Communities of practice are considered “groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly” (Wenger-Trayner & Wenger-Trayner, 2014, p. 1). Rather than relying on hierarchies of support, a community of practice places the individual into relationship to overcome the limitations of learning in singularity. The heart of a community of practice could create a space for faculty to come together and cultivate meaningful relationship around IEFA and share strategies for quality implementation in the classroom. The relationships forged in a community of practice with a valuation of cultural accountability among faculty and with IEFA may extend to relationships within the classrooms where Indigenous and non-Indigenous students learn bicultural accountability together. The important purpose of IEFA is that it ensures Indigenous students see themselves in the curriculum and encourages culturally responsive teaching, (Carjuzaa et al., 2015) and that non-Indigenous students gain a complete understanding of the American context. This purpose may be met only if IEFA is fully implemented, and instructors must be supported in this expectation.

A faculty of community of practice can support this purpose. It holds the opportunity for building relationality among each other, IEFA content, and Indigenous and non-indigenous students in the classroom. The traditional Western paradigm favors the individual sense of belonging, arguably at the expense of relationality. Relationality holds the individual in a system of relationships and responsibilities that supersede egoistic drive and prioritizes we over I. This critically brings connection and relationship to the center. As the university works to build sense of belonging to connect students within learning environments and to their learner identities, it overvalues sense of belonging from a western perspective. This individualized and ego-centric approach to belonging has proven that it reenforces uneven power structures by validating the belongingness of those that are part of the dominant power group while marginalized students experience asymmetrical self-awareness and reduced access to environments where they can be authentically themselves as learners (Hurtado & Carter, 1997; Vaccaro & Newman, 2016). Is a western conception and operationalization of belonging serving all students? Can other entries provide equitable ways of belonging? Are these being considered and used by instructors in the classroom? How can relationality reframe belonging to bring community and connection forward? Can the implementation of IEFA create space in which belonging is reconceptualized by relationality?

This measurement of sense of belonging and its role have not gone unchallenged. A profusion of belonging research in higher education exists on how students do or do not feel or experience belonging as they attain a college degree. Important research reveals, and has been revealing for decades, that some students

can access feelings of belonging more than others and that belonging has an intricate relationship with academic success, motivation, and completion. Many scholars work to remediate assimilationist concepts of belonging in higher education. Still, belonging has also been studied mostly through a co-opted western perspective (Bear et al., 2022; Blackstock, 2011). This perspective over-emphasizes individualism in belonging. It prioritizes the individual's experience of belonging rather than remediating connections and relationships that lead to feelings of belonging. The western epistemological paradigm (WEP) perspective on belonging is self-centered (Maslow*); it is a human need to be satisfied (Maslow*) rather than the outcome of connection found in an affirming community. Fundamentally, the struggle of belonging scholarship has been trying to align an outcome made possible through collectivism with individualism.

The difficulty of developing authentic relationships results in the difficulty to feel belonging. The difficulty to form authentic relationships stems from the absence of shared experience, deep empathy as the ability to understand and share the feelings of another as that other person with their particular social location (Toole, 2019), and identity affirmation (Aday, 2018). Belonging is not an end goal, rather it is evidence of authentic relationships that affirm peoples' ways of being. For college learning environments, this means that students may enter classrooms where they do not feel they can be their authentic selves as they experience environments where they do not see themselves or have their identities invalidated by the culture and relationships of that environment. Additionally, this means that instructors may not have the support or skills to create affirming environments, let alone the experience of having accessed

affirming learning environments themselves. How can students access authentic relationships and affirming environments that generate belonging?

IEFA and a faculty community of practice may be able to cultivate a collectivism based sense of belonging that translates to the classroom. IEFA's purpose is to validate those identities in education, and not just to those who hold them. Implementing tools like IEFA that forward Indigenous Knowledge Systems have not been embraced in many college classrooms, as Stanton et al. point out "Within higher education, in particular, we wonder if reluctance is due to the expectation of content expertise among instructors. For many instructors IEFA represents "an unfamiliar worldview that challenges their own education and experience (Stanton et al., 2019, p. 101)." Very little work questions and examines the role that IEFA has in shaping the college learner environment. In fact, many college instructors may not even consider implementing IEFA as a part of their teaching expectations. Still, there have been notable initiatives among groups of faculty who have embraced and centered IEFA in their college level courses.

Purpose of Study

The purpose of this narrative qualitative inquiry is to relate the experiences of Montana State University engineering instructors with integrating IEFA into their teaching. Specifically, this study aims to explore the individual and collective narrative for how implementing IEFA promoted relationality between engineering instructors, instructors and students in the classroom, and between instructors and IEFA itself. A further interest is to understand how IEFA may promote a proposed concept of

epistemological collectivism and transformation pedagogy in or in spite of the mainstream postsecondary education classrooms.

This engineering instructor community of practice is particularly interesting in terms of IEFA for three reasons 1) engineering as a field is considered to be one of the most socially closed to marginalized identities (Wickerson, 2022) 2) the field itself may be particularly germane as we see an increase of (proposed) epistemological collectivism and applications of Indigenous knowledge in science as we face issues of climate change and access to water, both pressing problems in the field of engineering. 3) Much work is being done in the field of systems thinking and Native science which mean Indigenous Knowledge Systems may already be presented and included in Engineering curriculum, for those who are intrinsically motivated to include it.

This means that while engineering is not reported as one of the most inclusive fields it may be one to advance ingenuity through work that not only stands to retain more American Indian students but provides Indigenous entries into ways of applying science and mathematics to solve problems challenges beyond a western approach. Finally, this field is where prioritizing IEFA was an internal decision, meaning that an engineering professor applied for a grant to relationally support a group of professors attempting to undertake and authentically implement IEFA at the college level. Their purpose was to meet regularly to reflect on their efforts and the challenges they experienced. While there may be other fields of study that prioritize including IEFA this self-selection into the work may provide the most developed and personalized partnership instructors are building with IEFA and Tribal Knowledge. Ideally, to

implement IEFA is to center Indigenous Histories, Indigenous Ways of Being and Ways of Knowing for the benefit of Indigenous people, Montanans, and those who live, work, and study with them.

Researcher Intentions

My intentions as a settler and non-Indigenous scholar are to discern ways that IEFA and relationality may move into a paradigm where multiple ways of knowing can stand next to each other in real reciprocal relationship. Living in the increasingly critical situation of a quickly shrinking world, ingenuity and survivance will require respectful and skillful ways of being to solve our most challenging problems mutually. I acknowledge that I may make mistakes and emphasize that my goal is that my research helps to develop learning environments that invite all students into the curriculum so they might be their authentic selves as they learn, to work for justice, and work to establish learning environments as transformative sites. Hopefully, this research can provide tools and insight for instructors who need more support, skills, and pathways to creating learning environments that serve their students. Much research has and is being done with, for, and about Indigenous student experiences and belonging by Indigenous scholars. This study is not attempting that critical work. This work is an effort to look at how we level the way we hold knowledge systems so that we might be more congruent in how we support people in their learning.

I intend to carry out these intentions by answering the following research questions:

Research Questions

1. How do engineering faculty characterize the purpose and values of IEFA?
Namely, what stances do these faculty take in teaching, how do they make connections (between engineering instructors, instructors and students in the classroom, and between instructors and IEFA itself) and what do they hold as their responsibilities in implementing IEFA?
2. In what ways do faculty communicate ideas associated with a critical settler consciousness?
3. In what ways did participation in the FLC shape faculty's experiences?

Significance of Study

By sharing the experiences of instructors intrinsically motivated to implement IEFA and, perhaps, centering Indigenous Ways of Knowing, we move beyond surface level content inclusion often mentioned in critiques of IEFA application. In terms of relationality, this study may also reveal what role relationality may play for instructors while doing this work, and that in fact, developing practices of relationality with other instructors eases the enactment of IEFA for the benefit of both students and instructors. Further, this study aims to disrupt the primacy of individualism to make space for the possibility of authentic experiences in learning environments for more just and equitable experiences where learning as one's authentic self is supported and prioritized for students. It takes a "what is being done" approach rather than continuing to problematize belonging through research on students. We know students experience

asymmetrical access to belonging, what are we doing about it? Authentic and purposeful instructor partnership with IEFA may also help remediate asymmetrical power dynamics between dominant and non-dominant group students by overcoming transactional relationships and turning to intentionally cultivated relationships that create a community of connectedness. Additionally, this perspective of working toward relationality in higher education learning environments may have a two-fold effect. One, in looking to instructors who are implementing IEFA, more instructors may more easily see how to take up that implementation in their own fields of study and classrooms. Then with the focus on relationality, we also work toward equitable and just learning experiences.

There is much critical work being done at the K-12 level. Many education and teacher preparation educators work diligently in writing curricula and working toward centering IEFA provided content. A cultural shift in approach, that implementing IEFA creates a relationship with Indigenous Knowledge Systems, could sustain instructors and their efforts through relationships with other instructors to authentically and fully implement IEFA while developing relationships with Indigenous peoples and tribes who provide content.

Relationality is a worldview and way of being. I argue that it is a way of being beyond inclusivity, beyond western belonging, beyond the individual and into the community/society. Inclusivity and belonging are important, and they are still individually situated. They are a gateway to authentic relationships. Inclusivity and empathy certainly have powerful impact in the classroom, and, both concepts being individualist

in nature, remain assimilative. Disrupting ways of being by introducing more ways of knowing takes work and humility. One of those qualities is highly trained into western educational paradigms.

Conceptual Framework

The conceptual framework for this study draws on the Transformational Indigenous Praxis Model (TIPM) (Pewewardy et al., 2018), Culturally Disruptive Pedagogy (CDP) (San Pedro, 2018), and critical settler consciousness (CSC) (Kulago, 2019). I integrate these three theories to engage critical consideration of how mutualistic critical consciousness- consciousness development for settlers that happens in consideration, tandem, and support of Indigenous consciousness development- may be joined together in response to epistemological pluralism as forwarded by Sweeney Windchief (Nakóda) and Jason Cummings (Apsáalooke) (Windchief & Cummins, 2022). In doing so, I propose that a development to the transformational level of critical settler consciousness in service to epistemological pluralism may provide a break from the oppressions of western epistemological paradigm which could lead this proposed epistemological collectivism in higher education. TIPM provides the map, CDP provides the impetus, and CSC establishes non-Indigenous responsibility to this work. Cornel Pewewardy (Comanche and Kiowa) Anna Lees (Little Traverse Bay Band of Odawa Indians, Turtle clan) and Hyuny Clark- Shim (Paju- Si, South Korea) developed TIPM after combined decades of working within education to combat eurocentric efforts of erasure and assimilation in education (2018). The authors describe the model as “a tool to ignite educators at all levels to critically analyze their social justice efforts in

Indigenous communities and envision culturally responsive learning pathways through a higher level of self-awareness” (p. 53). This tool is designed for Indigenous people as they engage their Critical Indigenous Consciousness (CIC) and may be used by all learners to “begin a critical conversation about the status of Indigenous education within their respective communities” (Pewewardy et al., 2018, p. 62). The purpose of this project is to identify how settler educators’ ways of being and constructing knowledge may develop the language and skills to participate in this “critical conversation” as desettlers of themselves and the systems they work within.

Transformational Indigenous Praxis Model

TIPM’s transformational movement of decolonization through critical consciousness amplifies the implications of Bank’s model of Approaches to Multicultural Education Reform (2012) for Indigenous peoples. TIPM can be used by educators invested in social justice education as it provides a way to critically assess practices in the movement toward Indigenous educational sovereignty and intellectual freedom. It is designed to support reflection on and development of critical tribal thinking in both Indigenous educators and students.

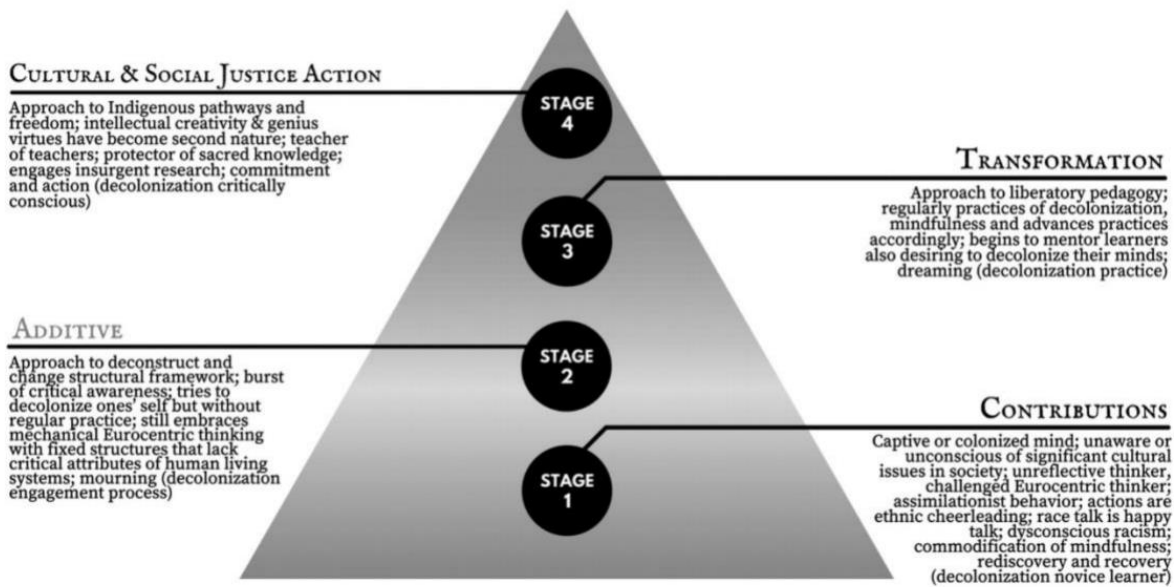


Figure 1. Transformational Indigenous Praxis Model (Pewewardy et al., 2018)

This analytical framework can help identify where practitioners may be on their journey toward social justice implications in pedagogy. The stages identify moments of possible development along a continuum of consciousness that begins in individual absence of critical consideration and culminates in critical consciousness enacted in communal efforts. It begins as an internal, self-referential process of consciousness development, that after Stage Two must move into a communal commitment because stages 3 and 4 require relationships with and responsibilities to others to engage and operate. In addition to this communal commitment, Pewewardy et al., emphasize the importance of practitioners situating themselves in a “critically conscious study group” when striving toward transformational work in cultural and social justice in education (Pewewardy et al., 2018).

Each stage describes a development point of Critical Indigenous Consciousness:

Stage One: Contributions Approach: Uncritical

Stage Two: Additive Approach: Emergent Consciousness

Stage Three: Transformational Approach: Critical Consciousness and Make Change

Stage Four: Cultural and Social Justice Action: Critical consciousness followed by commitment and action.

TIPM provides a touchstone for evaluating the evolution of critical thinking on the path toward Indigenizing curriculum. For white settler educators, each level will likely require additional examination so that as they experience resistances to consciousness that require critical reckonings with whiteness and privilege, they may be reflexive and return to movement through, though not necessarily laterally, the model to critical consciousness embodied in action and responsibility. To address this, Diné author Hollie Anderson Kulago suggests the development of a CSC (2019).

Critical Settler Consciousness

CIC, as described by Kulago, is an important “weapon” in Indigenous efforts to “thwart the goals of settler colonialism for our Indigenous students”(p. 249). She forwards CSC as a counterpart that might assist in Indigenous efforts through a mutual “elimination of colonizing and destructive epistemologies” (p. 250). If non-Indigenous people can take up the responsibility of developing their CSC, it would be a step toward supporting Indigenous efforts at Indigenous futurity, which Kulago defines as “a future that centers an Indigenous presence with their knowledges, languages, perspectives, and ways of living in relationship with the land and elements fully intact” (Kulago, 2019, p. 242).

Kulago points out that this CSC must be developed and that this requires engagement with multiple frameworks of pedagogy that in sum can support the development of CSC to a point where listening and acting in support of Critical Indigenous Consciousness is possible and informed. These include pedagogies that reveal “positionality, power, and privileges within social and political condition” as listed in Table 1. Kulago identifies Ethnic Studies pedagogical frameworks that center “truthful and pluralistic histories and contemporary realities” and “building relationships through the sharing of stories from multiple contexts” and frameworks and pedagogies “specific to Indigenous education.” These frameworks provide readers with a richly informed knowledge of the work being done toward securing Indigenous futurity in education so that they use these works to inform their own understandings of Indigenous Knowledge Systems and experiences as they develop their CSC.

Pedagogy/Framework	Citation
culturally sustaining pedagogies	Paris, D., & Alim, H.S. (2017). Culturally sustaining pedagogies: teaching and learning for justice in a changing world.
Critical Race Theory	Delgado, R., & Stefancic, J. (2001). Critical race theory: An introduction. New York: NYU Press.
White privilege	Gay, G., & Kirkland, K. (2003). Developing cultural critical consciousness and self-reflection in preservice teacher education. <i>Theory into Practice</i> , 42(3), 181–187. doi:10.1207/s15430421tip4203_3
cultural critical consciousness	Gay, G., & Kirkland, K. (2003). Developing cultural critical consciousness and self-reflection in preservice teacher education. <i>Theory into Practice</i> , 42(3), 181–187. doi:10.1207/s15430421tip4203_3

critical multiculturalism	May, S., & Sleeter, C. E. (2010). <i>Critical multiculturalism: Theory and praxis</i> . New York, NY: Routledge.
Ethnic Studies Frameworks	San Pedro, T. (2018). Abby as ally: An argument for culturally disruptive pedagogy. <i>American Educational Research Journal</i> , 55(6), 1193-1232.
Ethnic Studies Frameworks	Tintiangco-Cubales, A., Kohli, R., Sacramento, J., Henning, N., Agarwal-Rangnath, R., & Sleeter, C. (2015). Toward an ethnic studies pedagogy: Implications for K-12 schools from the research. <i>Urban Review</i> , 47, 104–125. doi:10.1007/s11256-014-0280-y
Indigenous education	Smith, L. T., Tuck, E., & Yang, K. W. (2018). Indigenous and decolonizing studies in education: Mapping the long view.
Indigenous education	Lee, T. S., & McCarty, T. L. (2017). Upholding Indigenous education sovereignty through critical culturally sustaining/revitalizing pedagogy. <i>Culturally sustaining pedagogies: Teaching and learning for justice in a changing world</i> , 61-82
Indigenous education	Smith, L. T., Tuck, E., & Yang, K. W. (2018). Indigenous and decolonizing studies in education: Mapping the long view.
Indigenous research methodologies	Smith, L. T. (1999). <i>Decolonizing methodologies: Research and indigenous peoples</i> . New York, NY: Zed Books.
critical Indigenous pedagogies	Tuck, E., & Gaztambide-Fernández, R. A. (2013). Curriculum, replacement, and settler futurity. <i>Journal of Curriculum Theorizing</i> , 29(1), 72–89.
critical Indigenous pedagogies	Grande, S. (2004). <i>Red pedagogy: Native American social and political thought</i> . New York, NY: Rowman & Littlefield.
critical Indigenous pedagogies	Tuck, E., & Yang, K. W. (2012). Decolonization is not a metaphor. <i>Decolonization: Indigeneity, Education & Society</i> , 1

Tribal Critical Race Theory	Brayboy, B. M. J. (2005). Toward a tribal critical race theory in education. <i>The Urban Review</i> , 37(5), 425–446. doi:10.1007/s11256-005-0018-y
Transformational Indigenous Praxis Model	Pewewardy, C. D., Lees, A., & Clark-Shim, H. (2018). The transformational indigenous praxis model: Stages for developing critical consciousness in Indigenous education. <i>Wicazo Sa Review</i> , 33(1), 38–69. doi:10.5749/wicazosareview.33.1.0038

TABLE 1: CSC Pedagogies and Frameworks as described by Hollie Kulago (capitalization is maintained from the author's original use)

This outlining of these frameworks is not meant to be prescriptive and will shift and change as new work adds to this conceptual thinking, especially considering this conceptual framework places Kulago's concept of CSC along the stages of development of the TIPM, designed for CIC. Frameworks of desettling specifically for white settlers will need to be considered. The breadth of knowledge outlined here may underscore why in a WEP of education, situated in capitalist production of expertise as product, there are few who are taking on their development of critical settler consciousness. Thus, I use CDP which necessitates the interruption of this situatedness WEP within education which then sparks the consideration and development of critical settler consciousness.

Culturally Disruptive Pedagogy

Culturally disruptive pedagogy (CDP) extends culturally sustaining pedagogy (CSP) (Paris, 2012) and culturally sustaining and revitalizing pedagogy (CSRP) (McCarty and Lee, 2014). San Pedro suggests that CDP can be used “to argue that as

educators, researchers, and community members seek ways to sustain and revitalize cultural practices, we must also consider the ways hegemonic norms—as perpetuated by ideologies of whiteness—require a needed disruption” (San Pedro, 2018). Through a conceptual framing of CDP, IEFA is an effort to sustain and center Indigenous Cultures in Montana and through its implementation educators must grapple with its disruptions of ideologies of whiteness. This is not a smooth process, nor does IEFA, nor should it, provide tools needed for this grappling. This framework places the entry of culturally disruptive pedagogy within intentions of participants who are working to implement IEFA as they begin to, consciously and unconsciously break with fetters of WEP in education.

I use TIPM as an analytical tool across three functions of this study. One, as a way to reflectively assess my own development of my CSC which serves in congruence with my metaphor of visible mending (discussed in the literature review) as a touchstone for my reflexivity. Two, as a guidepost for illuminating each faculty member’s development of their own critical settler consciousness. Three, as an overarching and aspirational mapping of the critical consciousness work necessary to authentically implement IEFA as transformational pedagogy.

I then place CDP Culturally Disruptive Pedagogy (CDP) as a catalyst that precipitates engagement with a development of critical settler consciousness. For an engagement with CSC to take place a consciousness must be prompted or startled into awareness. This requires the recognition of two critical aspects, the function of the WEP in education and a motivation to disrupt how that materializes within one’s own

experience as a teacher, in a classroom, within a discipline, and how it maps onto student experience and engagement within that educational space.

This awareness may take shape in many forms, such as a recognition of difference in considering present contexts and relationships in comparison to experiences from social contexts of childhood and adolescence, a critical incident that forces recalibration of knowledge and values, a learning experience with counter stories that forces a similar recalibration or any other experience or event that disrupts WEP norms or brings them into direct view for those who “unwittingly” benefit and reify them (Pewewardy et al., would call this Stage One). In this study, participants have moved beyond Stage One and at the least stand in the threshold of Stage Two, additive, with their critical settler consciousness. This framework then provides the lens to examine how participants working within a community of practice may engage in individual and communal developments of CSC that may push them further in their efforts to employ pedagogy for cultural and social justice through the implementation of IEFA.

Critical Settler Consciousness

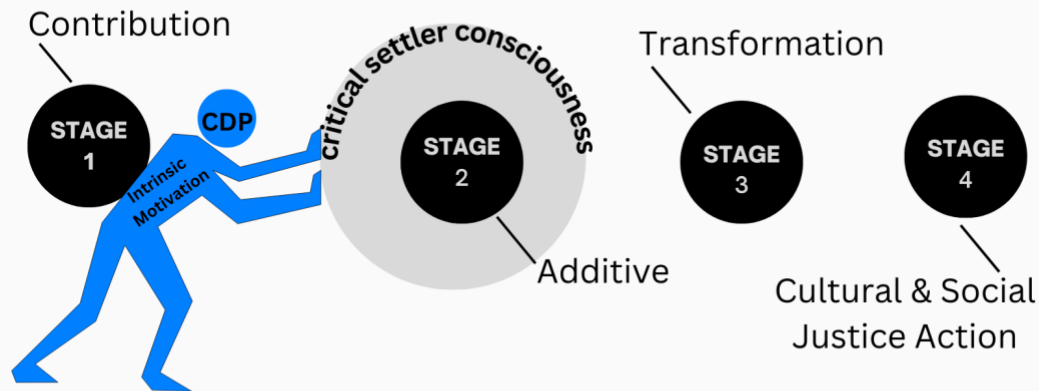


Figure 2: Critical Settler Consciousness

Therefore, TIPM serves as an analytical framework to both examine the work of faculty implementing IEFA as well as identify inroads to more effective implementation.

Additionally, I apply TIPM to examine my own practices and the research within this thesis project.

Research Methodology

This critical narrative inquiry project is designed intentionally with two data collection plans, though only the first is possible in the scope of this master's thesis. The first phase conducts one-on-one interviews narratively focused with open-ended questions, encouraging each instructor share their story of implementing IEFA. The second phase of data collection brings those instructors together in a focus group to

discuss how their experiences within their working group and how being relationship with each other as they implemented IEFA may have operationalized relationality. Appropriately, these storytelling and sharing modes enlist two paradigms that in orchestration may illuminate how relationality may be at work in a learning environment where educators are working to center tribal knowledge and worldviews.

Assumptions, Limitations, Delimitations

There are several assumptions, limitations, and delimitations this project takes on. This study focuses exclusively on faculty, not students', experiences with IEFA. Also, this project is delimited to IEFA implementation in the postsecondary context. As well, it is delimited to an engineering community of practice set up with a grant specific to the purpose of supporting inclusive teaching pedagogy which took shape for this group as individual IEFA implementation, within Montana and to willing participants from the 2021 faculty learning group.

This project also makes the several assumptions. That a commitment to Indigenous worldviews, specifically relationality and or a conceptualization of it, may be an essential element for the implementation of IEFA. Relationality is a shared Indigenous value and worldview subject to individual tribe interpretations and applications. As well, that the engineering instructors' community of practice allow faculty to develop confidence in, knowledge of, and ways for implementing IEFA.

Limitations include that I am not Indigenous and that the participating faculty are non-Indigenous. This means that for this line of research, though faculty may have intrinsic motivation and good intentions to implement IEFA, they may not have

addressed unsettling work in a way that would allow them to conceptualize relationality authentically in learning environments. These positionalities may also offer a possibility in that with our shared intentions and identities participants may feel more at ease to engage authentically. Still, the need for more unsettling work may be true for myself as well that participants and thus requires full commitment to reflexivity and member checking.

CHAPTER TWO

LITURATURE REVIEW

Introduction

This study aims to relate the stories of non-Indigenous engineering faculty's experiences within a community of practice with a shared goal of implementing IEFA in the classroom. The literature review begins with an establishment of Visible Mending, as metaphor meant to both sew back together western epistemological paradigm (WEP) separations that prove harmful in education as well as piece together an understanding of Indigenous Ontologies, doing both with skill that renders the stitches brightly visible so that the work of Indigenous scholars is seen and centered. The following section turns toward relationality to share a grasped meaning of what Indigenous scholars hold as a defining worldview and evoke a Relational Ethos that could be held as critical for an approach to relational accountability. This accountability aspires to support the dissolving of diminishing binary limitations of Two-World living for Indigenous people, as described by Diné scholar Amanda Tachine (Náneesht'ézhí Táchii'nii/Zuni Red Running into Water clan born for Tl'izilani/Many Goats clan) (2022), and call non-Indigenous people into responsibility and desettling for (proposed) epistemological collectivism. The midsection and crux of this chapter examines IEFA and if its implementation creates a space for ontological pluralism. Specially, the literature explores the way in which IEFA and conceptualizing relationality can create desettling and decolonizing ways of being in the classroom and of those working to implement the policy. This ontological pluralism

may be an inroad from individualized belonging, critiqued in the next section and redirected through community of practice in the final section.

Visible Mending

“As humans make our planet increasingly toxic, unlivable, and at the same time increasingly inequitable, at what point might these cleavages be sewn back together, might we account for our pasts and to future generations?”

Eve Tuck & Marcia McKenzie 2015

As an act of commitment to centering Indigenous Ways of Knowing and Being without extracting, consuming, or repurposing them as artifacts for settler beneficence in scholarship, I take up Visible Mending as a metaphor within this project. It is a way of sewing, repairing, and mending clothing that instead of hiding the rips, tears, or damage, uses bright or contrasting thread to call attention to the stitches made. Visible mending is repair work made visible. This work is forwarding a concept of repairing and pairing, desettling so as to be in relationship with people, policy, and place. Where visible mending is mostly applied to renew or reuse damaged clothing as a disruption to assumed beauty and wealth in fashion, I use it to reconstruct WEP damaging ways of being, thereby applying it to engage in aspirational work that “insists on and revels in the beauty of disrupting the existing paradigm” (Racklin, 2019).

Visible mending also serves as a tool to engage in radical reflexivity (D’Arcangelis, 2018) through the entire research project as required when working with Indigenous Knowledges and being accountable and responsible in relation to them. This disposition necessarily requires reflection upon questions from the existing literature, particularly questions raised by scholars Eve Tuck, Marica McKenzie, Wayne Yang (Tuck &

Gaztambide-Fernández, 2013; Tuck & McKenzie, 2015; Tuck & Yang, 2021) Margaret Kovach (Plains Cree/Saulteaux) (Kovach, 2021) and Shawn Wilson (Opaskwayak Cree) (Wilson, 2008) and inform my relationship with the research process. As I consider my responsibility as a non-Indigenous scholar I assume a reflexive stance to the following questions:

- What is the first stitch sewn? Is a stitch the first move?
- Why am I the person to sew this? Is it my stitching to do? Do I have enough of a relationship with the relevant communities to take up this needle?
- What do I assume commensurability between?
- What are the patterns that need cutting?
- What seams are ripped out? What seams need to be ripped out?
- What fabrics are here?
- What stitch cleaves mind back to the matter, the individual back to society, the person to the land and beyond human? Should it? Should I?
- What is my relationship to this knowledge? What is my responsibility to that relationship?

These questions are not to be answered in the space of this project. Some were answered before writing began, some may be asked iteratively throughout my research career. I use them for reflexivity and anchoring. Much of this work is foregrounded by the Indigenous Methodologies class I took with Sweeney Windchief, Nakóda professor and one of my committee members. This project is not possible without the connections

with classmates and conversations stemming from that experience and I owe them much thanks.

Perhaps, then, the first stitches were here already. For this project visible mending takes shape in three ways, one by sewing stitches bridge the “cleavages” in WEP rendered by primacy of objectivity and what Tuck & McKenzie name as “Descartes’ (1637) cleaving of the mind from the body, and of the individual from society and nature, with the declaration *cogito ergo sum*” (Tuck & McKenzie, 2015, p. 635). Only in bridging these cleavages can settler scholars access a path toward the possibility of operating from an understanding of relationality. Two, to pull together Indigenous concepts and ways of being to the forefront of how we enact and work to desettle education while also serving to strengthen the sovereignty of Indigenous peoples. Three, to pair (distinct from repair) these Indigenous knowledges with desettling intentions to approach an engagement of relationality so as to implement IEFA in the college classroom.

For the purposes of this work, the visible mending may not be beautiful and certainly will not be completed. In fact, in places, thread may be stitched up to a point or a place in the fabric, to a moment and a pause in the work, and left long or unanchored. The implication is that in many places this work is a first step/stitch, an effort and aspiration toward authentically centering Indigenous ways of being and knowing in research and practice. The heart of this thesis work is to center relationality in all parts of the research without coopting it. This cannot take place without remediations made to the structures of power at play, in research as well as in the college classroom. This

may be seen as attempting to weave together what on the surface seems like disparate parts, or as called by Eve Tuck and Wayne Yang, Incommensurate parts (Tuck & Yang, 2021). This is not an attempt to metaphorically repair damage done by settler prioritizations of self and absorb decolonization as a settler endeavor, another act of assimilation and Indigenous erasure. Visual mending is an act against wasteful consumerism and capitalism, against consumption, against waste, against overlooking, and an aspiration toward reparation. It is a stitching back together and a ripping of the seams of what whitestream social scientists have been moving toward while still holding onto problematic ways of being. I hope that it serves as a way to envision the work to be done to approach enacting multiple ways of being in practice.

Relationality

These first few stiches will show how relationality is held by some published Indigenous scholars and conceptualize proper engagement with relationality by non-Indigenous people. Here, I also offer up my seam ripper and needle to say that while my aspiration is to properly put together a respectful relating of relationality, my positionality and language may encumber my efforts to be faithful to relationality and I apologize if my words are not full enough and fumble or I stitch beyond my place. Opaskwayak Cree scholar Shawn Wilson coalesces what he and Indigenous friends and scholars hold as integral to Indigenous identity and ways of being in his description of relationality. They hold relationality “at the heart of what it means to be Indigenous” (Wilson, 2008, p. 80). Wilson emphasizes that though Indigenous worldviews are not a monolith, relationality is a foundational value that ripples through ways of being that are based in sacred

relations and responsibilities to and through all land, beings - human and beyond, language, knowledge, and the cosmos. Wilson writes:

Identity for indigenous peoples is grounded in their relationships with the land, their ancestors who have returned to the land and with future generations who will come into being on the land. Rather than viewing ourselves as being in relationship with other people or things, we are the relationships that we hold and are a part of (Wilson, 2008, p. 80).

The heart is evoked often when relationality is shared. Linda Tuhiwai Smith (Ngāti Awa, Ngāti Porou, Tuhourangi) (Smith, 2021) poignantly shares, “In Indigenous frameworks, relationships matter. Respectful, reciprocal, genuine relationships lie at the heart of community life and community development” (Smith, 1999, p. 125). Relationality creates a quality of life that oscillates with commutual care strengthening and protecting community. The oscillation in being in and of relationships Tachine describes as integral to living a harmonious life. She shares Diné conceptions of relationality through the Navajo term “k’é”:

A belief system based on a matrilineal society that deeply recognizes and honors relationality and kinship through clans... an abundantly dynamic way of life that regards and respects our relationship to all beings in order to construct social harmony and beauty of hózhó (balance and beauty) (Tachine, 2022, p. 12)

These embodiments of relationality hold as a way of being that cannot be separate from the individual. Being means being in relationship, of relationship, and being relationship.

Relationality is an Indigenous worldview in which connections are as life giving as veins and arteries. It is a way of being, knowing, becoming, and locating oneself within a sacred place and process of interdependence. As Siksika Elder Roy Bear Chief, Oom Kapisi (Big Coyote) (Bear et al., 2022), describes, in Siksika, and other Blackfoot nations, “all lives in the community are interrelated and interconnected much

like the spider web (known as Ani to Pisi). When one part of the web is disturbed, then the whole of the web is vibrating” (Bear et al., 2022, p. 38). This vital connectivity and the implications of being together means that an individual is because of and for community, land, all beings and beyond. Patricia Dudgeon (Bardi woman from the Kimberley) (Dudgeon & Bray, 2019), and Abigail Bray emphasizes the importance of connectivity and that “understanding Indigenous ‘relationality’ requires attention to the process of connection... a process which is often described as spiritual, a sacred life force, the source of the Dreaming or Aboriginal spiritual governance” (Dudgeon & Bray, 2019, p. 3). Holding relationality as power and meaning source conveys that the being and doing of connecting and connection are both action and entity.

Being relationship also engages responsibilities to the relationships that exist within it, and beyond. Lauren Tynan, a trawlwulwuy woman from tebrakunna country in northeast lutruwita/Tasmania (Tynan, 2021), shares that to live out relationality is to “feel the world as kin” (2021, p. 600) which is beyond an affective view of the world or caring about it, and beyond understanding the concept of relationality. Tynan explains “to feel the world as kin is to enact a relational ethos and the responsibilities and accountabilities that accompany it” (Tynan, 2021, p. 600). These responsibilities are sacred and require nurturing, sustenance, and continuance which is met through and deepened by ceremony (Wilson, 2008).

In Indigenous paradigms, relationality makes everything tangible through connections and relationships to everything else. Knowledge is tangible through relationship with the land. Land is integral to relationality; it holds knowledge.

Knowledge moves through relationship (as the embodiment of peoples and ancestors) to, through, and from land (Smith, 2021; Tuck & McKenzie, 2015; Tynan, 2021; Wilson, 2008). Describing land-based relationality, Iokepa Casumbal-Salazal, (Kanaka 'Ōiwi) (Smith, 2021), describes:

A deep affinity to the lands in which our ancestors' bones are buried. These connections of people to place and ancestral knowledges constitute what we call aloha 'āina, or 'love for the land'. A foundational concept in over a century of opposition to foreign American rule, aloha 'āina signifies an enduring attachment to place as one in which land is understood to be a relative – not a commodity or a 'resource' (Smith, 2021, p. xxvii).

Casumbal-Salazal's specification that land is as relative evokes the responsibility that comes with relationship, as touched upon by previously shared conceptualizations of relationality. To embody these relationships and form knowledge requires and engages morality, accountability, and responsibility. Though the following is a long quote, the clarity of Smith's words is important to share here, not only to describe the responsibility as defined by Indigenous relationships to community, land, and beyond, but also the accountability of engaging with relationality as a non-Indigenous person:

The quality of the relationship therefore has an activating responsibility that humans have to exercise to practice living in relation and that then invokes the principle of reciprocity such as a vibrant harvest. Living in relation is a whole philosophy that cannot be selectively applied or mined for specific approaches for humans used to living in capitalist, individualistic and competitive societies, to live in relation requires a complete overturn of western modernist ideas values and behaviors. By understanding the idea of living in relation to practice of ceremony becomes an ethical protocol that seeks permission, is thankful, seeks balance and promises reciprocity. (Smith, 2021, p. 193)

Smith's words here must be stitched into the edges of the cleavages so as to speak to the stitcher as each filler stitch is placed between mind and matter. Relationality cannot

be used as resource, capital, or asset. If it is, protocol is broken and respect and responsibility have not been taken seriously. This way of being must be held in entirety, and the responsibilities to it are paramount if we are to approach (proposed) epistemological collectivism as non-Indigenous working in education. This reinforces intentions to be respectful and that relationality is a way of being and becoming. For the purpose of this project, I must stitch together my own understanding of relationality as a way toward becoming critically conscious and appropriately engaged in respectful research protocol. Relationality calls me into responsibility to the wellbeing of all people and things, to mend in myself first what gives power to oppressions tangled in the dominance of the WEP. This means desettling myself, overturning the individualistic tendencies I've been trained into and working toward humanizing, not only to humanize the educational environments I seek to serve, but as a way of being in every relationship I hold; those relationships with my research, my colleagues, my institutions, my communities, and my personal relationships. Further, that this responsibility requires my commitment to mend and tie back into place the silky threads of connection that, from the writhing of the WEP and Capitalism in the web of this world, have been severed.

Relationality of Indigenous and non-Indigenous Peoples

To move forward in making observations about how understanding relationality may take shape in college learning environments, modes of engaging with relationality by non-Indigenous people must be addressed. Indigenous worldviews can be held and promoted without exploiting and assuming them for academic and personal use, or

removing them from their critical contexts, such as belonging from community. Morgan Brigg (2020) makes important conceptual inroads to relations between, called by Briggs, original and newcomer. In naming the power structures and epistemological assumptions that work within those relations, Brigg outlines three ways relationality can take shape: thin, thicker, and thick. His register of relationality outlines problematic and limiting functions of remaining entrenched within a WEP while simultaneously trying to move toward conceptualizations of relationality or relations between original people and newcomers. In accordance with Morgan Brigg's registers of relationality, this work seeks to push for thick relationality because it:

Requires paying more attention to the diverse play of relations and to the processes and meanings of those relations as experienced and understood by all parties. This, in turn, requires attending to original peoples' understanding of relations and accomplished capacity with relationality in knowing and socio-political ordering. A turn to thick relationality metaphorically drags the newcomer into contact with the intellectual and politico-philosophical commitments of original people (Brigg, 2020, p. 26)

This turn brings the newcomer into the responsibility to know and hold original peoples' knowledge as equal to their own, thus encouraging (proposed) epistemological collectivism through relationality. Brigg's other registers of relationality, thin and thicker, are helpful in addressing assimilation of Indigenous worldviews or Indigenous Knowledge Systems in ways that do not Indigenize but rather include Indigenous perspectives. Lauren Tynan discusses 'Mcdonaldization' of Indigenous scholarship as discussed by Dennis Foley (Koori) (Tynan, 2021) which means that knowledge production has been prioritized over the knowledge itself. This appears as:

The citation of Indigenous authors' words without reflection on or practice of what they are asking of researchers. It may include heavy inclusion of Indigenous scholarship and concepts in the methodologies section, without

practicing those methodologies in the data collection, research design or ethical engagement with research participants (Tynan, 2021, p. 605)

Surface level rendering of Indigenous worldviews, methodologies, and knowledge systems fly in the face of what it would mean to employ a relational ethos, as emphasized by both Briggs and Tynan. Eve Tuck and Rubén A. Gaztambide-Fernández use the allegory of Natty Bumppo as a representation of white consumption of Indigenous worldviews as a means of performance and absolution rather than understanding; a taking on of a false authority of Indigenous knowledge (Tuck & Gaztambide-Fernández, 2013). To avoid these problematic relationships while working to center Indigenous work, settler scholars must recognize and be able to describe the influence of dominant paradigms within their work and lives. Additionally, we must come to the uncomfortable conversation that these cleavages while they may be intellectually or emotionally sewn back together will never be authentically addressed without addressing “the need to give up land or power or privilege” (Tuck & Yang, 2021, p. 22). The scope of this paper is far more limited than this addressment would require. Still, it is irresponsible to evade this conversation. Instead, these tensions and needs are brought up so that we remain uncomfortable in them until solutions are promoted that uphold rematriation, sovereignty, and return of lands. A thread, to be returned to, is left long.

Wilson writes that dominant paradigms hold knowledge as being individual in nature which is rooted in ownership and conceptions of ownership. For Indigenous paradigms, knowledge “is seen as belonging to the cosmos of which we are apart and where researchers are only the interpreters of this knowledge” (Wilson 2008, p.

38). These conceptions of ownership gave shape to the uneven structures of power in education practiced through this WEP lens of individualism which is reified through over reliance on WEP practices; cultural fluency beyond WEP is mostly not seen as a responsibility of the dominant culture (Hopkins, 2020) and, instead, inclusion and assimilation are default. Inclusion is important as a gateway not a shield. Inclusion is still an invitation to exist within a western power paradigm. As a non-Indigenous scholar, it is important to address good intentions and acts of assimilation clearly. There is an important differentiation to make between offering space within the WEP for diversity and efforts toward (proposed) epistemological collectivism. IEFA offers a unique opportunity for these efforts that stand to benefit both Indigenous and non-Indigenous educators who appropriately implement the program.

Indian Education for All

“settlers need to learn what it means to be a settler.”

John Hopkins 2020

“How can we work in ways that not only challenge the accumulated intergenerational structural inequality in education and what’s privileged here, but also provide our students with opportunities to reveal the intellectual brilliance they carry with them when they make the strategic decision to come to this university? How does our curriculum development and pedagogical reflection contribute to our praxis as educators, which includes, for us, preparing for receiving and responding to the gift of brilliance our students bring with them? And in doing so, how do we prepare students to use this gift strategically in their own engagement with the university when they leave our program?”

Lilly Brown and Dave Collis 2020

Indian Education for All (IEFA) is not only a commitment to equity of educational opportunity but a commitment for that education to be informed by the Indigenous

peoples of Montanan Tribes. Furthermore, IEFA is mandated law, though only funded for K-12, that provides one of the most progressive approaches to education for all. Instructors hold significant responsibility to honor the mandate and must develop an “understanding and awareness of Indian tribes to help them relate effectively with Indian students and parents” (MCA 20-1-501). Still, the culpable mechanisms to assist postsecondary instructors in moving beyond mere content inclusion when implementing IEFA at the college level prove insufficient. This gap in the seams of IEFA requires work that honors the critical and generous Tribal Knowledge Content provided and does what supporting IEFA documents advocate: achieves and exceeds culturally responsive pedagogy and overcomes resistances to implementation. Much research reflects an incredible effort to create meaningful curriculum and employ culturally responsive pedagogy to support implement IEFA at the K through 12 level. To date The Montana Office of Public Instruction (MOPI) has provided extensive curricular support and constructed the Seven Essential Understandings and The Framework to help teachers move beyond content inclusion and into authentic multicultural education:

The Essential Understandings were developed to provide an overview of the information included in IEFA content developed by MOPI. These Seven Essential Understandings identify Tribal Diversity, Individual Diversity, Beliefs, Spirituality and Oral histories, Reservations-Land reserved by all nations, Federal Indian Policy, History from American Indian Perspectives, and Tribal Sovereignty, as the key concepts for learning in IEFA implementation.

The Framework: A Practical Guide For Montana Teachers and Administrators

Implementing Indian Education For All, is a supportive working document that:

Serves as a bridge between theory and practice and between the delivery of content and the development of skills. There is a tug-of-war occurring daily in classrooms. Teachers, faced with more to do than can be accomplished in a given day, month, or school year, must make difficult choices. This framework presents approaches to help teachers and administrators move from “either/or” to “both and more” perspective, as described in detail within the document. (Elser, 2010)

Through IEFA, extensive tribal knowledge has been compiled and shared, and attempts to support teachers in its implementation have been made. Additionally, each university in the Montana University System (MUS) provides a website with links through to a MUS wide IEFA support website and two-hour course. As the aforementioned lawsuit in Chapter One by Yellow Kidney suggests, there is still much work to be done.

Complications surround the implementation of IEFA. For the purpose of this thesis, I'll limit discussion to the barriers to college level implementation. Before moving to discussing college level implementation, a recent publication is critical to consider for praxis and path forward toward IEFA implementation. In 2020 John P. Hopkins wrote an in-depth critique, **Indian Education For All- decolonizing indigenous education in public schools**, that proposed desettling praxis in preparation of IEFA implementation. Hopkins' reconciliation framework establishes several critical avenues of approach:

- 1) That teacher preparation programs should include participation in land education courses as part of a desettling praxis for non-Indigenous/White teachers
 - a. “Land education expands the concept of classroom to include places, peoples, environments, and communities. This is to say that relational knowing places a higher demand on teacher candidates than memorizing facts about tribes or developing cultural competence (Brigg, 2016). In particular, it requires White, non-Native preservice

teachers to literally step outside their comfort zone, the familiar academic surroundings, the brick-and-mortar” p 147

- b. This means
 - i. “relating to tribal peoples and lands requires respect, humility, and openness”
 - ii. “that teacher candidates and current teachers need to have the skills to engage in race conversations.”
 - iii. “great care must be made to orient preservice teachers to guidelines for communication and interaction” (p. 149)
- c. So that they might “expose students to their background assumptions, to awaken them to their world, to show them, perhaps for the first time, what they have always taken for granted” and become “critically conscious partners who are able to realize decolonizing education” (p. 152)
- 2) That stakeholders “develop strategies and direct funds to recruit, hire, support, and retain Indigenous peoples in their states to become teachers, administrators, and advisors within public schools.” (p. 164)
 - a. Hopkins calls these tribal educators Word Warriors: “A word warrior is not just any Indigenous person, but one who has embraced tribal knowledge and survivance and who has committed to transforming public education to reflect tribal aims and interests.” (p. 165) “who act as a decolonizing presence” “promote and protect tribal ways of thinking and being” (p. 165)
- 3) That as the previous two establishments have been made that “address settler–Native relations head-on”
- 4) Indigenous and place-based education: “The final pedagogical pathway is made possible by the prior desettling learning processes, when White preservice teachers awaken to their settler colonial world, develop critical historical consciousness, and come to terms with their settler inheritance. Now these students are prepared to directly encounter tribal places and peoples. Land education courses derive from place-based education, but with the additional concepts of decolonization, settler colonialism, whiteness and racism, and tribal sovereignty” (p. 151)

Though his writings focus on teacher preparation courses for the K through 12 level

Hopkins’ valuable propositions suggestions could also work to support implementation at the college level. Most college instructors are hired based on their expertise and very few receive college teacher training in teaching like teachers in the K-12 system.

Therefore, whereas K-12 teachers are educated in content and pedagogical knowledge,

college instructors often learn about teaching through experience and practice. There are multiple avenues of support for promoting teaching at the college level. Yet, as a college instructor is onboarded to an MUS institution, preparation for IEFA implementation is undervalued, under resourced, and under “encouraged.” The word “encouraged” suggests IEFA implementation is dependent on individual faculty who are intrinsically motivated, recognize IEFA’s value and importance, and that, at the college level, implementing IEFA is an individual choice made by an instructor that cares more than is required to follow the IEFA mandate.

Furthermore, Hopkins makes a critical and provocative point for the IEFA implementation “conversation to lift off the ground, Natives and non-Natives in these state contexts must trust each other. Trust says these groups are able and willing to engage in these partnerships and come to each other as equals and in a spirit of goodwill” (Hopkins, 2020, p. 168). For these conversations to have meaning, there must be space for constructive relationships between Indian and non-Indians alike. Hopkin’s call for educators to be partners with tribal nations and carriers of IEFA is a call for relationality and trust. A certain level of fluency in Indigenous knowledge and culture is required so that those partnerships can form. Fluency must be the aim if we are to take desettling seriously. Because, what is the cost of reifying a double standard, where American Indian students must be fluent in WEP to participate in higher education at PWIs and most of their instructors do not hold a fluency that would build learning environments so as to reciprocate not just in content but in relating to students as their whole selves? That is, college instructors who historically have operated through

autonomy and academic freedom must conceive of a worldview that embraces multiple ways of being and knowing. College instructors must embrace relationality as part of implementing IEFA; it is relationality that has the potential to build an IEFA coalition across campuses. Again, the flipped paradigm of two-world living surfaces here as a responsibility to hold understandings of Indigenous worldviews as clearly as we hold WEPs. At the very least, a fluency of major epistemological understandings, especially as so many have been generously shared, can be developed.

In one of the few examinations of postsecondary instructor experiences with IEFA implementation, Jioanna Carjuzaa reflects upon her professional experiences and shares the story of one faculty member working to implement IEFA. Carjuzaa is a multicultural education scholar and has provided decades of professional development opportunities in IEFA to faculty at Montana State University (MSU). Overall, in addressing the challenges to implementation revealed through her work she states,

“Educators need to acquire background knowledge, build confidence, make connections with tribal members, review and incorporate Indian content, and learn instructional strategies that complement the implementation of culturally relevant pedagogy in order to teach their students about the unique histories and cultures of Montana Indians. Faculty committed to this process, like Holly, need support in order to be successful.”(Carjuzaa & Hunts, 2013, p. 97)

Here, Carjuzaa predicates what has been asserted by this project and, ten years later, the elements she highlights are still difficult to access for post-secondary professors.

Echoing the knowledge and support that Carjuzaa calls for, Hopkins argues there are four major differences in tribal knowledge and WEP that are critical to understanding & being able to approach creating a desettled learning environment. I argue that the articulations Hopkins realizes are important to provide understanding and can be seen

outside of the “colonial relationship” of comparison called forth by Kovach (Kovach, 2013) . These ways of knowing are important to recognize on their own rather than in a comparison and disagreeing relationship. In fact, when considered without the comparison, it becomes quite clear that Hopkins has traced relationality through each of the major points. Instead of providing the versus relationship by highlighting the differences as Hopkins skillfully outlines them, I bring in visible mending here to help in pulling together Indigenous concepts and ways of being to the forefront, placing their fabrics together, pinning knowledges together so that stitches of relation run through them (these stitches are not mine but those already sewn by Indigenous Knowledge holders). This prioritizes Indigenous Knowledge Systems (IKS) above a binary that seems to reify the structures that avoid or move away from (proposed) epistemological collectivism.

Cajuzaa estimates that instructors do not incorporate IEFA into their courses because of “a misunderstanding of the goals of IEFA and fear” (2013, p.94) and as reinforced by Stanton et al, a lack of knowledge and confidence in “doing it “right”(Stanton et al., 2019). Recognizing limited knowledge can be painful and difficult. Most college instructors are experts in their field with a breadth and depth of knowledge they spent years developing to be able to bring that knowledge to the classroom. For instructors to overcome these limitations likely requires understanding new ontologies and epistemologies. Hopkin’s (2020) proposed desettling praxis may provide insights for how instructors can begin to form relationships with tribal knowledge. Hopkin’s valuable outlining of the differences between the two paradigms (Indigenous and western) of

understanding, is very appropriate to share and critically explains ways of being and knowing in WEP and how they differ from IKS. Still, the binary comparison seems to lessen the critical and fundamental importance of relationality or make it less central in the explanation. I'm not sure if this is appropriate to move the WEP back out of Hopkins comparison but it feels like in trying to understand relationality putting it into context with WEP distances the meaning and centering of IKS. So, I pin Hopkin's four major differences in WEP and IKS to center relationality. Each pin is a major component of tribal knowledge that must be understood to approach Hopkin's desettling praxis:

1. First pin: Holds the understanding of where knowledge comes from, relationships are a critical source of knowledge with land and beyond humans and relation to them makes them not objects owned or resources to be consumed. Elizabeth Fast, Métis/Mennonite, and Margaret Kovach, describe this relationality of knowledge:
 - a. "From an Indigenous perspective, we do not think alone. Whether we are imagining the universe in relation with the spirit, nature, or group, we are perpetually in-relation. For Indigenous knowledges, the valuing of many truths cannot be divorced from collective knowledge" (Fast & Kovach, 2019, p. 25)
2. Second pin: Holds the sacred nature of relationships: spirituality is as ubiquitous as breath and ceremony strengthens relationships by bringing them closer together (Wilson, 2008). "In reality spirituality is not separate, but it is an integral, infused part of the whole in the indigenous worldview... Spirituality is one's internal sense of connection to the universe. This may include one's personal connection to a higher being, or humanity, or the environment" (Wilson, 2008, p. 91).
3. Third pin: Holds the way knowledge is known through doing and being instead of extraction from experience into abstraction and theory. Embodiment and experiential learning are critical in Indigenous ways of knowing (Marule, 2012; Wilson, 2008).
4. Fourth Pin: Holds knowledge and morality as in relations, that knowledge and morality are in relationship and cannot be separated. Again, this morality is embodied and lived out in relationships because as Wilson said "We are relationship" (Wilson, 2008).

In removing the WEP comparison in what Hopkins has laid out, relationality becomes clear as a key understanding for settlers reflect upon to “learn what it means to be a settler” (2020, p. 150). Desettling requires the questioning of primacy and an expulsion of hierarchy which of course comes with the risk of internal chaos unless it is girded by an intentional relationship, one that encourages Truth and Trust (Hopkins 2020). The inclination to see WEP and Indigenous Epistemological Paradigms as incommensurate renders them no less true and refuses the partnership that IEFA requires, and the relationships and responsibilities to them then denied. In our attempts to be true to knowledge, we have left out the people and their responsibilities to each other. To take on what Tynan calls a relational ethos maybe a requisite for scholars who hope to authentically implement IEFA. We are not in respectful relations with IEFA and perhaps may not be until we treat IEFA as relative and honor the responsibilities that requires:

Teachers who take on the difficult work of self-examination, critical analysis, and deep reflection transmit this empowerment to their students. American Indian students see themselves reflected in the curriculum, and all students, Indian and non-Indian students alike, have their cultural heritages valued and their life experiences validated on their educational journeys. Students are learning a comprehensive Montana history, appreciating American Indian perspectives, and recognizing their contributions to core curricular areas, past and present (Carjuzaa, 2012, p. 13).

To flatten hierarchies and deepen connection, non-Indigenous people must contend with the wrappings of colonization in education and their own roles within it.

(Be)longing and Community of Practice

“I believe that we can restore our hope in a world that transcends race by building communities where self-esteem comes not from feeling superior to any group but from one’s relationship to the land, to the people, to the place, wherever that may be. When we create beloved community, environments that are anti-racist and inclusive, it need

not matter whether those spaces are diverse. What matters is that should difference enter the world of beloved community, it can find a place of welcome, a place to belong.”

bell hooks 2009

In WEP conceptions of belonging emphasize how well an individual feels a sense of acceptance and inclusion. It also raises the issue that the overemphasis on student and individuals’ sense of belonging may contribute to an isolationist existence. Relationality emphasizes the interdependence of being in relationship with others. This relationality that may come between faculty-faculty using IEFA, faculty-IEFA content, faculty-students, student-IEFA content, students-students, students-self is a precursor to Hopkins’s proposed praxis. Here, the seam ripper appears again to pull out stitches made in higher education that prioritize individualism (preventing relationality) and critiques sense of belonging because it over emphasizes individual need and underestimates the need for authentic relationships and the role of connection. Especially considering that belonging’s stitches were ripped from their place in community and then woven as the lone ego into the fabric of belonging in WEPs of higher education.

Belonging is a much-studied phenomenon (e.g., Baumeister & Leary, 1995; Hausmann et al., 2007; Hurtado & Carter, 1997; Strayhorn, 2012; Vaccaro & Newman, 2016), especially in higher education. The concept of belonging has been splintered from its assumed origins, commodified, critiqued, and reformed to limited extent. Much sense of belonging conceptualization is threaded by researchers through two initial conceptualizations of belonging: the human need to belong, forwarded by psychologist

Abraham Maslow and that of social cohesion taken from sociologist Emile Durkheim. Cindy Blackstock (Gitxsan First Nation) (Blackstock, 2019) identified that Maslow situated a sense of belonging as an internal need and individualized experience (2011) based on a conceptualization of self-actualization appropriated from time spent in Canada with the Blackfoot Peoples (Blackstock, 2011). Sociologists Bollen and Hoyle (1990) strengthened and extended Durkheim's conception of social cohesion into perceived cohesion, anchoring it specifically in the individual with regard to the connection an individual feels to others as well as that individual's affective appraisal of that connection. Education tends to weave and bob between the conceptualizations and many scholars have referred to belonging as an outcome of student integration into college (Tinto, 1987). Importantly, Carter and Hurtado (1997) critiqued belonging in a now long formed effort to remove belonging from ties to assimilation and acculturation and anchored it in membership. Though these shifts toward membership move the needle on belonging to be more conceptualized on group relations, the individual's need to belong is still prioritized.

This tracing of belonging scholarship is important as it reveals problematic origins of a heavily relied upon educational concept. Lauren Tynan and Michelle Bishop, (Gamilaroi) (2022), establish that for them "relationality in the literature review is about reasserting your own family and knowledge lineages through research and scholarship" (2022; p. 9). As a settler scholar, this can take shape as responsibly knowing the lineage of the ideas that are used to support the work: who is supporting those ideas, what do they stem from and for what purposes were they used? Responsibly knowing

the lineage of the ideas could be argued as the purpose of the literature review, yet in much academic writing there is often not space for the full lineage of concepts. They are not traced completely, there is “too much” to include or, perhaps, the origin of the idea or concept is problematic, as is the case for belonging. The general use and citation of Maslow’s definition of belonging fails to question where his theories draw from. In fact, perhaps at the core of this study’s reworking of WEP belonging, lies the fact that Abraham Maslow spent time, eventually unwelcomed time, with Blackfoot people of the Siksika First Nation as detailed by Roy Bear Chief and drew his concepts of actualization from them (Bear et al., 2022; Blackstock, 2011). Concepts that Blackfoot Elders of the Siksika First Nation related to scholars that Maslow got wrong (Bear et al., 2022):

Elder Hayden Melting Tallow emphasizes the importance of this because it highlights how the Blackfoot culture is not sequential but radiates out through relationships which then goes through the circle. As Elder Roy Bear Chief describes, all lives in the community are interrelated and interconnected much like the spider web (known as Ani to Pisi). When one part of the web is disturbed, then the whole of the web is vibrating. Narcisse Blood, in his recordings, as well as the elders interviewed for this work, suggested that Maslow did not understand the non-egoic nature of relationship in which actions are solely undertaken to enhance the collective. Elder Melting Tallow described that the oral history of Maslow was that he was unwelcome and sought to exploit rather than understand the way of life. In western ways, relationships are entered into on the basis of how they can benefit an individual, which was, and still is, contrary to the Siksika beliefs. (Bear et al., 2022, p. 38)

Maslow did not understand Siksika ways of life, he exploited them. The authors brings Maslow’s interpretation back to relationality and its activated responsibilities:

What he (Maslow) later theorized as a hierarchy of needs could not have reflected the Blackfoot paradigm. Maslow attempted to construct a theory of human need from a western lens, one that emerges from an

individualistic paradigm, leaving him unable to meaningfully and critically acknowledge his own cultural blind spots, let alone fathom the ontological responsibilities of the Blackfoot peoples. (Bear et al., 2022, p. 38)

Belonging scholarship follows a trajectory that began as a profoundly colonized Indigenous concept in higher education. Maslow's individualized interpretation of belonging replicates Tuck's Cartesian cleavages, because it separates belonging from the community. Placing belonging as an individual need, especially in the chase higher education had made to serve that need for students, has created a transactional belonging. If sense of belonging is fulfilled human need to matter then the space before that sensing is a place of longing, and I argue that the WEP conception of sense of (be)longing is then a longing to be in relation with others; a longing (to be fulfilled) for connection with others so that one might feel like oneself in place with community.

Current studies of belonging also section out belonging along student identities: socioeconomic, sexuality and gender, first generation, commuter, and ethnic and racial identities. Vaccaro and Newman (2016) succinctly address what we need to know about dominant stream belonging: privileged vs marginalized belonging. Marginalized identities need respect and safety before they can access belonging and authenticity (Vaccaro & Newman, 2016). This lack of respect and safety is a critical indication that WEP learning environments must change and provide these basic needs. Previously, I discussed the value of college instructors locating themselves within IEFA and the broader systems of Tribal knowledge. Instructors may need to find a form of belonging that helps form a relationship with IEFA and cultural ways of knowing and being to strengthen the confidence that allows them to embrace this important work. It is this

relational belonging, framed by Indigenous relationality and an activated relational ethos engaged as pedagogy, that may redress dominant stream (be)longing.

Along the seams where I pulled out stitches in (be)longing, I pin a piece of fabric to make space for where the stitches may put in place what bell hooks refers to as a beloved community. Faculty who aim to implement IEFA in the classroom can do so by animating beloved community through practice. This may take shape as community of practice with individuals who share a common vision. A community of practice may also generate space for relationality to occur where faculty come together to engage in meaningful work of centering IEFA in the classroom.

Communities of practice (CoP) have been found to be productive not only for faculty; their work together reflects in their student's success levels. For example, in one study of the effectiveness of an intentional CoP, built to improve teaching, over the first two years of instructor engagement "success rates improved for female students (7%), for racially minoritized students(12%), for non-traditional age students (9%), and for Pell-eligible students (8%)" (Eddy et al., 2022, p. 405). While these numbers paint a hopeful picture challenge exist when changing practices. Eddy et al identified that these challenges arise "in particular when individual faculty move from an expert position (knowing the content) to a novice position (learning new teaching strategies) (Eddy et al., 2022, p. 409). This speaks to challenges previously identified by Carjuzaa that may be at play and amplified with IEFA implementation that may be remediated by participation in CoP. Another study identities CoP as spaces of change for faculty to develop into change agents. "Faculty reported that the CoP allowed them to exchange

ideas, receive feedback, and learn strategies together. As confidence increased and faculty had a chance to practice, reflect, alter, and repeat teaching strategies, they changed” (O’Connell et al., 2022, p. 15). CoP may provide the safe and supported learning environment that could help ground instructors in their valuation of strong implementations of IEFA. Though, some criticism of the use of CoPs include unclear definitions and applications in an overly broad scope of CoP applications identified in the literature requires a clarification of what focus each CoP evokes (Buckley et al., 2019). The first introduction of CoP as conceptualized by Lave and Wenger in 1991 referred to a naturally occurring group of experts through which novices could move from outside to center, and thus move from novice to expert (Buckley et al., 2019). This practice, first introduced as apprentice model, evolved to take up knowledge management and has since been leveraged by those who seek to improve teaching in education (Buckley et al., 2019). In the case of IEFA implementation, the faculty are likely novices working with novices together seeking the input of experts who may be outside their formed CoP. This study then takes on an instrumental approach to CoP “because it foregrounds the process of how to develop, cultivate and sustain a community of practice for the purpose of supporting individual and collective learning and innovation” (Buckley et al., 2019, p. 764).

Literature Review Conceptual Framework

This framework for literature review culminates the understandings drawn from the previous sections and draws out the way in which CDP and CoP may interact through IEFA in a way that moves practitioners toward transformative understandings of

relationality. It places the entry of CDP within CoP as a way to break through the WEP. The framework displays a continuum of IEFA implementation that place norms that need disruption as evoked in CDP as tacit and surface level implementations of IEFA. These efforts of implementation do not question the WEP and instead work within it to implement IEFA at a content level. The continuum does not require that individuals completely abandon WEPs, but it does require that they face the limiting norms supported by WEP and move through them to build a knowledge of Indigenous worldviews so as to enter into accountability and responsibility to other ways of being and knowing. Through engaging with relationality in communities of practice settler faculty may be able to enter into a non-Indigenous version of two world living on the path to epistemological and ontological collectivism. This would be a space where IEFA would be implemented authentically from a perspective of flattened hierarchies and where knowledge holders are also learners and vice versa because multiple paradigms of knowledge and ways of knowing have been embraced. This focus on embodying relationality may provide opportunity for transformational relationships for everyone involved in implementing IEFA and experiencing it as pedagogy.

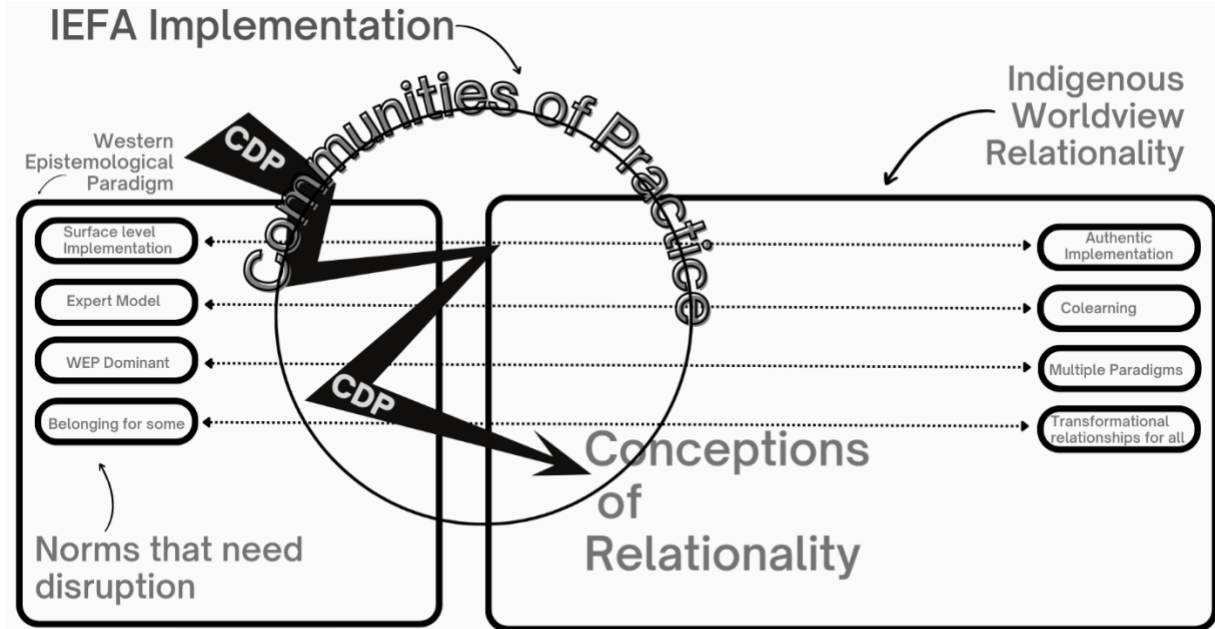


Figure 3. Literature Review Conceptual Framework

CHAPTER THREE

METHODS

“In the first place, in the last place, that is what we people do--write messages to one another. We are a narrative species. We exist by storytelling--by relating our situations--and the test of our evolution may lie in getting the story right.”

Roger Rosenblatt 2000

Introduction

Through critical narrative inquiry, this study aims to examine the narratives of non-Indigenous Engineering faculty, to see what their stories of teaching and learning reflect about their development of CSC while working to incorporate IEFA into their classrooms. Specifically, the study aspires to understand how IEFA can create opportunities for cultivating relationality and how Communities of Practice may serve as conscious conduits for this cultivation. This chapter will address the methodologies used and trace the narrative process that resulted in vignettes of each participants experiences and a fifth vignette that ties together the participants shared experience in the Faculty Learning Community then restored into a meta narrative. Evoking the visible mending metaphor, this methodology takes shape by laying out chalking and cutting the paper pattern, the cut of which is informed by responsibilities to and consideration of Indigenous Research Methodologies, that will be placed upon the fabric used to piece together the participant experiences in the data analysis phase.

Epistemological and Ontological Assumptions

Inherent in this study is the drive toward the development of CSC through efforts of implementation of IEFA in the classroom also nestled within an intentional community of practice. These efforts may gesture toward the possibility of enacting WEP free epistemological collectivism approached in parallel as enacted through engineering instructors' efforts. Yet, there are notable limitations to this aspiration, especially as related to respect and protocol that working with Indigenous paradigms require. One critical standpoint this research takes on is that, as Hopkins stated, IEFA does not take on the work-nor should it- of desettling individual teachers as they work to implement IEFA. This means that for this line of research, though faculty may have intrinsic motivation and good intentions to implement IEFA, they may not have addressed desettling work in a way that would allow them to conceptualize relationality authentically in learning environments.

Though centering Indigenous ways of knowing and being is an overarching intention of this research, Indigenous methodologies are not appropriate approaches for a white settler researcher that is not working with an American Indian community. However, as someone who wants to align with efforts centering Indigenous knowledge and to advocate for the creation Indigenized/decolonized learning environments in higher education it is the responsibility of the researcher to be deeply informed by and have knowledge of Indigenous Research Methodologies. Second, it's also inauthentic or inappropriate to use Indigenous Methodology on non-native participants. San Pedro brings up an important point that takes the notation of story across cultures and

identities that dive into the nuances and importance of non-Indigenous interactions with IRMS and Storying. Describing the experiences of a white student, Abby, in a Native American Literature class, San Pedro asserts:

I would argue that, while Abby's epistemologies are very much centered in Whiteness, her exploration and the disruption of her cultural identity required vulnerability, awakening, and, later on, a realization for the need for restitution—important tenets of IRM, according to Kovach. This work, then, speaks to the interconnectedness of our stories. It speaks to the powerful ways settler colonial legacies as operationalized in systems of Whiteness are existent in us all. And it speaks to the requirement that we disrupt and resist such hegemonic systems. IRMs provides the vision and hope for educators and researchers recentering Indigenous knowledges to do this work in spaces that have denounced such epistemologies as having any legitimacy. (San Pedro, 2018, p. 1198)

San Pedro identifies the transformative power story and how and for whom it can work to disrupt hegemonic settler-colonial systems and that the interconnectedness of story may in fact be a most powerful connector for shifting out of the dominant western epistemology paradigms (WEP).

To remain in observance of these important tenants without appropriating them the methodology of this thesis requires a narrative approach. Because the critical purpose of this research is to be a desettling/decolonizing learning space that decenters WEP, narrative inquiry provides a way to work in parallel with IRMs and handle the data in such a way that the nuances of interconnectedness that San Pedro highlights may manifest if present. This research works to reflect some of what Hopkins suggests as the partnership between native and non-native stakeholders in IEFA as work toward decentering and desettling without metaphorizing decolonization.

Tuck and Yang assert, “metaphorization of decolonization makes possible a set of evasions” or “settler moves to innocence”, that problematically attempt to reconcile

settler guilt and complicity, and rescue settler futurity” (Tuck & Yang, 2021, p. 1). These evasions, whether intentional or not, take shape when IEFA is only superficially integrated. Thus, they also exist if these evasions are embedded in the research. Tracking the possible openings for these evasions in this research is critical. The context of this study is located within a community of white non-Indigenous faculty who possess extensive experience in WEP within engineering. This requires deep commitment to enacting reflexivity, seeking feedback, and a light grasp of my perceived findings and implications; I am a white settler and may be blind to my own evasions. Further, these faculty may be on different levels of critical consciousness. One assumption of this study is that the community of faculty self-selected to incorporate IEFA in their curriculum and therefore, recognize the need to honor Indigenous ways of knowing. Yet, this study does not assume that faculty metaphorize decolonization nor does it assume faculty engage with IEFA to alleviate settler guilt. The faculty gathered together in a relational community of learners to share knowledge, pedagogy, and work in the spirit of effectively implementing IEFA. Thus, the goal of the work is to reveal relationality as a place of work and sustenance that may reconcile practice to community-based and sustaining relationships.

Research Questions

1. How do engineering faculty characterize the purpose and values of IEFA?
Namely, what stances do these faculty take in teaching, how do they make connections (between engineering instructors, instructors and students in the

classroom, and between instructors and IEFA itself) and what do they hold as their responsibilities in implementing IEFA?

2. In what ways do faculty communicate ideas associated with a critical settler consciousness?
3. In what ways did participation in the FLC shape faculty's experiences?

Positionality

Through my positionality statement I share particulars of my identities that shape my approach to this work as well as position myself within this inquiry. I am a mother who is a white, female, settler student, raised in a rocky social economic position in an urban environment, living on land stolen from Indigenous people. I see the complexities of privilege and whiteness and class as I lived them out as a child, and I still grapple with them as an adult. Unpacking how my whiteness fully takes shape, especially in my research efforts, is a continuous effort and experience. In doing so, I recognize the critical nature of deep reflexivity and the necessity of a remaining in the mentality of a learner. Recently, I took a genealogy test and found that I am not genetically Irish as my family stories told, rather it seems my family is culturally Irish and genetically Scandinavian. The implications of this suggest that I may be descendent to settler positionality twice over through multiple generations and multiple cultures. The embeddedness of settler in my path to where I am now both informs and engages my sense of responsibility in who I am in this world but also what my life work does to fulfill my responsibilities to these identities and their interactions with others, both on a personal level and a societal level. I see it as my professional responsibility to center to

the work of people carving counter spaces for ways of knowing and being within oppressive WEP educational systems, develop my own critical settler consciousness (CSC), and do work aligned within these two responsibilities.

With these responsibilities and identities informing my research approach, narrative inquiry provided a way to weave the stories of faculty members that engaged with the development of my own understanding of CSC. As a non-traditional graduate student I am generally same age as the faculty which plays into my relationship with them this combined with being a graduate student also somewhat upends the power dynamics of the situation. All of this is to say that my position as a researcher with these professors is particularly special and more connected, related, and likely impacted the ease and ability to conduct my interviews in a more conversational and natural way. My passion for understanding my role in encouraging transformational pedagogy in the classroom also connected me with these professors, all of them in their efforts to serve their students are engaging with growth toward this goal. This shared intention also eased our interactions in ways that allowed for deep and reflective sharing.

These shared locations and intentions create conditions for relationship to develop throughout this inquiry and deepened the richness of data collection as is the nature of narrative inquiry. The importance of relationship in narrative inquiry is emphasized:

Relationship between participant and inquirer. Inquirers are always in an inquiry relationship with participants' lives. We cannot subtract ourselves from relationship. Even in telling studies where the inquirer specifies a depersonalized objective stance during field text collection the research text acknowledges the idea of relationship (Wortham, 2001, p. 79). Narrative inquirers, particularly in living studies, are in relationship: negotiating

purposes, next steps, outcomes, texts, and all manner of things that go into an inquiry relationship.(Connelly & Clandinin, 2006, p. 480)

Finally, as I entered into the inquiry process with these engineering faculty I was drawn into deeper questions of my own CSC. As Connolly and Clandinin point out these relationships I developed pursuing this inquiry also served to strengthen my own understanding of where I locate myself in CSC development. Through my retelling of their experiences implementing IEFA, I connected more intricately with how CSC can take shape, especially supported by my efforts to understand what experiences tend to the development of CSC.

Context and Site

Montana State University (MSU) is a R1 Research Institute in the rocky Mountain West. 16,688 enrollment with 3,439 students enrolled in the College of Engineering. Student to Tenurable Faculty ratio is 30 to 1 and All Faculty is 13 to 1. White Tenurable Faculty to American Indian Alaskan Native Faculty is 165 to 1. White Tenurable Faculty to American Indian Alaskan Native Faculty is 80 to 1. This predominantly white institution is made up of just over 1% American Indian Native Alaskan faculty and of the students it serves 5% are American Indian Native Alaskan. Identifying as a land grant institution, MSU establishes its intentions to developing “developing and sustaining a culture of inclusion, social justice, and diversity” through its strategic plan. The university is 60/40 instate out of state (Quickfacts).

Each year the Montana University System funds a faculty teaching award aimed to support professional development at peer level. In 2021, the award was themed to

support efforts toward development of inclusive pedagogy. Colin (pseudonym), an engineering faculty member, applied for the award with the intention to gather fellow engineering faculty to discuss how to implement IEFA in engineering classes. Upon receiving the award, Colin gathered a working group of six faculty to meet across a semester. The meetings drew in Indigenous and DEI experts to address Indigenous epistemologies and culturally-responsive pedagogies and explicate analyzing systemic injustices via power in the participants' contexts. The Faculty Learning Community met six times during the Spring 2021 semester – readings, recordings, comments, and notes are kept within a shared folder and course management website for faculty to refer back to beyond the meetings. The following topics summarize the Faculty Learning Community project discussion for each meeting:

1. Challenges and opportunities with integrating IEFA (and/or social justice/ethics) within engineering education.
2. Indian Education for All, indigenous epistemologies, culturally-responsive pedagogies in engineering contexts.
3. Engineering faculty motivations, professional development opportunities, and analyzing / implementing institutional changes.
4. Challenging norms, analyzing systemic injustices via power, privilege and difference, and articulating D&I values in personal and professional contexts.
5. Developing an assessment for engineering educator's self-efficacy in teaching IEFA (or other social-justice / sustainability / ethics) topics. Implementing learnings into classroom and practice.

6. Celebrating successes and analyzing failures – reflections on FLC effectiveness and preparing for future classroom implementation.

Participants

The participants of this study are four of the six engineering faculty, including the award receiving and group initiating faculty member, who participated in the Faculty Learning Community. The methodology promises dense descriptions of the participants in the data analysis, though some initial information about the faculty is shared here. All participants are tenured faculty who have been at the institution for 8.5 years at the least and 24 years at the most. All participants identify as non-Indigenous and when beginning with the FLC varied in their experiences with IEFA. Half the participants had completed IEFA before the FLC gathered and the other half completed training as participants in the learning group.

Data Collection Tools

Data formulates from individual interviews. The individual interviews took place in person and were transcribed. Please refer to Interview Protocol in the appendices for interview questions and consent process.

Narrative as Data & Approach

I use a critical narrative approach to engage narrative analysis as phenomenon and method to study the participation of four faculty in a casual community of practice as they approached implementation of IEFA at a college level in Engineering, (Connelly & Clandinin, 1990). Connelly and Clandinin establish that this approach connotes an

intentional “way of thinking about experience. Narrative inquiry as a methodology entails a view of the phenomena. To use narrative inquiry methodology is to adopt a particular view of experience as phenomena under study” (2006, p. 477). This method importantly provides an opportunity to uncover the ideologies at work that carry the faculty through implementation, giving space to their lived experience as well as the context of their experiences in their learning group as they also grapple with the complexities of implementing IEFA, especially as non-Indigenous faculty at MSU. Using narrative inquiry as phenomenon and method (Connelly & Clandinin, 1990) informed the way I gathered and then carefully analyzed the faculty’s lived experiences so that I also carefully stitched together their individual and nuanced accounts, tracking their shared experiences through context, culture and themes.

The overarching design of this study contains two phases, and this thesis addresses the first phase: individual narratives of the lived experience and of non-Indigenous faculty who supported each other in efforts to incorporate IEFA into the classroom. Participants were supplied with the entire Interview Protocol which included two parts. Overall, the two-part interview protocol addressed motivations, practices, responsibilities, intentions, and challenges. Part A gathered teaching methodology information such as “What is your teaching philosophy?” “If you were to summarize into a sentence or brief paragraph, what motivates you to implement IEFA?” and “Do you share a positionality statement in your research or with your students?” Additionally, Part A requested course information such provision of a syllabus and questions such as “What class(es) do you teach?” The entire interview protocol was provided to

participants ahead of the interview and Part A was encouraged to be emailed at the participants best opportunity.

In Part B, the interview prompts relied on open ended questions such as “Please describe your professional educational journey that led to being a part of the faculty learning group,” and “What is your story of how you implement IEFA in your class/classes?” These were asked in a conversational manner and some responses lead to clarification or additional development of shared thoughts or experiences.

The second phase, outside of the scope of this thesis, will provide a shared narrative among the faculty through focus group discussions on their experiences within their working group and how being relationship with each other as they implemented IEFA and how that may have grown their CSC or operationalized relationality. Appropriately, this storytelling and sharing mode may illuminate how relationality, an Indigenous way of knowing and being, may be at work in a learning environment where educators are working to center Indigenous Knowledge and Knowledge Systems.

Storytelling, then importantly takes shape through two modes that narrative analysis weaves together to relate experience: conditions of the personal and societal (Connelly & Clandinin, 2006). This means my analysis attends to both the personal circumstances or experiences, such as emotions, values, and understandings, and then the societal circumstances, or the shaping contexts such as the classroom, discipline, IEFA policy or academic community that shape those personal conditions.

Narrative Analysis

This project relies on critical narrative analysis to relate faculty experiences. I gathered each participant's story through an interview with open ended questions posed in a conversational manner. Then, returning to my visible mending metaphor, I set forward to create four panels as fabric collages of each faculty's experience. The rendering of these panels emerge from narrative coding that that Connolly and Clandinin (1990) forward in *Narrative Analysis Phenomenon and Method: Broadening, Burrowing, and Restorying*. Broadening encourages a coding focus on the "broad context" or the setting and environment of each participants' story. By delving into the social and cultural aspects of each participants story I can then draw those aspects out to establish an overview of culture and climate. For example, when reading through interviews, some culturally defining aspects for these participants surfaced, such as Recognition of the Western Epistemological Paradigm (WEP) in Education and Inclusivity. Then turning to Burrowing, I attend to the intimate details of participants experiences through their feelings, values and understandings. For every interview I coded sections for feelings, values, understandings, and dilemmas. Example codes of feelings include: insecurity, excitement, curiosity, wonder, engagement, pleasure in learning; for values: developing ethics in engineers, growth mindset, multiple perspectives important, and engaging responsibilities; for understandings: I am a novice here, Indigenizing engineering matters, relationship is a conduit of change, Indigenous knowledge and culture resources matter, and people want you to stay in your lane; for dilemmas: lack of knowledge of engineering education, band width issues, power and

privilege, problematic expertise, and unclear expectations of IEFA. First Broadening then Burrowing allowed me to see how the setting, such as implementing IEFA in a research driven university, shaped participant's experiences from their points of view as non-Indigenous engineering faculty. Finally, Storying and Restorying brings forth the significance of the participant's experiences by placing them in meaningful relationship to their contexts and their experiences of that context.

This narrative inquiry approach enhances my role as the researcher or inquirer in that this method encourages interacting with participants beyond "listening and recording" not only because it is not aligned with our nature as storytelling creatures, but also because it allows us to create collaborative stories, "a mutually conducted story created out of the lives of both researcher and participant" (Connelly & Clandinin, 1990, p. 12). This methodology was specifically developed for the purpose of sharing experiences of teaching and learning so that we might reshare stories of "what it means to educate and be educated"(Connelly & Clandinin, 1990, p. 12). For example, one of the experiences of teaching and learning is that learning can induce discomfort and an educator's role is to facilitate the discomfort becoming development in the student (Taylor & Baker, 2019), which will likely occur for participants as they implement IEFA. This method will help illuminate the two-fold process as participants take on both learner and educator roles in the experiences this study examines. This particular research approach then evokes some of the values and conditions of Indigenous Research Methodologies in that the approach requires creating situations of trust and a responsibility to relations with participants as well as the community from which they

extend themselves. This approach also strongly encourages that we share our own stories, and I resist that urging especially because I'm not a faculty member teaching and implementing IEFA. Instead, I establish my part of the narrative as previously described in my positionality statement as my relations with the participants: the transparency I provided for the work I am doing, the conversational tone and approach that I took with the participants, and the efforts I make toward member checking as they have trusted me with their stories. While I may not have stories to share about implementing IEFA, I am certainly simultaneously exploring my own CSC alongside the faculty.

I started my coding process after memoing each interview for an overall understanding of each participant and their experiences of IEFA and the FLC. After a reread of my initial memoing I positioned the interviews in order of my sense of each participants' communication about CSC. Though the majority of my coding work was inductive by nature, I began Broadening with the interview that I thought might hold the most extensive development of CSC because of extensive work with IEFA policies and practices. In doing so, I hoped that I might capture the most developed overarching themes and social contexts that might occur for someone who has advanced along the TIPM continuum and in this way cast the widest net of themes. This process might also reveal important points of comparison to see what themes did not factor in for other faculty who have not been working to implement IEFA as extensively. In coding narrative research data scholars advise caution in using computer programs for coding work because narrative research paradigmatically relies on analysis of coding and

patterns (Kim, 2015). Kim additionally adds that Connolly and Clandinin found the programs are not as useful for narrative inquiry, in particular. This caution spoke directly to my hesitancy to code line by line in this study because maintaining the cohesiveness of each participants' story felt critical to the Restorying of the experiences across the themes that come to the fore and further strengthens its appropriateness for this study as a research approach.

To begin coding, I created a Broadening document for each interview which held a running list of appearing themes and the corresponding text the themes stemmed from. Additionally, when I wanted to preserve context, I included longer quotations and then bolded within the section the specific text that spoke to the theme. When a potential relationship with another overarching theme was identified, parenthetical notes indicated a return might be needed or that double coding to themes was required it because the themes were so intricately enmeshed. Once the first interview was coded for themes, I began Broadening the next interview by creating a coding document with all the themes identified in the first interview and adding additional themes that appeared in this new interview. This iterative coding to themes was conducted through the remaining interviews. Any themes that were identified in subsequent interviews were brought back to examine against the preceding interviews as well as to triangulate for consistency across coding and to combine codes of similar thematic meaning. This was then further triangulated by creating a document organized by theme with each participants' text color-coded beneath each theme. Each theme was then evaluated in terms of fit for the coded vignettes as well as the vignettes appropriate placement with

theme, though some maintained notes of relationship which also helped in the final condensing of themes, ensuring saturation as well. Finally, post this rereading of the broadening coded text by theme, all the themes configured into themes and sub themes reducing overlap and condensing subthemes below parent themes. This reduced the initial number of themes from thirty-four to nine overarching context themes of setting and culture.

This process was replicated in the Burrowing procedure with some differences because of the nature of personal points of view; the feelings, values, and understandings of each participant do not require condensing into themes and instead must stand on their own. Thus, Burrowing took shape within the document by placing feeling, value or understanding memo-tags within the interview transcript. This served to maintain the context and meaning of the shared stories and was able to search for specific emotions, values, or understandings that might repeat through a particular interview as well as be able to reference very specific information about each participant as I wrote their thick descriptions.

Once I completed the first two coding rounds with the analytical tools of Broadening and Burrowing I took to Story and Restorying by outlining each question with storying vignettes and retold their story with a meta-narrative for each. I initiated an analytic rhythm to follow that would build the portraits of each participant's personal experiences. I outlined three questions and then combed the interviews for vignettes that answer the three questions necessary to share the story of who these participants are within the contexts that they experience:

Who is this person as an educator?

How does this person see/hold/enact their values and responsibilities?

What are the dilemmas this person faces?

For the fifth narrative that holds together the participants experiences in the FLC, I used three unifying themes that surfaced for all participants experiences threads to stitch together a culmination of their collective experience.

Trustworthiness & Reflexivity

To address trustworthiness, I employ only three out of four of Lincoln and Guba's (1986) proposed standards: credibility, transferability, dependability, and confirmability. Credibility is addressed through triangulation and member checking, transferability through thick descriptions, dependability through assurance of journaling and note taking (Stahl & King, 2020). As confirmability over relies on WEP objectivity, which I do not view as a helpful or appropriate emphasis for this project, I release it and instead add the importance of transparency of researcher intent and radical reflexivity, both previously mentioned in this project. Finally, it is also critical to envision this work as working within the concepts of respect, relevance, reciprocity, and responsibility established by (Kirkness & Barnhardt, 2001). These tenets of ethical engagement with Indigenous Knowledge and Indigenous Research Methodologies extend my approach to Trustworthiness. Here, I stitch in a care label- in this analysis I take a critical perspective. I anchor myself that the understandings I approach are socially, historically, and politically situated in a time and place that this work may be caught in a static

moment but moved before and will move after my considerations within it; there is no T truth in this approach.

CHAPTER FOUR

CRITICAL NARRATIVE DATA ANALYSIS

Anything that seeks to recuperate and not interrupt settler colonialism, to reform the settlement and incorporate Indigenous peoples into the multicultural settler colonial nation state is fettered to settler futurity. To be clear, our commitments are to what might be called an Indigenous futurity, which does not foreclose the inhabitation of Indigenous land by non-Indigenous peoples, but does foreclose settler colonialism and settler epistemologies. That is to say that Indigenous futurity does not require the erasure of now-settlers in the ways that settler futurity requires of Indigenous peoples.

Tuck & Gaztambide-Fernández 2013

We engage in PiH [Projects in Humanization] that can create expansive fertile spaces and experiences between us, between our stories, and between the listener and speaker (San Pedro et al., 2016). As we do so, we can potentially break down dehumanizing and settler colonial binaries often held in the slash— teacher/ student, researcher/participant.

San Pedro & Kinloch 2017

Introduction

The purpose of this critical narrative inquiry was to reveal how the experiences of non-Indigenous faculty working to implement Indian Education for All (IEFA) in their engineering classes might reflect engagement and development of critical settler consciousness (CSC). I analyzed data using Broadening, Burrowing, and Restorying, a narrative approach to engage analysis as phenomenon and method as described in Chapter 3. This chapter presents the individual portraits of the four participants and the unifying themes across each participant's story: Responsibilities as an Educator, Responsibilities to IEFA, and CSC. Each theme Restories the participant's experiences and each portrait's the theme of CSC applies the conceptual framework and lens presented in Chapter One to participant's stories to explicate communications of CSC

development and or engagement. A fifth portrait of their experiences together within a Faculty Learning Community (FLC) is presented to encapsulate the participants' experiences of the FLC. This portrait traces themes that emerged which hem participants together in their experiences: Safe Discomfort, Resistance, and Relationship. Additionally, because this portrait is not of a person and rather a space that is a reflection of people brought together and their experiences intertwined, some interpretation will begin to take shape setting the stage for Chapter Five.

Bringing forth my visible mending metaphor, this chapter stitches together the five portraits through vignettes to create a collage or quilt of their collective experiences. This quilt is not a static piece of art. It is a living creation never to be complete. Instead, it is meant to serve as a tool not an artifact. It is to be assumed that though this collage captures a moment in time and place for the participants, outside of this study as a person changes the panel would change as well. When my son was born, I was gifted quilts by talented seamstresses and dear friends who both implored me- this quilt is not meant to be an art piece! It is meant to be lived with, gotten dirty, and washed, please use it that way make it a useful piece of your life. In this way, I ask the same of the reader with this research and hope to alleviate any sense of fragility around this quilt and offer its use as a tool for digging into your own learning.

Participant Portraits

Sarah

Sarah & Her Responsibilities as an Educator Sarah is compassionate, big picture focused, and concerned about tending to the whole person when she works with

students. As Sarah described her journey to join the FLC, she outlined how her personal experiences and how she holds herself professionally merged overtime. Sarah, toward the beginning of her career felt as though teaching required “so much of meeting technical information” and she felt pressure to “make sure they have all the technical information.” This changed for her post tenure. She shared “now it's just more like ‘okay, how can we prepare people to be the people technical engineers like to go out into the world and make a difference in the world?’” Her approach to teaching shifted from content driven to care driven. Sarah credits this shift to a growing awareness of other people’s experiences in engineering. Even though she describes experiencing engineering in mostly supportive environments, a conciseness of her gender floated in the background as she described what mattered to her saying: “pursuing inclusion issues and [the] efforts of being a woman in engineering.” This awareness tied to her like a balloon at her wrist, remaining with her as she moved forward in her career. After gaining experience and hearing stories of other people’s struggles, that sense of awareness tugged at her more. As she became more attuned to challenges for students, she more deeply considered what her role in addressing these issues can look like. She shared that as she gained both life and career experience: “the more aware I have become of issues and the more aware of my role as a faculty member to address these issues, and somehow create environments where everybody can thrive.” Sarah is deeply invested in leveling up her own awareness and committed and motivated to create learning environments that serve all students. She

operationalized those intentions through this mentioned shift in her teaching as well as at other points she went on to describe.

Sarah also stated that the broader context of her personal life brought her into conversation with herself about teaching. This led not only to shifting her approach to teaching, but to revising her teaching philosophy. Sarah shared that an experience in her personal life made her reevaluate priorities in her own life as well as question what her priorities are for her students. She describes weighing if the myopic “pass this test” or a more high-level preparedness for working in the field matters most:

Is it really important, to me, these students ace this exam, or is it really important to me that they leave here feeling prepared to go out and be engineers and feeling like engineers and feeling like they had a supportive experience?

Only with this personal experience spurring her, and having received tenure, did she feel like she had time to fully think about these considerations. With that space, she deeply shifted her teaching philosophy to actualize the awareness she developed by changing her teaching through implementing inclusive pedagogy.

Sarah invested great time and effort into expanding her inclusive teaching skills, by attending conferences and workshops on inclusive teaching. Sarah shared her view of inclusivity and how it shapes her classrooms stating: “creating an environment where all are welcome, and they all feel they have a voice and that they're being seen and heard as human beings- to me, all else kind of flows from that.” This self-work also helped her to center mindfulness in her practice which further grounds her in what she sees as most important in teaching. Sarah notes: “I realized, this is more holistic. This is more person humanistic- trying to meet people where they are *and* give them skills.”

Sarah's compassion echoes in her efforts to serve the whole person when she works with students. This surfaced as she described how she works to engender these qualities in her students by "helping them develop skills like communication and teamwork and all that... that's treating people with compassion." Sarah sees herself as doing work to engage compassion in her students so that they engage those skills and ways of being as engineers.

Sarah & Her Responsibilities to IEFA Though she left the FLC with ideas, Sarah has yet to implement IEFA. She believes implementation of IEFA is important, though she had not yet been able to work it into her class content. Still, Sarah noted: "I think it's important to acknowledge and bring in Native perspective voices and making sure that it's there. At the same time, that takes some thought and effort and to try to put it in." Her biggest challenge was being able to take the time to think and implement thoughtfully and authentically. She felt that working with the FLC was critical to breaking through inaction. The fear of doing it wrong or doing harm combined with little time and resource got in the way of even thinking about implementation, let alone feeling able to approach the work it would take to be intentional and confident. The FLC helped break through those blockades. Sarah shared the importance of time and space set aside as she reflected: "the main thing that I pulled from this learning community was just understanding and time for reflection. I think it just expanded my view of what does inclusive teaching look like and how do you go about that?" For her, the FLC provided dedicated time to clearly think through with others how to approach IEFA. The FLC helped her feel confident in what she might be able to do. Yet, she still feels she has to

fight through the barrier of not wanting to do harm. She described possible ideas she has had about implementation, such as including a land acknowledgement in a syllabus or example problems that would acknowledge Indigenous student experiences by teaching engineering content while placing it in different contexts to expose students to diverse perspectives. Sarah sees her responsibility in implementing IEFA as creating a learning environment where all are welcome and that doing so takes time, effort, and reflection. Her time with the FLC expanded her consideration of inclusive teaching, what it means and what it entails.

Ultimately, Sarah described this work as rewarding and a faction of trying to be a good person and honor other perspectives, especially as in Montana and as Montanan. She talked about her own education and shared that she “felt like my education treated culture like it was a dead culture.” She hopes to change the way she was taught to hold Indigenous culture and instead ensure that is seen in the present tense, while she does her part to create a learning environment where anyone can succeed. Compassion and authenticity matter deeply to Sarah, as she places both at a range of how she hopes to guide her students into compassionate ways of being engineers and that she wants to make sure she is authentic in her approach to bringing IEFA to her classes.

Sarah & Her Critical Settler Consciousness Sarah stands just over the threshold of Stage Two. She experiences moments of critical awareness, such as her embracement of inclusion, and is beginning to deconstruct her own teaching philosophy which brings salience to her identity as a teacher. This grounds her in what she feels is most important to engender in her students, beyond possessing the nuts and bolts of

very technical knowledge. Sarah is still working out how to implement IEFA. To do so in a way that is beyond additive will likely require further development and work with her CSC.

The resistances enumerated in Stage Two show up in some ways for Sarah and dissipate in others. Though resistance in Stage Two relate to prioritizations of “rigor and standardization,” as seen in Sarah’s description of her wrestle with valuing technical content over embodiment of an ethical engineer, her reframing of her teaching philosophy is clearly a disruption to this prioritization. Another form of resistance in Stage Two is that a person may recognize the harm and inequity colonization enacts and “become overwhelmed at the notion of making social change” (Pewewardy et al., 2018, p. 55). Though this characterization would seem to discredit Sarah and her efforts, it may speak to some of the stickiness for her in that her intentions to implement IEA have not been carried through, yet.

Sarah’s consciousness reflects an emergent thinking and practice of new understandings which Pewewardy et al., call “bursts of critical awareness.” In Stage Two, these realizations may be reforming thinking and approaches “but these efforts and realizations are not yet followed by regular practice or deep changes in their pedagogy” (Pewewardy et al., 2018, p. 55). Sarah has used inclusivity as a gateway to engagement with her critical consciousness and will need to move further down the path toward transformational pedagogy to move into the next stage of development.

David

David & His Responsibilities as an Educator David is engaged, excited, curious, and motivated to instill engineering ethics in students. David lives out his engineering identity in the way he wants to support students. He questions, “[if] there's a problem and we're not engaging our students, how can we do better?” He believes his role is to work through this question and that he can do better as an educator by doing so. David holds a responsibility that, when faced with the real world, his students will be equipped to answer tough ethical questions and engage in a way that aligns with ethical expectations outlined by the standards of chemical engineers. He also recognizes that doing better means engaging in the role that cultural differences play for students. David commented: “just knowing that our students come from a range of backgrounds, and I admit aren't just mine, I don't really often know what the answer is there.” Even as he recognizes the incredible influence of difference, he also recognizes his lack of know how to approach it constructively and appropriately as he serves his students. He does, however, reinforce his willingness to confront tricky considerations in his field as he described one of his teaching tactics. He points out:

One of my jump off points is I often talk about our professional societies code of ethics is my entry point into a lot of more controversial things.” “as chemical engineers, there's a whole bunch of shalts... you shalt do the following, and it starts with being safe and... then there's these elements that relate to diversity that were changed in like 2015...

Even though David says he does not have the words, his actions and his intentions show his willingness and desire to engage in serving students and their diverse identities. Many times, he references his reliance on these ethical standards as an inroad to difficult discussions in the classroom. The code David refers to reads “Treat all

colleagues and co-workers fairly and respectfully, recognizing their unique contributions and capabilities by fostering an environment of equity, diversity and inclusion.” (AIChE Code of Ethics, <https://www.aiche.org/about/governance/policies/code-ethics>) These conversations may not be difficult to some but they are often positioned as political, as David described, or could be questioned in terms of their connections to engineering.

In his telling, David describes a sense of responsibility and a deep connection to the ethics of chemical engineering. David enacts this sense of responsibility as he described: “I always push on the word foster because ... they put in a word here that's forcing an action from you now. It says foster. So now we have to talk about that.” Not only does he hold this as his sense of responsibility, he wants to engender it in his students. He shared: “I push on that word a lot, not just saying something [is] sexist, is that fostering? Or does it involve more?” He describes his intentions as an educator to develop ethics in budding engineers by pushing critical thinking about the word “foster,” and encouraging students to consider their role in what it means for them professionally to be asked to foster an environment of equity. Additionally, David models this by providing and emphasizing values of multi-perspective considerations.

David brings up issues that he believes could be politicized by people and yet feels as though he can lean on the chemical engineers' code of ethics as well as the IEFA mandate to say these things are appropriate to be in the classroom. He said: “I try to always tell them that I'll never push my politics on them. But we will talk about politics because it exists.... What is this going to mean to you when it actually counts?”

For David, these issues should be talked about in the classroom because they can and do impact students and will determine how they will interact as professionals. Even with these well-articulated and advanced efforts he still holds himself as a novice in terms of understanding and implementing the language of engineering education as well as IEFA.

David & His Responsibilities to IEFA Earnest and effusive, he conveys his excitement for the work as he described his forays into implementation and research connected to IEFA and Indigenous knowledge. His excitement is palpable and catching. It took over when David was asked to describe any individual work he had to do before implementing IEFA. He first acknowledged a level of discomfort or a lack of knowledge as he practiced his lecture, David stated: "Whenever I'm gonna lecture on something new, I'll say it all out loud here. But I remember just not being able to phrase things." Because of this lack of language and confidence he shared that he often relies on Indigenous expertise to share Indigenous knowledge and when preparing to share knowledge himself, he found himself struggling as he practiced. Despite this trepidation and worry about communicating Indigenous Knowledge properly, his enthusiasm and sense of wonder carry him through his description of a transformative experience of learning. Led by an Indigenous colleague, David and other engineering professors were gathered and instructed to put up a tipi without directions. Their colleague set the engineers to raising the tipi and watched as they tried to figure out the most effective way to get their tipi up and working. Then, the Indigenous colleague showed the engineers how he raises his tipi. David's colleague used this exercise as a learning

opportunity to open conversation into ways of thinking and considerations of how knowledge is held. Joined by their families they all shared a meal and discussion together. David reflected “and then he took it apart and then he put it up how he would do it, and there's just like, *oh wow*, that's something I never would have thought.”

The experience provided a great broadening of perspective for David in that not only did the experience show him the value of Indigenous Knowledge, but also highlighted for him how a well held understanding of his would play out in his own learning in an Indigenous Knowledge context. David stated:

I would have probably come up with some structure with a cross and then put it in the crawlspace and riff on that theme or come up with different ways to be like, how do we more efficiently get this tarp up there? But I never really thought of any of that. So it's like oh, this is really cool. And then to have someone there that could just see the thing, showing like I already mentioned before about the airflow through it, and to be able to have a connection. That's my research, right?

David is now working on a replication of the experience for students. Though he is no longer teaching the class that involves the outcomes that are addressed by this project, he will be guest lecturing on the topic this spring. Seeing two ways of knowing so clearly illustrated and approached through his discipline was clearly exciting and broadening for him. He hopes the same may be true for his students.

David sees IEFA implementation as more nuts and bolts integrated, so even though he uses activities that engage students' critical thinking of Indigenous contexts as they relate to engineering processes, he considers the recreation of the tipi exercise his first true foray into implementing IEFA. David displays a clearness of thought around his expertise and research and still experiences insecurity in his skills when describing the tipi project as he rehearsed his lecture for his students. He values bringing IEFA to

the classroom and struggles with how to express the values of implementing IEFA to others. It feels unfamiliar and shaky.

He feels invigorated, permitted, and encouraged by the mandate to implement IEFA. He feels that if anyone should question him he can point to the rules. He noted: "I feel like I need that kind of safety net. It helps me dig into it. I think to be able to push a little bit I've got that- I do build that sort of safety net outside." He believes that ethics are rules to live by and to honor IEFA is also to live ethically. Because he feels able to lean on the mandate as a rule he must follow, he can easily justify his work to himself or anyone that would argue that what he is doing does not have a place in the classroom. He also models openness in how he holds changing his approaches to student experiences that are outside his own experiences and identity by stating: "If someone like yourself or other experts say this could have an impact on students, so everybody could learn the content and more people will want to learn the content- I can do that." David reiterates his willingness to do this work, even if he feels he doesn't know how to do this work. I followed up his statement with a clarifying question asking: "(And that sounds like you feel that that's a responsibility you can engage in?) Yeah, and I don't know why. (Pause) It just feels right." David indicates that his work to address equity in the classroom stems from a place that he cannot describe other than that he is intrinsically motivated to do so. It is just a piece of who he is and how he is. To him, it is his responsibility. David shares his uncertainty about how to address issues of equity and ways to engage pedagogy that speak to every student in his classroom. He also expresses regret around a lack of knowledge for both IEFA as well as engineering

education in that he feels like he lacks the skills and the language to be able to address those needs and concerns that do lead to students leaving engineering.

In terms of IEFA, he acknowledges that he is just beginning to step into what implementation means as well as what kind of content he would provide. He feels very much like a novice. He placed his comfort level talking about Indigenous Knowledge in the classroom, before working with the FLC, at a 0. David is very interested in supporting students making sure that students feel supported, and he is in a reflective place about that desire. He stated recognitions of his privilege and that he doesn't know how to talk about it, as an expert might, with students. Still, he shared that when someone raises an issue of equity, "someone like yourself or other experts say this could have an impact on students," he believes them, trusts them, and sees it as his job and responsibility to work in ways that move the needle toward equitable experiences in the engineering classroom.

David & His Critical Settler Consciousness David hovers just outside the threshold of Stage Two looking toward Stage Three. He is committed to IEFA implementation. He has bursts of critical awareness, where he recognizes his privilege and clearly establishes his overall ethics toward equity in education. In the TIPM, practitioners at Stage Three "work to transform and indigenize their curriculum and pedagogy and also consider ways to enact systemic change"(Pewewardy et al., 2018, p. 56). Even though bursts of awareness are connected to Stage Two, the way that David describes his understandings and how he acts indicate that he is operating at a

more developed consciousness level without having the language to describe it or understand his engagement with it.

David talks about his responsibility as a non-Indigenous person in two ways he emphasized more than once: relying on Indigenous expertise and stepping back from positivist production driven desires. When describing his intentions in implementing IEFA he said he is “trying to maybe not be the face of things” (things being Indigenous knowledge conveyance). He does not want to misrepresent Indigenous knowledge, nor does he want to take up the spotlight that sharing this knowledge creates. David also does not want to allow his proclivity for knowledge production to take over the importance of what the project represents. He emphasizes this second point saying: “the other part is not turning it into an engineering project. Because as I already mentioned, that's what everybody expects.” To him this means maintaining focus on expanding perspectives around knowledge as well as representation of other ways of knowing and being. He also shared the importance of protocol of asking permission within the teamwork tipi project research and aligning with group desires. He takes purposeful steps within his self to self-manage his desire to produce as well as align his research relationships with others. He described being asked about the next steps in research with questions like “are you optimizing [tipi] infrastructure?” and shared his vehement response: “No, no, not at all. The opposite of that. [They ask] What are you doing? And then you kind of get stuck, right?” He quite clearly recognizes his proclivity for production but also his responsibility to others and the situation. The way he is talking about and engaging with IEFA clearly indicates some development of CSC,

especially in the context of avoiding WEP expectations of productivity as well as emphasizing the importance of aligned intentions in teamwork.

His understanding the implications of using the tipi exercise for his students and colleagues reaches beyond knowledge inclusion. He works to introduce them to other pathways to similar knowledge as a way to engage in how to respect other perspectives as well point toward synthesizing different ways of knowing and their implications for engineering. He also actively avoids patterns of WEP production prioritization which he names as a drive within himself that he disrupts in his work with the tipi project. He takes steps to consciously avoid it in the way that he engages with his other colleagues in this project.

David exhibits what may be an indication that as practitioners move closer to Stage Four and a transformational approach, their actions and the characteristics of consciousness development at that stage are more closely interwoven and connected to the practitioners' actions. It is hard to separate David's demonstrations of CSC from his engagement with IEFA. He is moving into what the TIPM describes as out of internal explorations then into external commitments and actions (Pewewardy et al., 2018). Additionally, the TIPM outlines resistances in Stage Three as much more externally located than internally, such as active resistance to social action or that practitioners "unknowingly uphold inequitable policies that prevent equitable access to educational resources." David is knowingly identifying unequitable practices and his resistances are only taking shape in his lack of confidence what he deems as the right language for addressing inequity.

Melissa

Melissa & Her Responsibilities as an Educator Melissa is values driven and determined to make sure that her students learn that being human is indeed part of being an engineer. She possesses a serious commitment to presenting multiple perspectives in the classroom and encouraging that approach in her students. She places her own interests and entries to engineering in parallel with her approach to encouraging students. She described a disconnect in her own learning and finding new meaning in why she not only appreciates multiple entries to engineering, but also that it engaged her mind and commitment to engineering as a field. She described the way a chemical engineer would traditionally learn about organic compounds as leaving her cold, "It's like my brain just shuts off" and she further states "It didn't compel me in the same way as, oh, we're trying to get this pharmaceutical into someone, so they can be helped." Melissa embodies this experience in her teaching through the way that she presents problems and perspectives to her students. She emphasized this in the way she described realizing that in presenting problems to students if she does so: "in a lot of different ways, using a lot of different perspectives, we're going to draw in a lot more students and sort of see the broad applicability of what we're doing." Her specificity of value (getting pharmaceuticals into people) connected her to an interest in her field and shapes her perspective, as well as her values and approaches to teaching. Helping people matters to Melissa, and to be able to do so through her discipline focus brings her satisfaction as well as identity salience. She described this as "remembering everyone's perspective is different" by reflexively "keeping in mind my own personal biases and flaws. Checking myself when I am making an assumption, which happens all

the time, even now that I've been working on myself for a while." Here, Melissa not only values centering perspectives beyond her own, she also values reflexivity. Melissa identifies reflexively as a lifelong effort and something she is committed and responsible to in the work she is doing for her students. She shared: "It's just I feel like it's not something I'm ever going to be able to drop." Shaped by this perspective, she works to engage responsibility in her students while maintaining a growth perspective around her own perspective. In fact, for Melissa, perspective requires reflexivity. This process also keeps her connected to the idea she expressed that the world looks a lot different for people and those perspectives are needed to solve problems. For Melissa, to stay in that frame of mind requires consistent self-checking of assumptions and more nuanced approach to interacting with students, especially in how she engages their critical thinking.

Melissa highly values and encourages critical thinking in her students. Through this framing, she describes "planting the seed" as activating critical thinking, "it is planting the seed because if I try to shove the full grown-up plant on them, and be like, Here, take care of this. I feel like it just makes people angry." Melissa describes engaging responsibilities in others as something that is a triggering experience for those in the learner position. Instead, she tries to remain fully in the identity of teacher as opposed to perhaps knowledge conveyor. To combat this "knee jerk reaction" she engages her responsibilities as a teacher. She says: "And I think it's my responsibility to teach from different perspectives, to encourage students to listen and to have an open mind. And to get them to figure things out on their own to not tell them what is true."

This approach is crucial rather than handing students knowledge or what she considers “true.” She identifies a complexity in the way that she presents issues to her students. In other comments Melissa expressed clear concerns around appearing as patronizing or condescending, and that those ways of being can be detrimental to what she is hoping to instill in her students. She believes there are many ways to approach and understand something. This is highlighted when she described how she teaches students to recognize when to leverage important sources of expertise within communities. She emphasized that students will be designing for humans and their designs must consider the understandings of these community imbedded experts. For her, taking responsibility for gathering that perspective will be critical to her students’ success as thoughtful engineers. Still, she sees that there can be resistance to her efforts to bring in and value multiple perspectives and reinforces their value and necessity in her teaching. To navigate that resistance, she encourages students to come to their own conclusions through critical thinking prompted by her planting of seeds.

Additionally, Melissa describes what is at stake for her in working in her field work as an educator. She emphasized: “We’re not here being educators at MSU for the money. We can leave go to industry and make more money and work less.” Melissa points out that the opportunities elsewhere would be far more simple and profitable yet her values have driven her to teaching in this field. She stated: “We are here because we really care.” Her caring has very specific repercussions because it also means that she is more committed to living a values-driven life or that her career is a manifestation of her need to live a values driven life. She shared: “as long as I’m here, I’m going to

follow a sort of a moral or ethical or just human based maybe... a human centered sort of value of mine." Melissa works as an educator because doing so aligns with her morals, far more so than a lucrative industry job would. Melissa consistently aligns her identity with her values in the work that she does. Additionally, this sentiment was previously expressed as she described her interest in the field being aligned with her values of helping people. Here Melissa shows a linear commitment to her values that threads from the beginning of her career to where she stands now as she centers her intentions toward implementing IEFA.

Her intentions are to help move the field and students toward more humanistic ways of being engineers. This showed up in ways she described her view of how people hold the stereotypes of engineers and ways of being of engineers, "I don't think it's that people who are engineers can't be in touch with a more sort of open-ended space that's not as analytical but I think that engineering education, tries to shut that down." Melissa identifies that engineering as a discipline is not welcoming to different ways of being an engineer. She talks about the stereotypes of engineering, that an engineer can be seen as a person who "who's doesn't really care about feelings" or that engineers "don't really care about people." She said there's a perception that they have the mind set of "I'm just gonna go do work on my computer and build some things, do some math." She recognizes that there are people like that who are "drawn to engineering and we need people like that in the world. There's nothing wrong with them." Though still welcoming of that stereotypical identity, Melissa identifies an issue in that the culture and climate of engineering and teaching stifle alternate ways of being an engineer other than those

identified as this stereotypical normative engineer. As an engineering professor one of her goals is to shift that and work to reshape these normative environments, “we purposely kind of shut it down. And so to try to open that back up, because again, engineering is not as cut and dry as people think it is. It’s a lot more open ended.” Here, Melissa addresses some generally held assumptions and stereotypes about engineers and describes that engineering education, in general, reinforces these stereotypes as normative ways of being in engineering. When she describes “we purposely shut it down” she is challenging how she sees engineering traditionally taught and that the culture of engineering is generally conducive to one type of person and one way of being an engineer. Again, this line of thinking ties back to the thread she started with her own interest in her field. How she holds herself differently seems to thread through how she sees it as her responsibility to make space for those who may come to engineering in the way that she did, by seeing value in and a path toward helping people through chemical engineering. Melissa hopes this perspective makes more room in engineering for students who operate in a more open-ended humanist way.

Regardless of how difference from traditionally held engineering identities may take shape, Melissa described that she also hopes to reshape how people hold the stereotypes of engineers and being engineers. Doing so aligns her with her values, she stated: “I want to follow my values and make the campus a little better for the students. And I’m not saying that I always succeeded at that but that’s what keeps me going is, hopefully, I can change a few minds.” In this statement Melissa was responding to what

keeps her trying to implement IEFA. For Melissa implementing IEFA means staying true to her own values in a way that could improve the college experience for all students.

Melissa & Her Responsibilities to IEFA Melissa sees the work that she does to implement IEFA as a path to introducing different perspectives she feels her students need to critically consider. “I think IEFA is so cool because it has that framework of “Hey, perspectives are actually different, the history that you've been taught is not the only history. It's one perspective of history. And that matters.” With her values also so human centered, she wants to make a positive impact on students supporting their growth by thinking in more nuanced ways. This requires they work in grey areas in a thoughtful way, considering more than the status quo dictates and being “good listeners” to those experts in communities. Melissa hopes that “if [they] can be listeners and go out there, maybe they can go out and make the world better.” Melissa believes that IEFA provides a framework for developing that change and supports her efforts to shift how students prioritize what matters as engineers and that different perspectives must be considered. To her, working with IEFA has no end point, it will be a journey for her entire career. Melissa describes the way she approaches implementing IEFA through the metaphor of planting a seed because of the way it can change how a person thinks. This ties to her goal to reframe what it means to be an engineer as someone with a broad perspective working to help people.

As Melissa is testing out bringing in content that she believes relates to IEFA in important ways, her students may need preparation to be able to engage thoughtfully with what she introduces. She described bringing in a guest speaker saying ‘I had a

really wonderful faculty come in who does work with native Health Partners, the Crow Reservation... I realized that the students, I needed to prep them for the conversation.” Just as she needs to do internal work, she realized her students needed preparation to interact with an Indigenous expert faculty member. Melissa felt this was an important opportunity, and her students needed more support to engage in it as such, she reflected her thoughts about her students and a lost opportunity noting “you have this expert... you can ask her all these questions! And very few people were actually asking questions and I realized, Oh, it's my job to... maybe I should have prepared them to have this conversation.” She described the different reactions she thought students had, from not wanting to ask the wrong questions to surprise and wondering what this speaker has to do with engineering. She iterated that, in fact, it is her job to make those connections for her students, in addition to managing her own reactions to her students. This means that she must move through frustration to a place of constructive support. This keeps her committed to her goals is also her responsibility. Though it requires that she returns to structuring a more purposeful introduction to this work to help students see the connection to engineering. She recognizes missteps and areas where additional work is needed and is resilient in her addressment of these attempts. And while she recognizes that she may never be an expert with implementing IEFA content, her connection with the FLC shrank feeling of loneliness in her valuation of implementing IEFA and her desire to develop the skills needed to authentically implement IEFA. She found benefit in being able to bounce ideas off of people who also care.

Melissa & Her Critical Settler Consciousness Melissa is also stepping out of Stage Two into Stage Three as indicated by her very particular efforts to push students off their centers of assumed understandings. Her efforts embody an understanding of “the need for decolonization and cultivate a hope for decolonizing the minds of others”(Pewewardy et al., 2018, p. 56). She is anchored in a perspective that resonates through her implementation efforts. Melissa's description of her grappling with how she “plants the seeds” for her students are an example of how she is using “curriculum and pedagogical changes [that] are represented through a holistic inclusion of multiple ways of knowing and being” (Pewewardy et al., 2018, p. 56).

One possible resistance from Melissa is that she does not directly use any language that directly names race or privilege. The TIPM suggests that the practitioner, in refraining from this use of language, eschews the discomfort of those who might stand in opposition to transformational consciousness and pedagogy. Specifically, practitioners “will avoid direct language, such as “racism” and “white privilege,” in favor of more general terminology, such as “human relations” and “equality,” to appease the white, conservative leadership”(Pewewardy et al., 2018, p. 60). Though this is only a reflection for consideration in that the other participants with similar levels of CSC both spoke about privilege and one used “white privilege.”

She also remains within a space of a learner and while she describes grappling, stumbling, and making mistakes, her very clear commitment to reflexivity indicates more development and a working understanding of how to push herself along in her efforts towards desettling herself as well as how she can help that take shape for her students.

What places Melissa facing Stage Three is the level of commitment and action she possesses toward social equality in how that is achieved in the classroom. She has pushed through the internal/external consciousness development threshold between Stages Two and Three by engaging in action and commitment in community through the FLC and deepened her commitment to those actions through her pedagogy.

Colin

Colin and FLC Colin's portrait takes on an extra dimension as he brought the FLC together and designed how the group would spend time and approach discussion on implementation of IEFA.

The FLC Gathered Colin put together the Faculty Learning Group (FLC) after being awarded a Montana University System teaching scholars award. After some prompting from a colleague, especially after discussing Colin's interest in Indigenizing engineering education, Colin applied for the Inclusive Pedagogy themed award with a focus on IEFA and engineering education. When Colin received the award, he was caught off guard not only by winning, but by how much attention he received from colleagues and upper administration. The university president personally congratulated him and it left Colin somewhat surprised and perhaps bewildered by the attention.

In gathering the group Colin's inclination was to be as inclusive as possible to faculty in the engineering discipline. Yet, as he received more attention for the award, he realized that the FLC could suffer from its own success and that too many participants might diffuse the impact of the experience. Instead, leaning on interests already expressed, he invited colleagues who he had previously connected with about

Indigenizing engineering education. He wanted a “nimble community of the already interested.” Colin set up the group to be an encouraging space for conversation on IEFA implementation in their discipline, with no pre-work or post-work required. He provided enticing lunches, skilled guest speakers, and the book *Braiding Sweetgrass* as a backdrop to the context of the group rather than a text to discuss as a learning point.

Colin & His Responsibilities as an Educator Colin is animated, engaged, modest, and determined to see that his students engage with IEFA critically and consciously. Colin describes his role as an educator as creating opportunities for learning that encourage grappling with ideas and understandings that challenge assumed worldviews in uncomfortable ways. He identifies this as purpose by saying “But to reflect upon yourself and how you see the world and to maybe revise that. It's a challenging position to put ourselves in and to facilitate that for students.” He draws a parallel between his students' learning and the learning he and his colleagues did in the FLC learning group. He places himself and his colleagues in learner positions, acknowledging the discomfort that occurs for them as well. When speaking to the purpose of education he emphasizes that challenge is innate to learning. He said: “Because that is what we're here for. (Facilitating discomfort.) Yeah, yeah, yeah. It's safe discomfort. (Safe discomfort) Liminal space, this concept of liminal space I just learned about a few years ago.” Here Colin draws students and educators into a liminality where both are learning. In this way through his thinking about liminal space and placing himself in faculty in parallel with student learning he collapses, to a degree, hierarchies of power in the classroom.

Colin grew up on and next to reservations and his sense of identity enmeshes with his responsibilities to IEFA. He identifies his intrinsic motivation to pursue IEFA as sparked by a curiosity unsatisfied and “serendipitous locker locations” next to an Indigenous faculty member who is related to someone Colin knew from back home. This connection and relationship brought them into conversation which Colin credits for a significant development in his motivations to critically explore the IEFA constitutional article. These conversations harmonized with receiving tenure and engaging in his own development with engineering education research and efforts. Growing up near and on reservations normalized the coexistence of Indigenous and White peoples for Colin.

Colin shared:

And realizing retrospectively the opportunity, you know, perspectives that I gleaned from growing up on reservations next to reservations and how I did, it clouded me to difference because it was just ever present. (Yeah.) And there was not much encouragement to dissect these things. It's just, it is what it is. (This is how we are.) This is how it is, Yeah. I think that coming to an institution with having colleagues that had not had that experience encouraged me even further to learn more... and how to be better in life.

Colin described being “clouded” to difference, not in a color-blind way but a way where difference was the norm because of its prevalence in his formative communities.

Additionally, he mentions that there was not encouragement to explore difference, rather that “it is what it is.” At his institution, his encounters with colleagues without experiences of difference as the norm strengthened his intentions to learn more about the context and examine how to “be better in life.” Colin describes his motivation for implementing IEFA a combination of his home context and an “unsatisfied curiosity” that drove him to continually question how IEFA relates to his role as a faculty member.

Colin & His Responsibilities to IEFA Colin also sees his responsibilities to IEFA as another aspect of his role as a faculty member. He stated his responsibilities to IEFA by describing a need to present it in a way to students “so that they see not only you know, that I am doing this because I’m confident it’s part of my job and my read of the law, but that it’s also an important part of multicultural understanding.” Colin’s responsibility to IEFA is to present it as though it is clearly part of his job to do so, and he is grateful to lean on the mandate as a backstop. Colin describes his growth in comfort stemming from, after years of exploring and questioning his role and responsibility to IEFA as a faculty member and cautiously calling attention to the IEFA mandate, being able to use the MUS IEFA website and training and not have to rely on his interpretation of content or concepts. Though in our conversation he acknowledges the trickiness of the word “encouraged” in the IEFA mandate by saying “having the president ‘encourage’, *not mandate*, but ‘encourage’ (right) staff and faculty to take this training” it is not tricky for him. He interprets the IEFA mandate as calling him to responsibility as an educator. Not only is he called into responsibility by the mandate, but that multicultural learning in and of itself is a responsibility, for him as well as a responsibility of participating as an educator at the institutional level. Colin emphasized the responsibility of the institution and shared that their purpose is “growing that in all of us, and so that this provides a motivation a legal motivation to do so but also some hyper localized context and some historical motivations in terms of reconciliation and all that and revisiting history in earnest.” Colin believes that implementing IEFA is part of building “multicultural understanding” which he frames as an institutional responsibility

to develop in all of us. He also sees the importance of sharing a “hyper local context” along with efforts toward reconciliation and a “revisiting history in earnest.” He sees the MUS IEFA training as a vital path toward these responsibilities “I’m super appreciative that there’s now something formalized for people to go to a website with resources and a quiz at the end. As flawed as it might be at some things, it’s a great start.” Recognizing both potentials and limitations of the IEFA training Colin is grateful to have “uniform platform” he can rely on to engage his students thinking.

Colin also discusses how he has students use that training. His way of implementing IEFA is to ask students to take the course and then reflect on the training. He asks students about any questions it brought up, and then asks them to contextualize their projects within IEFA, “which makes it a lot more rich, I think, than me imposing what I think I have a how it’s connected to course materials, they connect IEFA to the course material, and then show how that’s more effective. I think, I don’t know.” Actively avoiding imposing his own perspective, Colin feels when students make their own connections between the coursework and IEFA their work is richer and more effective. Here it is also important to recognize Colin’s statement “I think, I don’t know.” He is referring to having purposely documented and tracked student reactions to help him understand how they experience the IEFA training. It also connotes how he positions himself as a learner, still curious, and still questioning. This learner perspective is also echoed in how he structured the FLC and the conversations held within that group, that created space for safe discomfort.

The conversations shared within the FLC revealed to him positions of power that he holds, the complexities of implementing IEFA and anything perceived to be non-engineering, and the challenges that surround integrating another way of thinking into very technical traditional engineering course work. Colin shared: "I think the discussion with faculty it brought a lot of things to my attention that I was unaware of, especially with the gender roles and faculty..." In listening to stories of his colleagues Colin, not only recognized challenges he was not exposed to but, also, he expanded his tolerance, for lack of a better word, for those not working toward implementing IEFA. Their stories engaged his reflexivity as he noted "I think it built my awareness of the complexities around integrating anything non-engineering, or anything perceived to be non-engineering work. It also really shed light on to my power and privilege." The conversations in the FLC brought new light to the intricacies of not only addressing one's own resistances to implementing IEFA but also the resistances of students. In particular, he learned about how gender impacted the experiences of some faculty in the FLC expressed as they implement IEFA that he was unaware of stating "I've never thought about the repercussions of it because of my positionality of being a white male, heterosexual, able bodied person (right?) I've never had resistance to that." He shared that he might not have had these realizations without the five faculty members and their conversations together. The conversations in the FLC helped Colin to appreciate why people might not be as zealous and forward moving as he is in implementing IEFA. This brought nuance and a recognition of the tension between his conceptualization of mandate and how it emboldens him and how that looks for others in different social

positions as faculty. Whether it is because of student resistance based on faculty gender or as a fear of being told to “stay in your lane”/ teach only your expertise engineering philosophy, the conversations brought more understanding of the hesitance to bring in anything to the classroom that is non-engineering. He said it made him feel fortunate in his position and reframed how he sees faculty who might actually be experiencing a more difficult time emulating what he sees as his responsibility to IEFA and his students rather than purposely resisting implementing IEFA.

Colin describes this new awareness, not as something that has changed what he does in his own classrooms, but as increasing how he is responsible to his other colleagues. He sees and acknowledges “the real resistance that’s some colleagues are facing and do what I can to, to ease those struggles.’ Colin importantly names the resistance his colleagues experience as they work to implement IEFA and sees his responsibility to “ease those struggles” and build confidence to help address and overcome that resistance. He shares that he continues to support other faculty that were part of the group through supportive text messages and earnest feedback when requested.

Colin also recognizes his own resistances and challenges. Working to avoid problematic inclusion and accidentally reinforcing stereotypes initially challenged Colin in this work, “when I first started doing this, it was the avoidance of problematic inclusion that I was super cognizant about.” Though, as he gained experience, he addressed these concerns by embracing transparency about his lack of expertise, that he is not Indigenous, and he shares his positionality as having come from living on and near

reservations, all of which helped him move through hesitation because of concerns of lacking depth of knowledge. Colin used the words “staying in your lane” and instead of it taking shape as people in engineering questioning his application of IEFA, it a reflexive questioning of his application of IEFA “the one challenge I had initially was staying within my lane... am I an expert enough about this to actually teach it in class?” Colin’s use of “stay in your lane” engages the tensions and questions for non-Indigenous faculty around legitimacy or rectitude of including Indigenous Knowledge as content in their teaching. Additionally, Collin embraces being transparent about who he is as a non-Indigenous faculty member trying to implement IEFA. Despite recognizing “stay in your lane” tensions Colin described being called into accountability and responsibility by the work he does engaging with IEFA. There is a palpable excitement when Colin describes how rich and full he feels the experience of his determination to engage with IEFA has been. And he remains grounded in that his excitement also reminds him of how much needs to be done. In doing so, he recognizes that he is approaching a bandwidth challenge in matching the enthusiasm and support for helping to Indigenize engineering teaching with action while at the same time recognizing gaps in the spectrum of who is supporting.

Colin shared that the most precious rewards of working with IEFA exists outside of the classroom in the relationships he has built over years of research activities on grants and projects that this work has led him to. While he receives continual positive feedback from colleagues and opportunities professionally, he particularly enjoys his work with teachers and students at elementary schools in Crow Agency. He recognizes

that the professional accolades and funding are tied to being able to work with them. He questions himself and wonders if he holds some pieces of a white savior identity because he feels so positive in the work he is doing. As he describes what is most rewarding in the work, he brings up the relational value of the teacher's training program in terms of working with Indigenous teachers to help create positive change in the classroom for Indigenous students, and how valuable that is to him personally and as a way to help encourage change.

Colin & His Critical Settler Consciousness Colin seems to stand firmly in the threshold of Stage Four. As evidenced by his work to create and execute the FLC, he has started to mentor others in his efforts towards IEFA implementation and exhibits "advanced knowledges" and is proficient in his practice, and also in using his positionality to promote tribal goals (Pewewardy et al., 2018). This is especially pronounced in the research and grant funded work he does outside of the classroom with two elementary schools in Crow Agency and other reservation schools in Montana. Which also illustrates Colin's deep commitment to and investment in "insurgent research with an unwavering commitment to decolonization" (Pewewardy et al., 2018, p. 57).

His FLC members look to him as an inspiration, Sarah and David both emphasized the deep impact his presence, passion, and modeling made on them leading them to join the FLC and engage in the work thereafter. Though I did not interview his students to see if they see Colin similarly, his expression of critical consciousness supported by his commitments and actions certainly solidify in his

purposeful engagement of his student's critical thinking as he encourages them to critically consider IEFA. That he does not seek to additively include tribal information that he picked up from the MUS training clearly demonstrates Collin's CSC development around implementing IEFA. Through his engagement with Indigenous friends and scholars and teachers, his way of thinking has shifted. He engages his students to replicate this shift for them. He asks them to engage with and know the information, recognize it, and work with it to inform their decisions in their classwork and their contexts. Knowing what they know about IEFA students have to make decisions. This intentional synthesis of thought may shift ways of being outside of the WEP by pulling students into more conscious engagements in their lives.

At one point in our conversation Colin pointed to a piece of paper on his desk and explained that he had to write down and track all the projects he had "up in the air" at the moment and admitted that he might be approaching a bandwidth limit. In almost the same breath, he went on to describe he had noticed a hole in his work, supporting engineering students at tribal colleges, that might be served by his efforts. He then explained that he is now in conversations with tribal college partners to develop proposals for grants in support of those students. Collin leans on his expertise and privilege to leverage it for tribal goals. His portrait illustrates a desire to "understand the structural and institutional impedances to attaining a society of race and ethnic pluralism"(Pewewardy et al., 2018)

The Faculty Learning Community

Here I present a fifth portrait of the Faculty Learning Community (FLC). Because this is not an individual and rather a place/space created by the coming together of individuals, the shape and flow of its portrait will be different from the previous four. It weaves together the shared experiences of Sarah, David, Melissa, and Colin, who gathered for six weeks in the FLC.

I place this portrait at the center of all four participants. Pinning a section of the FLC to each participant portrait to gather them in highlights their connection to that time and place. Several themes that emerged in time spent together thread in from the participant portraits in bright and mixed stitches: Safe Discomfort, Resistance, and Relationship. These threads stitch to and through the FLC and back to the individual portraits of these faculty. The stiches that emanate from the individuals travel like basting stiches, quick, temporary stitches that may later be removed. These are the experiences that brought the participants to the FLC. In the FLC, participants threaded these themes through their needles and with strong anchoring stitches set themselves in place in their efforts to implement IEFA and began to stitch cleavages of consciousness for themselves as they continued to develop it.

FLC & Critical Settler Consciousness I place CSC in this context as an invisible thread stitching without the participants knowing or purposely putting it to their needle. It is important to point out that the function of the faculty learning group operationalizes a key factor in CDC development: collective commitment (Pewewardy et al., 2018). Pewewardy et al. (2018) point out that the development of consciousness takes place both internally and externally, and that development can only go so far until the

individual must move into commitment and action to progress toward transformational consciousness. In this way, the threshold beyond Stage Two requires commitment to action in relationship:

Commitments will begin inside each one of us as personal change, but transformation toward decolonization will become a reality only when we collectively commit to a movement based on an ethical and political vision and consciously reject the colonial postures of weak submission, victimhood, and raging violence.(Pewewardy et al., 2018)

Safe Discomfort I draw from Collin and use Safe Discomfort to encapsulate the tensions and uncomfortable pain inherent to learning and breaking through comfortably established norms that induce shifts in consciousness. As our conversation drew to an end, I asked Colin if there was anything else he wanted to share about his story with IEFA Implementation. He reflected on his overarching story, touching on his identities, responsibilities, and landed in his framing of the purpose of education stating:

And boy, if there's not a purpose of education but to upset people. People should be discomforted (Yeah,) you know, (yeah.) To learn, I think you have to be in a position of discomfort. Safe discomfort- I don't want anyone to go off the rails.

Collin wants to discomfort in a very particular way, not to do harm as he clearly reframes discomfort as safe discomfort. For him discomfort is evidence that critical thinking is shifting consciousness out of a place of comfort, awakening it to a new and sometimes blinding reality. This is how Colin holds the process of learning as well as the responsibility of implementing IEFA. Discomfort awakens and then requires action. Then, movement is needed to move out of discomfort. Yet, within this group as each participant brought in their own discomfort worked through and within it, they never left discomfort behind. They only changed its shape. In fact, their portraits illustrate that they

all still maintain a certain level of discomfort as they must to stay engaged with this work. This state of being in discomfort is something that our participants willingly walked into, named, and purposely engaged with in order to find authentic pathways to implementing IEFA. Along this path, Discomfort and Resistance share an intimate relationship that can be both constrictive to and motivating toward change.

Resistance Here I use Resistance to illuminate the way discomfort can ossify action and stall consciousness development. Pewewardy et al. (2018) describe resistance as coming from those who are not ready, or perhaps even willing, to change colonial structures, not only of institutions but those structures within themselves. Resistances take on two forms for our participants and within the Transformational Indigenous praxis model: internal and external. These resistances also take different shapes at each stage of development. Because, as consciousness grows so does the vulnerability of supremacy and the exit gates from the western epistemological paradigm. Thus, Resistance takes shape as a black thread snaking across the participants portraits, in tight small stitches in some places and pulled loose or severed by a seam ripper in others, as participants work through their resistances. Here I focus on the internal resistances named by each participant from various points in our conversations:

Sarah:

How do I do this right? How do I do this well? There was a big sense of like, I'm not gonna take any action because I'm so afraid of taking the wrong action.

David:

When I get to the classroom, I feel like I'm afraid to miss speak. Yeah, I don't know the vocabulary.

Melissa:

I don't want to make things worse, like so I don't want to open my mouth and just do more harm because I've seen people try to help and hurt before and you I don't I don't want to hurt.

Colin:

When I first started doing this, it was the avoidance of problematic inclusion that I was super cognizant about. That would be, you know, anything that would accidentally reinforce stereotypes.

And so I guess, the one challenge I had initially was staying within my lane. Am I an expert enough about this to actually teach it in class?

Each participant shares an apprehension or fear they encountered as they thought about and talked about implementing IEFA. All of them express resistance with good intention to not harm others. Several participants also named these things as something needed to “get over.” For example, after describing not having the right words David said “and I think part of it is that I need to get over that a little bit.” The FLC supported that work. The determinant of whether discomfort leads to learning or to ossification is embedded in intrinsic motivation, the values and morals of the participants, their conceptualizations of responsibility and how they enact those responsibilities. Their responsibility to developing CSC is to critically engage these Resistances while residing in discomfort. Sarah very clearly describes this when reflecting on the value of the FLC to her by saying that approaching “internal reflection and understanding of motivation” is “much more powerful to do with other people in like a safe space where you can really figure things out.” Sarah needed people she could trust and connect with to engage in

her grappling with Resistance. Relationship is the backbone holding and helping these participants sit tall in Discomfort as they interact with Resistance.

Relationship Here, I use Relationship, a thick and brightly colored embroidery floss, a source of sustenance for remaining in Discomfort, providing feelings of trust, perceptions of non-judgement, connections in purpose, and frame its role as an activating agent of responsibility and conduit of change. Melissa most robustly in one comment addresses many of these facets of how relationship serves and how it served her in the FLC. When asked how working with the faculty group informed intentions surrounding IEFA and how she builds learning environments and teaches, Melissa shared:

I think it was really, really, helpful to meet with the faculty group because they were all very thoughtful people. I feel very inspired listening to them. And I think the biggest thing I got, there was a lot that I got out of that group, and the biggest thing I got is that it's really easy as an engineer to be like, "this is history. It's not engineering. I can't work this in! How can I work this in?" and they did it! They're talking about environmental questions on reservations... I mean, they were environmental engineers, and I feel like I have that same connection with health...

Through connections with her colleagues Melissa not only saw herself reflected in their shared experiences but also recognized that their pathways were similar and she could model her own efforts on theirs. She also describes working through resistance within the group acknowledging the dismissiveness of Indigenous context in engineering and feeling able to turn that assumption around because she saw other professors turn it around. Relationships are mechanisms of support for participants as they not only work to implement IEFA but also engage with their developing CSC. They can only go so far individually and could remain stuck, as our participants expressed through their

examples of resistance, without each other. Not only because of what being in relationship means for sharing experiences but that reforming those experiences into understandings that gird their efforts toward transformational pedagogy. They need community to move forward in action as well as to engage accountability in this work. Relationships not only pulled participants in this group, as Colin described in his portrait, they provided this sewing circle with encouragement to pick up threads and stitch their aspiring selves into connection, motivation, and commitment, hopefully poising them for action.

The faculty learning community provided a space for Safe Discomfort for participants to gather and discuss their Resistances, thoughts, fears, considerations about how to implement IEFA. Every professor identified the space as one where they felt comfortable enough to express insecurities and engaged enough to tackle real ways of bringing Indigenous Knowledge and context into their classrooms. They also describe the space and their relationships with each other as critical conduits for change. This place and these conversations developed their approaches in ways that made them feel confident and supported enough to try them, mostly.

Thus, the classroom acts as the container for IEFA intentional implementation in the presents the approaches/tactics of the faculty. I use the word “intentional’ because while all the faculty members discuss the importance and value of implementing IEFA in the classroom, not all of them do so as concretely as using content. This is content supplied by OPI or using the MUS IEFA training, or introducing Indigenous Knowledge in partnership with Indigenous tribes or scholars. This table displays some quickly

accessible insights, emotions, and actions expressed by the individual faculty in implementing IEFA. These insights are presented to showcase the multiplicity for thinking about IEFA and the multifaceted actions taken in the implementation process.

The Classroom- Intentional Implementation of IEFA

One goal of this project was to thread individual faculty's experiences (i.e., the threads) and stitch them together making a portrait of how a FLC might bring non-Indigenous educators together in shared, and safe, discomfort as they navigate the emotions, resistances, and opportunities for implementing IEFA. This visual mending allowed me to create an overall portrait of the working space a FLC holds for educators who want to implement IEFA in their classes. In addition to the overall experience of the FLC, the individual faculty provided a personalized understanding for implementing IEFA in their various courses. The intention of this Table is to provide a practical and applied representation for how the different participants implemented IEFA.

In fact, IEFA implementation takes form in two ways for all faculty in this study. One way is through introducing Indigenous contexts or knowledge. For example, David intends to engage IEFA through the replication of the engineering tipi build co-led by an Indigenous colleague. David describes the intersection of these two knowledge sources as he reflected on the project:

I think the engineers, as I already mentioned, think they think it's cool when I mentioned something like the engineering words kind of around how it has worked out like all this [Tipi] structure exists this way. And check out all this stuff built in. It's so cool. They seem to resonate with that.

David sees this as a way to discuss fluid dynamics from two different knowledge sources, Indigenous and non-Indigenous. This will take shape as an upcoming lecture (this semester, 2023) that had not occurred as of the time of our conversation.

The second way is by developing ways of thinking through broadening perspectives and student perspectives. For example, Melissa wanted her students to directly consider who their pharmaceuticals are being designed for and brought in an Indigenous colleague from Health and Human Development to discuss her work and give one rural context example. Melissa described her intentions:

I have, for example, a whole section on global health and being an engineer and designing for communities that in some sense you're just not a part of... So, just really trying to reframe this whole discussion on what it means to be an engineer and design for the better of society. What does that actually mean? Like you might have really good intentions and do harm. So how do we prevent that?

Melissa saw this as a way to engage students in thinking critically about designing for specific communities and how they will need to rely on the expertise of who they design for.

The scope of this thesis does not allow for such an in-depth exploration into all participants and their intentional implementations of IEFA. Thus, in the appendices, I present a table as the classroom which serves as the container for IEFA intentional implementation as it presents the approaches and tactics taken by each faculty. I use the word “intentional” because while all the faculty members discuss the importance and value of implementing IEFA in the classroom. This table displays some quickly accessible insights, emotions, and actions expressed by the individual faculty in implementing IEFA. These insights are presented in Appendix B to showcase the

multiplicity for thinking about IEFA and the multifaceted actions taken in the implementation process.

CHAPTER FIVE

FINDINGS AND INTERPRETATIONS

Liminal entities are neither here nor there; they are betwixt and between the positions assigned and arrayed by law, custom, convention and ceremonial.

Victor Turner

Introduction

This narrative inquiry sought to reveal the experiences of non-Indigenous faculty working to implement Indian Education for All (IEFA) in their engineering classes. One engineering faculty member gathered a faculty learning community and four of the six members of this Faculty Learning Community (FLC) agreed to be participants in this study. Semi-structured interviews were held in a conversational mode audio recorded and transcribed. Here I will share what emerged from listening to their experiences through the lenses of Transformational Indigenous Praxis Model (TIPM) and Critical Settler Consciousness (CSC).

The TIPM provided a pattern, guiding the stitches that piece together portraits of each participant into an overall collaged visualization for how the FLC transformed the ways faculty envisioned their educational values, responsibilities, and implementation of IEFA. Each participant's material and lengths of thread expressed in their stories were unique to their locations within their CSC. Yet, the FLC portrait captured the in-betweenness of stages in development and the wiggleness of even defining consciousness shifts as stages for the participants. Meaning, a participant might display all characteristics of working at Stage Three with one instance of a residual resistance

from Stage Two. This echoes the fluidness of consciousness as well as its innate tendency to skip about. The participants float in transitions of consciousness through their experiences with the FLC. As noted in the quote above by Victor Turner, liminality is a space of becoming that occurs as faculty become more critically aware of their role in implementing IEFA. The following elements of this chapter respond to the research questions, provide a loving critique of IEFA, Implications and Recommendations, as well as a final thought toward my own consciousness development through this work.

Question One

How do engineering faculty characterize the purpose and values of IEFA? Namely, what stances do these faculty take in teaching, how do they make connections (between engineering instructors, instructors and students in the classroom, and between instructors and IEFA itself) and what do they hold as their responsibilities in implementing IEFA?

Visual mending provides a visceral entry into how the participants both individually and collectively characterized the purpose and values of IEFA. Every participant pinned up the purpose and value of IEFA as a pathway to expanding students' ways of thinking. Incidentally, this pathway for students was shaped by those who already treaded upon it: the participants themselves who left their threads long enough that students might catch them and begin their own stitches. The faculty experiences characterized how grappling with the challenges, opportunities, and implementing IEFA patched in new ways of thinking which their narratives capture. Hence, the reference to liminality as part of their learning process. For example, David's

lack of the right language as he practices his lectures indicates a betweenness of intension and action, the tension of “I want to do this and don’t know how.”

Each participant characterized implementing IEFA as part of their responsibilities as educators. Though they differ on the levels of intensity and intention at which this responsibility currently takes shape, each one of them shared a concerted commitment to this purpose. Taking up this responsibility marked a commitment, at varying proportions of intensity and intention, to efforts at upholding and supporting Indigenous futurity (Kulago, 2019). Though participants did not articulate a direct statement of commitment to futurity, participants’ intense emphasis of IEFA’s mandated law as responsibility does declare a beginning point for individual commitment to Indigenous futurity, especially as the mandate itself is a legal responsibility to vitalizing Indigenous culture and context.

Participants certainly place high value on implementing IEFA, the nuts and bolts of which look different across each faculty’s area of focus. How implementation is put together varies, not only by each faculty members’ CSC, but, also, by the type of content they teach. Melissa, for example, identified that one class has been far more conducive to IEFA because pharmaceutical design relies on the needs of local experts and requires engineers to engage with community members as partners in design. Her emphasis of this conduciveness could be an indication that her approach to IEFA might be less effective or come across as forced in her in other technical courses. David, on the other hand, was surprised to find such applicability to his very technical fluid dynamics class through his experiences with the tipi project. This is not to point out a

counter to Melissa's experience but to implicate the incredibly challenging prospects each discipline may face for how faculty are able to apply their purpose and values of IEFA through implementation across highly technical content and areas of expertise. Additionally, because of disciplinary differences in knowledge and process structures (Annala, 2022), what works in one discipline, or even subject focus as for Melissa, may not work in another. This may be an additional challenge to note in the implementation of IEFA and requires within discipline exploration. Ultimately, this means faculty may be choosing between exerting effort and time outside of their expertise to find ways to implement IEFA or not implementing IEFA at all, especially if the faculty's approach emphasizes Indigenous knowledge content inclusion. However, our participants made clear that implementing IEFA is not optional for them, nor does avoiding implementation align with their held values and responsibilities to their students, institution, and the state.

The participants' intentions and, therefore, approach to IEFA implementation take shape as either a way to push students toward operating with multiple perspectives and ways of thinking, as shown in Melissa's pharmaceutical example, or to present multiple ways of knowing by centering Indigenous knowledge as in David's fluid dynamic engagement with Tipis. This raises a question around how the purposes and values of IEFA are characterized: Are we implementing IEFA to raise awareness around Indigenous futurity or is it to support and foster Indigenous futurity? How can both be done at the same time in a course? Do certain courses lend themselves more easily to one goal than the other? Both approaches are possible in that most participants

characterized IEFA as a mechanism of mutualistic ways of thinking by promoting multiple perspectives or trying to decenter dominant WEP approaches and perspectives. This decentering in the WEP is certainly part of what Hopkins (2020) calls for in the desettling praxis covered in Chapter Two. Each faculty member certainly pricks their finger on the second approach, but whether they have taken up the needle to begin stitching Indigenous futurity throughout their responsibilities to their students differs across CSC stages expressed by each faculty member.

Here then, after shaking the pricked fingers, we move the needle toward sewing again, we must step into the conceptual framework at work for these participants. This conceptual framework is an extension of their first proposed framework of CSC in Chapter One. This framework incorporates the participants experiences. It reflects the movement of a non-Indigenous person into a space such as Communities of Practice (CoP), or in the case of our participants their Faculty Learning Community. In this space, where they have committed to implementing transformational pedagogy, or in our participants' case, IEFA, in conjunction with the development of their CSC, settlers grapple their development of their CSC, either implicitly, as is the case for our participants, or explicitly, while in relationship with similar others in the same pursuit (O'Connell et al., 2022).

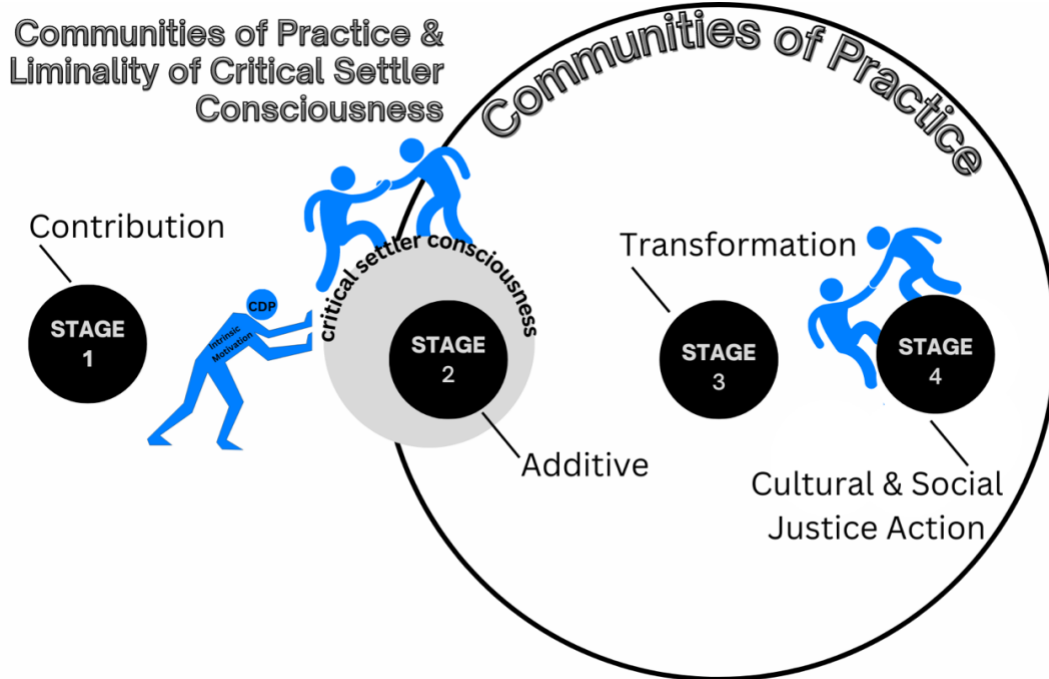


Figure 4. Communities of Practices and Liminality of Critical Settler Consciousness

From the left side of the image we see Contribution/Stage One of the TIPM and a figure that has moved beyond it. This figure represents a starting place for participants in this study. This location marks where forward movement in development of their CSC. This figure also indicates that driving motivations for their effort stem from intrinsic motivation and Culturally Disruptive Pedagogy (CDP). Intrinsic motivation is purposely placed on the back and perhaps the heart area of the individual to reinforce that these acts are not acts of academic intellectual pursuit alone. They are also embedded in who the individual is as well as how their values take shape in the work they pursue. Similarly, CDP is placed in the head because it has informed this action and movement forward. They have been activated to break from the norms of the WEP in pursuit of transformational pedagogy. The push the individual figure places on critical consciousness is important to emphasize because consciousness will not move if not

purposely engaged with and developed, and the figure emphasizes the heavy lifting settler educators need to do in order to engage in CDP on their path to CSC.

Communities of Practice (CoP) act as a container and change space for both the faculty members and their CSC. This takes shape as CSC is being moved into the CoP while individuals are grasping for the hands of and being pulled in by other members of the community. This placement also aligns with Stage Two of the TIPM to indicate the starting place of many faculty in the group. Those who pull people in are those who have been working longer and possess more developed CSC serving as mentors toward transformation (Pewewardy et al., 2018). It is only in Stage Two that an individual could become aware of their CSC because they have engaged in what Kulago (2019) outlines as critical literature to critical consciousness development for settlers. This is also why Stage Two is in the threshold marked by participation in the CoP. Participation within the CoP indicates commitment and action toward transformational pedagogy and is a characteristic of Stage Three. This reinforces the previous statement that while these stages are presented in a linear fashion the boundaries are rather porous.

Imagine standing at the threshold of the CoP in Stage Two as standing at the beginning of a very long walk across a landscape. As you look across the landscape from your vantage point you may think that you can see and recognize the topography ahead of you. You might see hints of creeks or a rising mountain shelf far ahead. In fact, as you begin your journey through this landscape you'll find yourself sidetracked by sudden dips and hills and, from what from your first vantage point looked like creeks

and slight depressions, you find they are in fact deep riverbeds and full valleys. One might see how they think Stage Three and Stage Four take shape, but only through traveling the landscape will they know it in full. This metaphor also encapsulates how liminality is at work in the CoP, as hinted at in the forward quote. Within this space the faculty have described implementing IEFA as providing multiple perspectives for their students and fulfilling what they described as kind of the social responsibility of engineers. Here, they approach what San Pedro and Kinloch describe as Projects in Humanization where “co-envisioned solutions to educational inequities” (San Pedro & Kinloch, 2017) deepen and expand their practice and relations with students and with each other. This stretches social responsibility beyond the classroom and moves to “recenter our humanity” (San Pedro & Kinloch, 2017). And as each stage of the TIPM captures their level of CSC, their engagement with these concepts either put them as entering a threshold or exiting this threshold of each stage. The immense value of participating in the CoP is that as they stand in these thresholds they are pulling each other and pushing themselves to higher levels of CSC that by reaching out to each other to help each other toward each stage they may reach a place where they might engage IEFA at a transformational level.

Question Two

In what ways do faculty communicate ideas associated with a CSC?

Faculty picked out threads such as awareness, inclusivity, community is needed for change, and liminality, and I used them to stitch together a collage of CSC. Of note: no faculty directly mention CSC, but their threads (vis a vis words) captured the

sentiments of the TIPM. All of these communications indicate shifts toward consciousness development and the participants describe this experience of development without knowledge or language, of the TIPM or CSC frameworks. For example, David shared that he relies on his Indigenous colleague's expertise but did not necessarily realize his actions reflect his cognizance around problematic inclusion or problematic engagement. He describes these problematic actions as something he does not want to do but does not have the language or vocabulary or educational epistemologies to describe why he does not want to do them. Here, he stands in a threshold, a liminal space of between languages and knowledge, not having the right words and still in action toward what he feels is right. This indicates a development of consciousness but not the full awakening to the different levels of TIPM.

For these participants the way of being proceeds the vocabulary and language that embody the ways of being they are approaching. This likely contributes to some of their expressions of "I don't know why" or and "It just feels right." These statements seem to be coming from a place of intuition surrounding these experiences, their intentions, and efforts. In Colin's reflections his descriptions indicate he is acting from a place of cultural humility (Tervalon & Murray-Garcia, 1998) but he's not using the vocabulary or language of it to say "cultural humility is a place that I come from" or "I have considered this as a way of being." For example, with Colin's use of the word transparency instead of cultural humility he may be engaging humility. Then, perhaps a function of cultural humility is being humble enough to not invoke recognition of an act of cultural humility. Some of this might be explained in that as the group leader for the

FLC, Colin has done extensive work within Indigenous knowledge and education which may be encouraging this way of being. This is further emphasized by Colin embodying the characteristics of cultural humility, which include life-long commitment to reflexivity and self-examination, efforts towards redressing power imbalances and mutualistic solutions to challenges, as well as partnerships with communities (Tervalon & Murray-Garcia, 1998), in his work. It is a stepping away from the accolades and attention and what society has been consistently describing as “being woke” and instead embodying those actions in what the individual does. It is not performative. Still, this seems like a very delicate line to balance as one steps into realization and consciousness. I am reminded of Pewewardy et al.’s assertion that “it is important to practice that the most confident critical thinkers are the humblest” (Pewewardy et al., 2018, p. 57).

An indicator that participants approach IEFA with a growth mindset, the desire to improve and learn (Dweck, 2006), is that they often refer to their lack of expertise and their realizations of wanting to develop that toward better implementation of IEFA. Doing so also reflects CSC because when they identify deferring to Indigenous expertise it is not because they're abdicating their responsibility to also do work within that space. It is because they recognize they are not the voice of that knowledge and they do not hold that expertise, thereby act from a place that believes it is better to have the voice of that knowledge and expertise centered. Melissa does point out an interesting point about bringing in Indigenous expertise: she realized she needed to engage her students and prepare them to be able to engage with Indigenous expertise. What is reflected for David as well as Melissa in their comments is that they rely

Indigenous expertise so as not to do harm (Kovach, 2021). They are afraid of doing it wrong themselves. That apprehension seems to trickle down and reflect for Melissa's students to when she describes her students lack of questions for an Indigenous guest speaker. Their lack of engagement and reluctance seemed to stem from not wanting to say something wrong in front of their peers and in front of the guest speaker reflecting previous research that found similar feelings about "doing it wrong" (Carjuzaa & Hunts, 2013). Melissa sees that she must pick up the thread and needle and begin pulling together the fabrics of her students' CSC for her intentions to be fully realized with her students learning. This raises reflexive questions for anyone wanting to develop their CSC- am I engaging Indigenous expertise to step aside and let their voice be heard and that is the extent of my responsibility? (S. Windchief, personal communication, April, 2023) In doing so, am I abdicating my real responsibility to that person's expertise? Or is this an act of centering Indigenous expertise to make sure an Indigenous perspective is voiced appropriately? And, how am I fulfilling my responsibilities in centering Indigenous expertise if I do so to alleviate my own discomfort? These participants are also very clear about recognizing resistance as it comes up in their intentions, efforts, and thinking towards implementing IEFA. They named some of the resistances outlined by the TIPM which are both internal issues and challenges encounter with others as they do this work.

Question Three

In what ways did participation in the FLC shape faculty's experiences?

Perhaps most critically, the FLC and created time and space for participants to engage together with inklings, intentions, intuitions, and determinations surrounding what IEFA implementation at the college level could look like. All the participants but Colin indicated that without the FLC they would not have been able to engage IEFA at the level they have thus far. This is reflective of the critical beneficence Communities of Practice, in that faculty participation has been shown to increase student success rates, can provide for those looking to improve their teaching (Buckley et al., 2019). The FLC provided space for connection and inspiration for participants to draw on from those who are not only more experienced but also those who set IEFA implementation as central to their teaching responsibilities. They aligned being able to tap expertise and share feelings of moral obligation as shaping and driving influences that lasted far beyond the groups' Spring meetings. They felt helped through resistances and supported by their colleagues and formed relationships that still function more than a year since their gathering.

Within the FLC they experienced what Colin called safe discomfort, the felt uncomfortable experience of learning in liminality and grey space, in multiple ways. They recognized themselves in each other and felt grounded by shared experiences and values even as the know-how to follow through felt unclear and seemingly out of reach. The FLC recognized and supportively worked to dissolve internal resistances toward "doing it wrong" (Carjuzaa & Hunts, 2013). In this space, faculty were able to share apprehensions and gain perspective on limitations, such as both male participants learning about additional layers of challenge for their colleagues that in their

own experiences were remediated by privilege and power as white males able bodied and cisgendered heterosexuals.

The FLC provided a space that sparked engagement with their CSC. Though CSC is not a known concept for the participants, they still embody its development which, if continued, could help to move them toward transformational implementation of IEFA and develop them as agents of change through a CoP (O'Connell et al., 2022). Their work strengthened participants' pedagogical practices, built confidence that will hopefully allow them to share with their colleagues who pursue this work (O'Connell et al., 2022). Each participant indicated that the safety of the space and the expertise shared within, both from Indigenous and non-Indigenous experts, was critically conducive to authentically approaching IEFA. Through the FLC, the participants were privileged with a safe learning space, or as Colin names it a space for safe discomfort, reduced the isolation and weight of trying to address IEFA alone. Finally, this framework suggests what may be possible through Communities of Practice while working to implement IEFA.

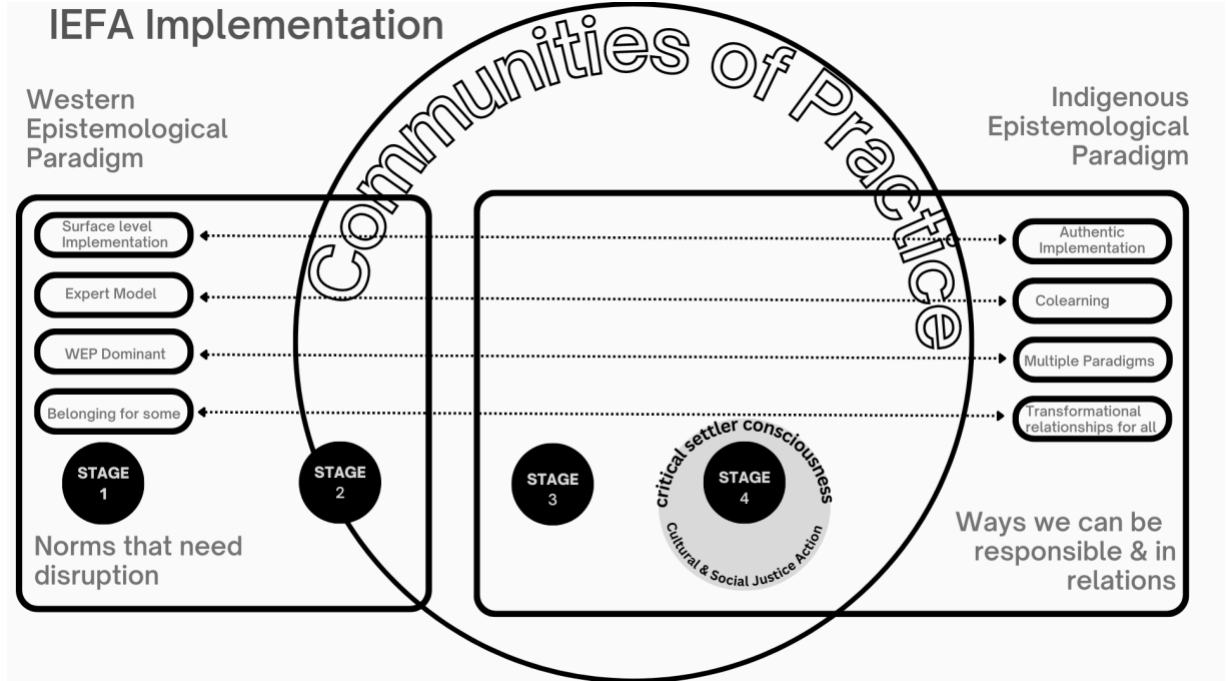


Figure 4. IEFA Implementation, Epistemological Paradigms, Communities of Practice and Critical Settler Consciousness

This final conceptual model outlines what I see as a potential inroad to implementing IEFA for non-Indigenous educators who are in tandem stitching together their CSC. Collectively, the stitches of are woven together to provide the collage for how a non-Indigenous educators CoP could be used as a space that sustains non-Indigenous settler scholars as they move toward implementing IEFA. This space gives time and place to develop critical consciousness as well as address resistances in supportive environments while working with other experts and novices to figure out ways their personal disciplines would need to engage IEFA. For faculty, this can look like rejecting false authority of Indigenous knowledge (Tuck & Gaztambide-Fernández, 2013), recognizing and breaking away from WEP norms so as to see the limiting influence of dominant paradigms by developing cultural fluency beyond WEP (Hopkins,

2020) as an activated responsibility (Smith, 2021) engaged by reciprocal relationships in safe discomfort.

I want to reiterate that this is not an effort to center white experiences of doing this work. This is an effort to show how to push off center whitestream tendencies and assimilative agendas in education. I hope this study can stand as a tool or heuristic for non-Indigenous people beginning to engage their CSC in meaningful ways which will require committing to responsibilities to Indigenous peoples to face and combat damage done by white supremacy and colonialism. An inclination might be to take up this work as a prescriptive tool and run with it; create the check list of how to engage with CSC, put together a CoP and “solve the problem” (S. Windchief, personal communication, May 2023). To do so, to rush through that process, would sidestep the discomfort and skip past the chance for relational connection as if transformation could be achieved by transaction. This leaves out the learning and the relationships that transform and provide sustenance through transformation.

As an antidote to that productive proclivity, I’d like to “encourage” development of knowledge in aspiration toward fluency in worldviews beyond the WEP. For this project, that took shape through work with Relationality. This can also look like mending the ways we build relationship with research. This would then “encourage us to argue for research that represents human agency, diverse perspectives, the co-construction of knowledge, the sustenance of meaningful relationships, and the disruption of educational inequities in the space between being/becoming, listening/telling, giving/receiving” (San Pedro & Kinloch, 2017). This can take shape by developing

anchoring questions such as those in Chapter Two and engaging with Relationality in the literature (Tynan & Bishop, 2022). For example, in this project, I include self-identified ancestry and identities shared by Indigenous scholars. This action has been used as a “decolonial scholarly practice” (Kerr, 2014) as well as “to make visible the primacy given to Indigenous scholars as a citational practice” (Tynan & Bishop, 2022, p. 7). My intention is to make visible the impact of Indigenous scholarship on my learning as a settler and disrupt colonized tendencies to make visible Indigenous peoples “as “at risk” peoples and as asterisk peoples” (Tuck & Yang, 2021, p. 22). To be sensitive to this problematic past I do not include ancestry and identities if they are not directly shared in the author’s work I am citing, and I apologize that if in my attempts to respect and center Indigenous scholars, my citational practice need redressing. These acts move us more toward fluency and more toward engaging in research as Projects in Humanization (San Pedro & Kinloch, 2017).

Those who are at the top level of CSC will likely see this humanizing work as part and parcel of the scope of their personal and institutional responsibilities, as generally stated, toward relations with and support of Indigenous futurity. As educators they are not separate from their responsibilities to Indigenous futurity. Rather as educators they are consistently engaged (committed) with acts of and within education (action) toward transformation. For these people, they are one in the same. The threads of the individual faculty experiences have been stitched together to understand how a community can individually and collectively learn ways to understand and implement IEFA. Though it is clear that some mending has been taken up, baskets of sewing

projects lie at our feet. Thus, we stand in a threshold; that is a liminal space in which more work can be done.

A Loving Critique and Recommendations

There seems to be a cultural wobble around the word “encourage” in IEFA mandate language that indicates unstable and mixed levels of willingness of non-Indigenous faculty or teachers to move beyond Stage One and challenge the WEP. The word “encourage” is a let off the hook, an allowance for an abdication of responsibility to not only preserving Indigenous cultural knowledge language and insuring futurity, but to also presenting a full context of what we currently call American history. In one direction of the wobble, the pull is to do culturally responsive good work and to support students faculty and staff by making seen and then combating Indigenous erasure in academia as well as fight against white supremacy and colonization that still shapes the academy today (Kulago, 2019; Pewewardy et al., 2018; Smith, 2021; Tachine, 2022; Tuck & Gaztambide-Fernández, 2013). The pull in the other direction is the amount of institutional and state support, both instrumental and affective, structured by the positivist production expectations of the institution that seem to unbalance moral values and intentions of non-Indigenous educators. Furthermore, how activating the excuse of “encourage” and moving beyond Stage One in the TIPM takes shape was extraneous to the focus of this study. I worked with participants who, at least, express an awareness and desire and chose the path of Culturally Disruptive Pedagogy through their attempts to implement IEFA, though future research may seek to understand the development of

racial consciousness for white college professors in order to support movement toward Transformational pedagogy.

Another wobble exists in the precarious balance of being desirous of centering Indigenous expertise and exploiting, knowingly or not, burdening or over relying on Indigenous scholars and students (Stanton & Morrison, 2018). Several of the faculty relied on Indigenous scholars to support them and enact the work within their courses. The reality is that there is not a critical mass of Indigenous scholars to pick up this work, let alone what the impacts of consistently guest speaking may ask of them to adjust their own priorities and responsibilities. As a result, those few Indigenous scholars are called upon to take on additional workload that also is not recognized within the institutional structure. As highlighted by Hopkins (2020) in Chapter Two, the institution, and thereby, the state of Montana, as an act of accountability to the IEFA mandate, should increase funding for and hire tribal educators, such as Hopkin's suggested Word Warriors across disciplines and pay for Indigenous expertise.

These participants show that IEFA implementation at a college level is not only possible but can be transformational for both students and faculty. And it has only been through grassroots effort that direct work to do this has taken place. It is not my intention to insult institutional efforts working towards providing workshops and faculty education on IEFA, and I apologize if my wording causes frustration. Often, these efforts take shape as one-off workshops for continuing education credits for professional development toward IEFA. The aforementioned disciplinary knowledge structures and process (Annala, 2022) can make general workshops problematic. A lack of purposeful

relationship development built for continued connection, like that of a CoP, could leave desirous practitioners feeling isolated by the implications of IEFA in their particular discipline. The uptake of IEFA by this study's participants shows that more direct and concrete support is necessary, not to mention time, money, effort, and intrinsic motivation. Trying to implement transformational pedagogy in a positivist institution, no matter how culturally aware and supportive, will be met with resistance and this resistance should not manifest in the form of responsibility abdication. For most of the participants in this study this wobble is evened out by the anchoring of their responsibilities within IEFA.

IEFA content is very much geared toward a content-based implementation. Training or implementation that does not engage, what I argue is deeply critical to this implementation, building relationships with similarly intentioned others as well as Indigenous Peoples and developing responsibilities toward each other anchored in the intentions of IEFA replicates problematic additive inclusion (Banks, 2008; Pewewardy et al., 2018). As Hopkins (2020) and Brigg (2020) pointed out, a gulf in the relations of Indigenous and non-Indigenous must be filled in by building Truth and Trust (Hopkins, 2020) through intentional relationship (Brigg, 2020). Recall that I described sewing stitches into the Cartesian cleavages (Tuck & McKenzie, 2015)- settler educators must thread their needles and do this work and the work of desettling ourselves and waking our CSC before we can sew stitches of trust. Developing CSC is an act of aspirational partnership, especially considering "until stolen land is relinquished, critical consciousness does not translate into action that disrupts settler colonialism" (Tuck &

Yang, 2021, p. 19). This first step for non-Indigenous settler educators is to engage with development of their CSC holding the aspiration that doing the work may sew their first stitch in fulfilling responsibilities to Indigenous People. To sew beyond that first stitch will require continual work toward fluency of Indigenous ways of being and knowing.

Implications

My intentions with this project were to catch sight of ways that settler consciousness might be developed enough so that engagement with IEFA and relationality move educators into a paradigm where multiple ways of knowing stand next to each other in real reciprocal relationship. The culmination of these participants' portraits portend the opportunity for authentic implementation that may be realized. If, through conscious and critical human interactions, connections can be stitched together tightly enough to bear out the discomfort of learning new ways of being, these stitches might provide the clarity and confidence needed to fulfill responsibilities to IEFA and each other. This means we must consider: How do we commit to this responsibility of relationship as educators, as faculty, as departments, as disciplines, and as institutions?

The participants in the study reveal the real necessity for purposeful time and space dedicated to working out how to implement IEFA, and, perhaps most importantly for non-Indigenous educators, to critically engage with what it means to be a settler. The implications of this study raise questions both for practice and research. How do we provide space and tools needed for that critical engagement? What must be changed in the tenure and promotion system to provide that space? How do we support non-tenure track educators in the same conscientization? What does it look like when educators in

the post-secondary education have in hand tools like the community of practice and liminality for critical settler consciousness framework? Who is called into responsibility to support developing desettling practices for post-secondary educators? How do we abdicate our responsibilities to each other by using the wobble of the word “encourage” to walk away from implementing IEFA? What research needs to be developed that drives critical settler consciousness development in support of Indigenous futurity? How do settlers desettle in support of Indigenous futurity so that mutualistic participation in land-based education is possible? Finally, as this work reveals the importance of the IEFA mandate as both impetus and backstop for faculty working to implement IEFA, where is the IEFA mandate reflected in the Program Standards for every discipline taught at the post-secondary level in the state of Montana? How do we each design our actionable strategies and create accountability for this work?

Final Thought

I began this thesis with the intention to remediate belonging to relationality. I have not met that intention and I don't know if in my career I can. But, I have approached an internalization of what developing a CSC feels like and looks like through the research process. I sat in the office of one of my committee members and he asked me “So, where do you see yourself on the model?” When I answered him, I only had half an answer- that I felt that with writing this thesis I am in action and commitment, as Pewewardy et al. say is required, and have approached Stage Three. Yet, in writing these concluding words, I realize that this thesis is but a single step and that I stand in a threshold, that liminal place of change. I need to move beyond this

internalized conscientization into a community that engenders accountable action.

Every step that I take after this thesis will be an indication of the direction my life will take in the fulfillment my responsibilities, hopefully through Projects of Humanization (San Pedro & Kinloch, 2017). I hope to continue to do my part as settler in support of mending the divisions that lay within most institutions of higher education between the western epistemological paradigm and Indigenous Knowledge Systems. As I move between thresholds toward transformational pedagogy, I must turn these words into first steps on my path toward critical settler consciousness. Here, I steady myself in the frame this institution has provided for this work and step forward in my commitment to supporting and standing for Indigenous futurity and for the long walk ahead of me, sewing basket at my elbow.

REFERENCES CITED

REFERENCES CITED

- Aday, A. (2018). *Fitting in and feeling real: state authenticity as fit between identity and environment* University of British Columbia].
- Annala, J. (2022). Disciplinary knowledge practices and powerful knowledge: a study on knowledge and curriculum structures in regions. *Teaching in Higher Education*, 27(8), 1084-1102.
- [Record #157 is using a reference type undefined in this output style.]
- Bear, R., Choate, P. W., & Lindstrom, G. (2022). Reconsidering Maslow and the hierarchy of needs from a First Nations' perspective. *Aotearoa New Zealand Social Work Review*, 34(2).
- Blackstock, C. (2011). The emergence of the breath of life theory. *Journal of Social Work Values and Ethics*, 8(1), 1-16.
- Blackstock, C. (2019). Revisiting the breath of life theory. *The British Journal of Social Work*, 49(4), 854-859.
- Brigg, M. (2020). Registers of relationality for knowing Indigenous-settler politics. *Questioning Indigenous-Settler Relations: Interdisciplinary Perspectives*, 15-31.
- Buckley, H., Steinert, Y., Regehr, G., & Nimmon, L. (2019). When I say... community of practice. *Medical education*, 53(8), 763-765.
- Carjuzaa, J. (2012). The positive impact of culturally responsive pedagogy: Montana's Indian Education for All. *International Journal of Multicultural Education*, 14(3).
- Carjuzaa, J., Baldwin, A. E., & Munson, M. (2015). Making the dream real: Montana's Indian Education for All initiative thrives in a national climate of anti-ethnic studies. *Multicultural Perspectives*, 17(4), 198-206.
- Carjuzaa, J., & Hunts, H. (2013). 17. Thinking Outside Discipline Boundaries to Integrate Indian Education for All Across the Curriculum. *Collected Essays on Learning and Teaching*, 6, 93-98.
- Connelly, F. M., & Clandinin, D. J. (1990). Stories of experience and narrative inquiry. *Educational researcher*, 19(5), 2-14.
- Connelly, F. M., & Clandinin, D. J. (2006). *Narrative inquiry*. Taylor & Francis Group. <http://ebookcentral.proquest.com/lib/montana/detail.action?docID=446575>

- D'Arcangelis, C. L. (2018). Revelations of a white settler woman scholar-activist: The fraught promise of self-reflexivity. *Cultural Studies↔ Critical Methodologies*, 18(5), 339-353.
- Dudgeon, P., & Bray, A. (2019). Indigenous relationality: Women, kinship and the law. *Genealogy*, 3(2), 23.
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. Random house.
- Eddy, P. L., Hao, Y., Iverson, E., & Macdonald, R. H. (2022). Fostering Communities of Practice Among Community College Science Faculty. *Community College Review*, 50(4), 391-414.
- Elser, T. (2010). *The framework: A practical guide for Montana teachers and administrators implementing Indian Education for All*. Montana Office of Public Instruction.
- Fast, E., & Kovach, M. (2019). Community relationships within Indigenous methodologies. In *Applying Indigenous Research Methods* (pp. 21-36). Routledge.
- Hopkins, J. P. (2020). *Indian education for all: Decolonizing indigenous education in public schools*. Teachers College Press.
- Hurtado, S., & Carter, D. F. (1997). Effects of college transition and perceptions of the campus racial climate on Latino college students' sense of belonging. *Sociology of education*, 324-345.
- Kim, J.-H. (2015). *Understanding narrative inquiry: The crafting and analysis of stories as research*. Sage publications.
- Kirkness, V. J., & Barnhardt, R. (2001). First nations and higher education: The four R's-respect, relevance, reciprocity, responsibility. Knowledge across cultures: A contribution to dialogue among civilizations. *Comparative Education Research Centre, The University of Hong Kong*.
- Kovach, M. (2013). Treaties, truths and transgressive pedagogies: Re-imagining Indigenous presence in the classroom. *Socialist Studies/Études socialistes*.
- Kovach, M. (2021). *Indigenous methodologies: Characteristics, conversations, and contexts*. University of Toronto press.
- Kulago, H. A. (2019). In the business of futurity: Indigenous teacher education & settler colonialism. *Equity & Excellence in Education*, 52(2-3), 239-254.

- Marule, T. R. (2012). Niitsitapi relational and experiential theories in education. *Canadian Journal of Native Education*, 35(1).
- O'Connell, K., Eddy, P. L., Iverson, E. R., & Macdonald, R. H. (2022). Faculty Change Agent Model: Cultivating Faculty to Catalyze Change. *Change: The Magazine of Higher Learning*, 54(3), 11-18.
- Pewewardy, C. D., Lees, A., & Clark-Shim, H. (2018). The transformational Indigenous praxis model: Stages for developing critical consciousness in Indigenous education. *Wicazo Sa Review*, 33(1), 38-69.
- San Pedro, T. (2018). Abby as ally: An argument for culturally disruptive pedagogy. *American Educational Research Journal*, 55(6), 1193-1232.
- San Pedro, T., & Kinloch, V. (2017). Toward projects in humanization: Research on co-creating and sustaining dialogic relationships. *American Educational Research Journal*, 54(1_suppl), 373S-394S.
- Smith, L. T. (2021). *Decolonizing methodologies: Research and indigenous peoples*. Bloomsbury Publishing.
- Stahl, N. A., & King, J. R. (2020). Expanding approaches for research: Understanding and using trustworthiness in qualitative research. *Journal of Developmental Education*, 44(1), 26-28.
- Stanton, C. R., Carjuzaa, J., & Hall, B. (2019). The promises, purposes, and possibilities of Montana's Indian education for all. *Journal of American Indian Education*, 58(3), 78-104.
- Stanton, C. R., & Morrison, D. (2018). Investigating curricular policy as a tool to dismantle the master's house: Indian Education for All and social studies teacher education. *Policy Futures in Education*, 16(6), 729-748.
- Tachine, A. R. (2022). *Native Presence and Sovereignty in College: Sustaining Indigenous Weapons to Defeat Systemic Monsters*. Teachers College Press.
- Taylor, K. B., & Baker, A. R. (2019). Examining the role of discomfort in collegiate learning and development. *Journal of College Student Development*, 60(2), 173-188.
- Tervalon, M., & Murray-Garcia, J. (1998). Cultural humility versus cultural competence: A critical distinction in defining physician training outcomes in multicultural education. *Journal of health care for the poor and underserved*, 9(2), 117-125.

- Toole, B. (2019). From standpoint epistemology to epistemic oppression. *Hypatia*, 34(4), 598-618.
- Tuck, E., & Gaztambide-Fernández, R. A. (2013). Curriculum, replacement, and settler futurity. *Journal of curriculum theorizing*, 29(1).
- Tuck, E., & McKenzie, M. (2015). Relational validity and the “where” of inquiry: Place and land in qualitative research. *Qualitative Inquiry*, 21(7), 633-638.
- Tuck, E., & Yang, K. W. (2021). Decolonization is not a metaphor. *Tabula Rasa*(38), 61-111.
- Tynan, L. (2021). What is relationality? Indigenous knowledges, practices and responsibilities with kin. *cultural geographies*, 28(4), 597-610.
- Tynan, L., & Bishop, M. (2022). Decolonizing the Literature Review: A Relational Approach. *Qualitative Inquiry*, 10778004221101594.
- Vaccaro, A., & Newman, B. M. (2016). Development of a sense of belonging for privileged and minoritized students: An emergent model. *Journal of College Student Development*, 57(8), 925-942.
- Wenger-Trayner, E., & Wenger-Trayner, B. (2014). Learning in a landscape of practice: A framework. In *Learning in landscapes of practice* (pp. 13-29). Routledge.
- Wilson, S. (2008). Research is ceremony. *Indigenous research methods*. Winnipeg: Fernwood.
- Windchief, S., & Cummins, J. (2022). Considering Indigenous research methodologies: Bicultural accountability and the protection of community held knowledge. *Qualitative Inquiry*, 28(2), 151-163.

APPENDICES

APPENDIX A

INTERVIEW PROTOCOL

Individual Interview & Consent

Hello "Interviewee" (Title and Name): _____

I am interested in the experiences of faculty implementing IEFA. My intent is to examine relationality as a critical pedagogy in mainstream post-secondary academic classrooms by reflecting on MSU Engineering faculty members' experiences of integrating IEFA into their teaching, especially regarding if and how relationality and or belonging are engaged in these efforts.

Introductory Protocol

There is no signing of a release form, rather I will ask you for verbal consent. Please understand that 1) your participation is voluntary and you may stop at any time if you feel uncomfortable, and 2) I do not intend to inflict any harm. In our email exchanges I included my positionality statement and intentions for this research project, please let me know if there are any points from that information that you would like to clarify before you participate in this study. Thank you for your agreeing to participate.

1. I am Sidrah MG Watson, a Graduate Student in Adult and Higher Education conducting research by Montana State University as part of my Masters' Thesis Project. Please refer to attached documents for my positionality statement and intentions for this research project. This research aims to examine relationality as a critical pedagogy in mainstream post-secondary academic classrooms by reflecting on MSU Engineering faculty members' experiences of integrating IEFA into their teaching, especially regarding how relationality and or belonging are operationalized in these efforts.
2. You may contact me Sidrah MG Watson (lead PI) should you have any questions at sidrahmg.watson@montana.edu
3. You may also contact my advisor, Carrie Myers, cbmyers@montana.edu or MSU IRB irb@montana.edu with any questions or concerns

4. During the data analysis process, I will contact you to do member checks during the draft, revision, and final versions of the thesis. The first check will be completed when I transcribe the individual interview and you may provide feedback or corrections to the transcription. I will ask every subject if they prefer anonymity, even if at the departmental level. If any subject prefers anonymity all data collected will be recoded with preferred pseudonyms and departmental focus will be referred to as STEM. If during any of the member checking process you feel information is too revealing to your identity please inform me and I will work with you to make sure you are protected and feel comfortable with how your story is shared.
5. I will be audio recording our sessions, they will be transcribed and stored on a secure OneDrive folder through MSU's secure provided system. They will be deleted one year after completion of my Doctoral Thesis.
6. Participation is voluntary and you can choose to not answer any questions you do not want to answer and/or you can stop at any time.
7. Proceeding with the interview indicates your consent to participate. May we precede?

We have planned this interview to last approximately one hour. During this time, we want to explore your experience with IEFA and relationality and belonging in the classroom, and do not intend any burden, time or otherwise.

A. Interviewee Background (This will be emailed for Faculty to consider ahead of the interview)

How long have you been ...

_____ in your present position?

_____ at this institution?

_____ working with IEFA?

_____ working as a professor?

Please feel free to address these following requests directly in the form format or email as attachments to Sidrahmg.watson@montana.edu

What is your teaching philosophy?

Please share the syllabus for the class(es) you worked to implement IEFA

Please share any supporting documents, guides, pieces of literature that you drew on as or that inspired you as you worked to implement IEFA

If you were to summarize into a sentence or brief paragraph, what motivates you to implement IEFA?

Do you share a positionality statement in your research or with your students? If yes, please share it here or attach in an email.

What class(es) do you teach? _____

What is your current research focus? _____

Do you prefer anonymity in the dissemination of this research?

1. At the individual level? YES/NO
2. In the case that any participant chooses anonymity, please share your preferred Pseudonym.
 - a. Pseudonym: _____
3. At the departmental level? YES/NO

B. Interview: Individual & Open-ended

1. Please describe your professional educational journey that led to being a part of the faculty learning group.
2. Please describe any internal work you found necessary before implementing IEFA or as you implemented IEFA.
3. What is your story of how you implement IEFA in your class/classes?
4. What do you see as your core responsibilities as you implement IEFA?
5. How did working with the faculty group inform your intentions surrounding IEFA and how you build your learning environments for students? (Not needed if addressed in open ended question)
6. Please describe any challenges you've experienced as you do this work (Not needed if addressed in open ended question)
7. What feels most rewarding in this work? (Not needed if addressed in open ended question)
8. What keeps you doing this work?

APPENDIX B

INTENTIONAL IEFA IMPLEMENTATION TABLE

Table B.1. Intentional IEFA Implementation Tables

Participant	Implementation	Description	Feelings Expressed	Values	Understandings	Internal Resistance s/ Dilemmas	External Resistances/Dilemmas
Sarah	Sarah has not yet implemented IEFA. She talks about perhaps adding a land acknowledgement and using the syllabus as a space to bring in IEFA concepts or structuring sample problems to include Indigenous knowledge or contexts that would be of value to Indigenous students. She also discusses using example problems as ways to bring Indigenous representation into the classroom.	"You could... create that scenario to be more acknowledging of Indigenous knowledge or applications that would be of value to indigenous peoples like there are ways to create scenarios that are very still giving the engineering content but like placing them different contexts that show the diversity of perspectives."	connection, inspired, uncomfortable, motivated, illumination/epiphany/aha, committed, apprehension	developing ethics in engineers, growth mindset, multiple perspectives important, engaging responsibility, supporting marginalized students, iefa matters, inclusion matters, reflexivity, whole person development, growing awareness, humanistic approach to teaching, compassion, authenticity, indigenous expertise matters, diversity matters	Equity requires effort, home context matters, problematic inclusion is a problem, community is affirming, growing awareness, community needed for change, modeling is critical,	lack of Indigenous knowledge and culture, band width issues, lack of how to do this knowledge, fear of causing harm, what are my responsibilities as non-Indigenous,	band width issues

Participant	Implementation	Description	Feelings Expressed	Values	Understandings	Internal Resistances/ Dilemmas	External Resistances/Dilemmas
David	David intends to bring in IEFA is through the replication of the engineering Tipi build co- led by Indigenous colleague he experienced as a way to discuss fluid dynamics, an upcoming lecture (this semester) that had not occurred as of the time of our interview.	"I think the engineers, as I already mentioned, think they think it's cool when I mentioned something like the engineering words kind of around how it has worked out like all this [Tipi] structure exists this way. And check out all this stuff built in. It's so cool. They seem to resonate with that."	insecurity, excitement, curiosity, wonder, engagement, pleasure in learning, connection, inspired, interest, uncomfortable, unsure, doing good feels good, motivated	different ways to share knowledge, developing ethics in engineers, growth mindset, play by the rules, share the hook, planting the seed, multiple perspectives important, experimentation, defer to Indigenous expertise, engaging responsibility, supporting marginalized students, respect Indigenous knowledge and culture, relationships matter, iefa matters	iefa is ethical, ethics are rules to live by, knowledge convergence, critical thinking requires internal ownership, equity requires effort, privilege power, Mutualism, I am a novice here	not sure how to address equity, lack of knowledge iefa, lack of knowledge engineering education, discomfort, pressure to produce*	politicization, pressure to produce*, people want you to stay in your lane

Participant	Implementation	Description	Feelings Expressed	Values	Understandings	Internal Resistances/ Dilemma	External Resistances/ Dilemma
Melissa	Melissa wanted her students to directly consider who their pharmaceuticals are being designed for and brought in an Indigenous colleague from Health and Human Development to discuss her work. She saw this as a way to engage students in thinking critically about designing for specific communities and how they will need to rely on the expertise of who they design for.	"I have, for example, a whole section on global health and being an engineer and designing for communities that in some sense you're just not a part of ... So, just really trying to reframe this whole discussion on what it means to be an engineer and design for the better of society. What does that actually mean? Like you might have really good intentions and do harm. So how do we prevent that?"	satisfaction, insecurity, connection, inspired, interest, uncomfortable, unsure, motivated, illumination/epiphany/aha, committed, admiration, inspired, relief, aspiration, worry, validated, hopeful	relationship matters, different ways to share knowledge, developing ethics in engineers, growth mindset, planting the seed, multiple perspectives important, defer to Indigenous expertise, engaging responsibility, supporting marginalized students, respect Indigenous knowledge and culture, iefa matters, indigenizing engineering matters, non-Indigenous understanding of Indigenous context matters, developing multicultural understanding is a personal responsibility, responsibilities to Indigenous non-Indigenous relations, responsibilities as non-Indigenous, increasing who is seen as an engineer, reflexivity, developing growth mindset in students	ethics are rules to live by, critical thinking requires internal ownership, I am a novice here, indigenizing engineering matters, relationship is a conduit of change, Indigenous knowledge and culture resources matter, people want you to stay in your lane, education can be a path to helping people, limited perspectives are limiting, community is affirming, iefa can help form listeners who can change the world for good	Lack of Indigenous knowledge and culture, lack of how to do this knowledge, fear of causing harm, reading the room for Indigenous presence, desire to teach not preach, getting students to share, student push back, should I stay in my own lane	Discipline not willing or not sure how to address equity, politicization, problematic expertise, unclear expectations of iefa, limits of iefa, lack of different ways of teaching engineering, seeing harm done by faculty not doing the work, lack of different ways of teaching engineering,

Participant	Implementation	Description	Feelings Expressed	Values	Understandings	Internal Resistances/ Dilemma	External Resistances/ Dilemma
Colin	Colin describes his process for two ways of engaging his students by requiring them to complete the IEFA training before beginning their course project in order to set the context for all of the elements they need to consider, and using it as a general reflection tool	"In fact that's how I tackle IEFA in many of my classes is ask them to take the training themselves and then to reflect upon it and to ask additional questions that they might have, or things that they learned from it that they didn't know before. I've been documenting that for two years now, students reflecting on that. And so the other way then is that after reading through the IEFA training and quiz the students that need to contextualize their own course projects within IEFA. So they generate IEFA content for me."	surprise, confusion, bewilderment, reluctance, satisfaction, excitement, curiosity, joy, wonder, doing good feels good, motivated, illumination/ epiphany/aha, committed	relationship matters, developing ethics in engineers, growth mindset, play by the rules, planting the seed, multiple perspectives important, defer to Indigenous expertise, engaging responsibility, inclusion matters, indigenizing engineering matters, non-Indigenous understanding of Indigenous context matters, developing multicultural understanding is an institutional responsibility, developing multicultural understanding is a personal responsibility, responsibilities to Indigenous non-Indigenous relations, responsibilities to FLC, transparency cultural humility but not saying cultural humility, responsibilities as non-Indigenous, use expertise for good	this work resulted from relationships, iefa is ethical, ethics are rules to live by, critical thinking requires internal ownership, privilege power, I am a novice here, inclusion can be harmful, indigenizing engineering matters, relationship is a conduit of change, home context matters, Indigenous knowledge and culture resources matter, efforts need assessment, people want you to stay in your lane, problematic inclusion is a problem	lack of knowledge iefa, lack of Indigenous knowledge and culture, lack of knowledge engineering education, band width issues, power and privilege, problematic expertise, attention and accolades, indoctrination writ large, unclear expectations of iefa, what where are the real lane lines /greyspace, dangerous altruism	Discipline not willing or not sure how to address equity, lack of knowledge iefa, lack of Indigenous knowledge and culture, politicization, band width issues, power and privilege, problematic expertise,