

ESSAY

Creating Pathways Toward Intercultural Competence in Agricultural and Natural Resource Sciences

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Abstract

The need for students to understand and demonstrate intercultural competencies to work effectively across differences, especially in this anti-DEI climate, matters now more than ever. Although higher education institutions have historically prepared students with the competencies to live responsibly and productively as adults, they are currently examining if and how their curricula support intercultural competence and world readiness to work effectively within and across societies. As an 1862 Land-Grant, Research I University, the University of Minnesota College of Food, Agricultural and Natural Resource Sciences (CFANS) is simultaneously situated within a context of cultural diversity, yet many underrepresented students have experienced education, health, and wealth inequalities across racialized demographics. This essay describes the student Intercultural Development Curriculum (IDC) that builds on and deepens intercultural concepts, competencies, and content across disciplines. We describe collaborative lessons learned, challenges to date, and next steps that support student success and intercultural competence.

Keywords:

intercultural competence, intercultural development, spiral curriculum, world readiness

Boyer's Equity-Excellence Imperative highlights the importance of preparing students to work on solutions to real global problems (Undergraduate Education at Research Universities [UERU], 2022). Boyer contends that students tend to succeed when empirically based pedagogical strategies are used in inclusive learning environments. In the current anti-DEI climate, the need for students to understand and demonstrate intercultural competencies to work effectively across differences matters now more than ever. Although higher education institutions have historically prepared students for competencies to live responsibly and constructively as adults, these institutions are now examining if and how their curriculum supports student intercultural competence and overall readiness to work on real-world issues.

In full alignment with Boyer, the [University of Minnesota's MPACT 2025 Strategic Plan](#) calls for the University to foster a culture that values an inclusive community, increases intercultural competency, reduces inequities among underrepresented groups, and promotes UMN's [student development outcomes and student learning outcomes](#) for undergraduates. The student development outcomes highlight the importance of building student competencies regarding the appreciation of differences, working effectively with others across differences, seeking out others with different backgrounds and/or perspectives to improve decision making, understanding and respecting the values and

Pathways Toward Intercultural Competence *continued*

beliefs of others, and appreciating the importance of diversity and conveying this value to others. The student learning outcomes highlight the importance of “understanding diverse philosophies and cultures within and across societies.”

As we began our deep dive into student intercultural development, we aligned with the American Association of Colleges and Universities’ literature-based definition of Intercultural Knowledge and Competence: “a set of cognitive, affective, and behavioral skills and characteristics that support effective and appropriate interaction in a variety of cultural contexts,” as coined by Bennett (2008). (See Table 1 for a full definition as well as other terms potentially comparable to intercultural competence).

The University of Minnesota College of Food, Agricultural and Natural Resource Sciences (CFANS) is situated amidst a breadth of cultural diversity surrounding its Twin-Cities campus. With over 150 different primary home languages spoken, its metropolitan setting includes the largest urban Hmong population, the largest urban Somali population, and the second largest urban Indigenous population in the U.S. (MN Department Demographic Center, 2024). Yet Minnesota is also home to some of the most profound and persistent racial inequities and education inequities in the nation (Minnesota Department of Health, 2014; Wilder Research, 2012; Blue Cross and Blue Shield of Minnesota Foundation, 2010). In 2020, the murder of George Floyd directed the world’s attention to Minneapolis in a stark reminder of the ongoing harmful impacts that come with an unresolved, conflicted, and polarized history of those who attribute racial bias to a person or group; such racial biases might include unfair policing, voter suppression, or unfair lending practices. CFANS examined its role, responsibilities, and obligations as a flagship college in the institutional mission of a major Land-Grant, Research I University. Our institution receives federal monies through the Morrill Acts of 1862 and 1890, which provide land to establish learning institutions focused on agriculture (Lee & Ahtone, 2020; Baptiste et al., 2020; Gravlee, 2020).

Working Across Differences Initiative (WADI) and Teaching Across Differences (TAD)

As a result, the CFANS Office of Diversity and Inclusion was formed in 2006 to create a more welcoming and inclusive environment around working across differences among groups, values, beliefs, cultures, roles, practices, and more. Soon thereafter, CFANS’ Office of Diversity and Inclusion launched the Working Across Differences Initiative (WADI) to enhance student multicultural and global competencies. Although the initiative was initially aimed at study-abroad courses, WADI proved effective for campus-based courses as well. Students in WADI courses worked on assignments and activities involving empirically based teaching strategies such as integrated case studies, simulations, and reflective writings that incorporated multiple cultural perspectives. The activities were designed to develop student competencies to work effectively across differences to solve complex global issues. These interventions led to significant positive shifts in student intercultural development (White & Lorenz, 2016).

From requests by instructors for more WADI-related resources and workshops for teaching, a Teaching Across Differences (TAD) task force convened within WADI. This faculty cohort provided instructors with a wealth of resources and professional development opportunities to design or revise current courses that actively integrate intercultural competencies using evidence-based pedagogy within and across disciplines.

Both WADI and TAD served as the general basis to begin building an intercultural curriculum across disciplines, now termed the Intercultural Development Curriculum (IDC). The path progression from WADI to IDC is outlined in Table 2. Also, a CFANS team, comprised of 3-5 CFANS faculty, leaders, and a Center for Education Innovation education specialist formed to move this effort forward. In 2020, this team drafted a plan to provide instructors with resources to help students achieve intercultural competency in their courses.

Pathways Toward Intercultural Competence *continued*

Table 1
Conceptual Terminology

Term	Definition	Source
Multicultural	The coexistence of different cultures, recognizing cultural differences (food, dress, beliefs, etc.), although sometimes remaining in isolation from each other. Deeper differences may not be addressed or communicated or resolved.	Reynolds, C. R., & Fletcher-Janzen, E. (Eds.). (2008). Pluralism, cultural. In <i>Encyclopedia of special education</i> (pp. 1591–1592). Wiley. https://doi.org/10.1002/9780470373699.speced1627
Cross-cultural	Comparison and analysis of two or more different cultures or cultural areas. Intercultural competence focuses on six domains of deepening ways to work effectively across difference among cultures in any venue or discipline. Cross-cultural may compare and analyze difference in awareness of cultural differences, communication skills, and negotiation skills, although this may not result in individual or collective transformation.	Merriam-Webster Dictionary
Global readiness	To participate, collaborate, and work in a globally interconnected society.	Kerkhoff, S. N. (2017). Teaching for global readiness: A model for locally situated and globally connected literacy instruction. In <i>Addressing diversity in literacy instruction (Literacy Research, Practice and Evaluation, Vol. 8, pp. 193–205)</i> . Emerald Publishing Limited. https://doi.org/10.1108/S2048-045820170000008009
Intercultural competence	A set of cognitive, affective, and behavioral skills and characteristics that support effective and appropriate interaction in a variety of cultural contexts. AAC&U VALUE Rubric delineates the following six cognitive, affective and behavioral competency domains: 1. Knowledge: Cultural self-awareness (Articulates insights into own cultural rules and biases)	AAC&U VALUE Rubric based on: Bennett, J. M. (2008). Transformative training: Designing programs for culture learning. In M. A. Moodian (Ed.), <i>Contemporary leadership and intercultural competence: Understanding and utilizing cultural diversity to build successful organizations</i> (pp. 95–110). Sage Publications.

Pathways Toward Intercultural Competence *continued*

Term	Definition	Source
Intercultural competence	2. Knowledge: Knowledge of cultural worldview frameworks (Demonstrates sophisticated understanding of the complexity of elements important to members of another culture in relation to its history, values, politics, communication styles, economy, or beliefs and practices) 3. Skills: Empathy (Interprets intercultural experience from the perspectives of own and more than one worldview and demonstrates ability to act in a supportive manner that recognizes the feelings of another cultural group) 4. Skills: Verbal and nonverbal communication (Articulates a complex understanding of cultural differences in verbal and nonverbal communication and is able to skillfully negotiate a shared understanding based on those differences) 5. Attitudes: Curiosity (Asks complex questions about other cultures, seeks out and articulates answers to these questions that reflect multiple cultural perspectives) 6. Attitudes: Openness (Initiates and develops interactions with culturally different others. Suspends judgment in valuing her/his interactions with culturally different others)	AAC&U VALUE Rubric based on: Bennett, J. M. (2008). Transformative training: Designing programs for culture learning. In M. A. Moodian (Ed.), <i>Contemporary leadership and intercultural competence: Understanding and utilizing cultural diversity to build successful organizations</i> (pp. 95–110). Sage Publications.

Intercultural Competency Development: Challenges

Each department within CFANS was invited to integrate intercultural competencies into their courses. Workshops, webinars, and showcases were offered to faculty and instructors to support incorporating intercultural competency outcomes into their existing courses. The CFANS Undergraduate Policy and

Review Committee approved the process for a course designation of DE (diversity-enriched), now Intercultural Development (ID), on undergraduate courses that incorporate or had already incorporated course outcomes relating to intercultural competence. Over the next two years, at least 13 courses were approved for course designator status by incorporating intercultural competencies for students to work effectively across differences.

Pathways Toward Intercultural Competence *continued***Table 2***The Path Progression from WADI to IDC*

Program	When	Why	How
Working Across Difference Initiative (WADI)	2013	CFANS developed the Working Across Difference Initiative to increase student intercultural competence while studying abroad. This was so successful that leaders sought ways to obtain similar results via on-campus classes.	Intercultural developmental activities were designed for students studying abroad. Activities included case studies (approaching issues from multiple perspectives), reflective writing, and service-learning experiences.
Teaching Across Difference (TAD)	2015	A task force of faculty and instructors formed within the Working Across Difference Initiative to increase student intercultural competence throughout on-campus classes by integrating intercultural objectives with a student-centered approach and relevant, evidence-based strategies/activities.	Intercultural developmental activities were designed for students on campus in classes of their discipline. Activities were developed relating to their discipline included case studies (approaching issues from multiple perspectives), reflective writing, and service-learning experiences.
IDC (Intercultural Development Curriculum) formerly DEC and DESC: - Diversity Enriched Curriculum (DEC): 2016 to incorporate intercultural competencies into courses - Diversity Enriched Spiral Curriculum (DESC): 2022 to incorporate a systematic, spiraling approach for student mastery of intercultural competencies	2024	A group of college leaders, faculty, and instructional staff interested in developing intercultural competencies in their classes and throughout their unit's program.	A developmental spiral approach was developed to incorporate intercultural competencies into on-campus courses of all disciplines. Throughout the students' 4+ years of academic experience, they would gain designated intercultural competencies each year. Unit leaders work together to identify and integrate intercultural objectives and competencies without redundancy.

A challenge, expressed by Salvador (2024), contended that—as an 1862 Land Grant University—our history is deeply entrenched within the larger historical pattern of the colonization of the Americas, history that remains highly pervasive, conflicted, and unresolved. Salvador maintained that these continuing dynamics operate within and play out on multiple levels: personal, professional, institutional, and societal. Diversity-enriched work at public universities appears embroiled within today's rapidly escalating political polarization, potentially owing in part to our unresolved history writ large.

Also, faculty found that teaching intercultural student competencies may feel different from more conventional content for faculty in agricultural, environmental, and natural resource sciences. These highly complex, interwoven, subjective, and oftentimes challenging dimensions of preparing students for intercultural competency may require long-term, human developmental work that may often feel at odds with more conventional content-focused approaches to agricultural and natural resource science disciplines.

Given these complexities, not all faculty feel prepared to face potential challenges posed in engaging

Pathways Toward Intercultural Competence *continued*

intercultural competence work. Such work might be viewed as a tangential “add on” to core academic work of research and teaching. Those involved in this effort learned from the outset that intercultural competence work in agricultural, environmental, and natural resource sciences cannot be regarded as just another task to be checked off on a to-do list or achieved solely by top-down mandates. Rather, the team saw opportunities for faculty who expressed an interest to contribute to this developmental process. Frequent gatherings for a sense of collegial support and community became very important in sustaining a trajectory of momentum toward student development of intercultural competence to work effectively across differences in global learning environments.

Expansion from ID Courses to a Spiral ID Curriculum Approach to Student Intercultural Competency

The team and multiple faculty members realized that several courses incorporating intercultural competencies often duplicated intercultural competencies unintentionally, which resulted in student work repetition and redundancy. This realization broadened our focus toward an inclusively enriched curriculum throughout participating departments that systematically integrated deepening competencies without repetition.

Ultimately, both the team and many faculty concluded that changes may not be sufficient at a course level and change at a unit level would better meet student success with intercultural competencies. Because frameworks or templates for this type of programmatic implementation, especially within the disciplines of CFANS, could not be found when the groups started working on their individual courses, this expanding process was identified as needing at least two or three academic years to develop and implement spiral curricular changes.

In 2022, the CFANS team, now referred to as the Intercultural Development Curriculum (IDC) team, took another step toward a progressive layering of intercultural competencies throughout the curricular learning experiences of students. The IDC team disseminated a request for proposals, inviting academic units within CFANS to incorporate progressively deepening layers of ID competencies tailored to their current unit courses.

Recipients received limited funding to focus on ID spiral curriculum development within their departments. This broadening outcome from single courses to an ID spiral curriculum would support the developmental competencies needed for students to graduate prepared for the twenty-first-century intercultural challenges they may face in their lives and careers (Boyer, 2022; White & Lorenz, 2016).

The spiral curriculum approach represents an attempt to offer intercultural, global competencies that increasingly deepen over the span of the student’s education. Each time the content is re-visited, the student gains increasingly thorough knowledge and application of both the discipline and deepening intercultural competency.

Initially coined by theorist Bruner (1960), a spiral curriculum approach benefits students by reinforcing information over time and using prior knowledge to inform future learning (Bruner, 1960; Howard, 2007; Lohani et al., 2005). Bruner described the following three key principles of a spiral curriculum:

1. Cyclical: Students return to the same topic several times via various disciplines throughout their school career.
2. Increasing Depth: Each time a student returns to the topic at a deeper level and explores more complexity.
3. Prior Knowledge: A student’s prior knowledge is used to build from their foundations rather than starting anew.

The Framework for Building Student Intercultural Competency

The literature-based AAC&U Intercultural Knowledge and Competence VALUE Rubric both defines and articulates “fundamental criteria for each learning outcome, with performance descriptors demonstrating progressively more sophisticated levels of attainment” (AAC&U, 2025). Likewise, the AAC&U Intercultural Knowledge and Competence VALUE Rubric is entirely relevant and intended for all disciplines throughout all colleges and universities throughout the United States.

Pathways Toward Intercultural Competence *continued*

CFANS developed an Intercultural Competency Rubric (in process), entirely based on and closely aligned with the AAC&U Intercultural Knowledge and Competence Value Rubric. As shown in Table 3, both rubrics consist of three domains (Knowledge, Skills, and Attitudes) that comprise the following six components:

1. Knowledge: Cultural self-awareness
2. Knowledge: Knowledge of cultural worldview frameworks
3. Skills: Empathy
4. Skills: Verbal and nonverbal communications
5. Attitudes: Curiosity
6. Attitudes: Openness

Likewise, Table 3 depicts the 18 AAC&U Intercultural and Knowledge VALUE Competencies used and adapted by the CFANS Intercultural Development Competencies.

Both rubrics depict progressively advanced levels of intercultural competencies in each of the six areas described above. The CFANS Rubric categorizes three competency levels as Developing, Accomplished, and Proficient which aligns with, furthers, and deepens the overall intercultural development curriculum of 18 competencies comprising both rubrics.

And CFANS went one significant step further: for each of the three deepening levels within the six domains, clear and measurable objectives were developed, which align with both empirically based strategies, and potential assessments for the 18 competencies that can be applied in any discipline. This gives each instructor the agency to choose and modify (if they prefer) any of the given 18 competencies to their discipline. In addition, each of the 18 competencies have a menu of several evidence-based strategies that can be used to master a given competency, so students will not be replicating activities during their 4+ years of academic experience. Table 3 depicts the 18 AAC&U Intercultural and Knowledge VALUE Competencies used and adapted to the CFANS

Intercultural Development Competencies.

Each of the 18 competencies represented in the CFANS IDC Rubric includes several samples of clear objectives that fully align with potential strategies/activities and assessments for each instructor to consider, tweak, and/or apply to their specific discipline. For example, at the “Developing” Knowledge level of Cultural self-awareness, we designed the following Sample Case Study Activity for faculty/instructors to consider and tailor to their specific discipline:

- **Sample Objective:** Given a case study (of a current/real life issue/problem) from their own discipline, the students will identify (1, 2, or 3+) of their own potential cultural rules and cultural biases.
- **Sample Activity:** Present discipline-related case studies or scenarios that involve cultural differences. Require students to analyze the cases and identify (1, 2, or 3+) of their own cultural biases that might influence their perceptions and decisions.
- **Sample Assessment:** Students master this competency when they identify (1, 2, or 3+) of their own cultural biases that might influence their perceptions and decisions. This assessment is embedded directly in the activity.

Then, as students master this given competency described above, instructors deepen and further student mastery to the next level. They review, tweak, and/or apply sample objectives, strategies and assessments in the spiral curriculum at the capstone or accomplished level of Knowledge: Cultural self-awareness, one of the intercultural competencies described in Table 3. Below is a sample portfolio project at the capstone level of Knowledge: Cultural self-awareness:

- **Objective:** Given directions, each student will create their portfolio that includes written reflections, assignments, and projects demonstrating their growth, progress and mastery in this competency.

Pathways Toward Intercultural Competence *continued***Table 3***AAC&U Intercultural and Knowledge Competencies adapted to the CFANS Intercultural Development Competencies*

AAC&U: Domains of Competency	AAC&U: Milestones 2 (IDC: Exploring)	AAC&U: Milestones 3 (IDC: Developing)	AAC&U: Capstone (IDC: Skillful)
Knowledge: Cultural Self-Awareness	Identifies own cultural rules and biases (e.g. with a strong preference for those rules shared with own cultural group and seeks the same in others).	Recognizes new perspectives about own cultural rules and biases (e.g. not looking for sameness. Comfortable with the complexities that new perspectives offer).	Articulates insights into own cultural rules and biases (e.g. seeking complexity; aware of how her/his experiences have shaped these rules, and how to recognize and respond to cultural biases, resulting in a shift in self-description).
Knowledge: Knowledge of cultural worldview frameworks	Demonstrates partial understanding of the complexity of elements important to members of another culture in relation to its history, values, politics communication styles, economy, or beliefs and practices.	Demonstrates adequate understanding of the complexity of elements important to members of another culture in relation to its history, values, politics, communication styles, economy, or beliefs and practices.	Demonstrates sophisticated understanding of the complexity of elements important to members of another culture in relation to its history, values, politics, communication styles, economy, or beliefs and practices.
Skills: Empathy	Identifies components of other cultural perspectives but responds in all situations with own worldview.	Recognizes intellectual and emotional dimensions of more than one worldview and sometimes uses more than one worldview in interactions.	Interprets intercultural experience from the perspectives of own and more than one worldview and demonstrates ability to act in a supportive manner that recognizes the feelings of another cultural group.
Skills: Verbal and nonverbal communication	Identifies some cultural differences in verbal and nonverbal communication and is aware that misunderstandings can occur based on those differences but is still unable to negotiate a shared understanding.	Recognizes and participates in cultural differences in verbal and nonverbal communication and begins to negotiate a shared understanding based on those differences.	Articulates a complex understanding of cultural differences in verbal and nonverbal communication (e.g., demonstrates understanding of the degree to which people use physical contact while communicating in different cultures or use direct/indirect and explicit/implicit meanings) and can skillfully negotiate a shared understanding based on those differences.

Pathways Toward Intercultural Competence *continued*

AAC&U: Domains of Competency	AAC&U: Milestones 2 (IDC: Exploring)	AAC&U: Milestones 3 (IDC: Developing)	AAC&U: Capstone (IDC: Skillful)
Attitudes: Curiosity	Asks simple or surface questions about other cultures.	Asks deeper questions about other cultures and seeks out answers to these questions.	Asks complex questions about other cultures, seeks out and articulates answers to these questions that reflect multiple cultural perspectives.
Attitudes: Openness	Expresses openness to most, if not all, interactions with culturally different others. Has difficulty suspending any judgment in her/his interactions with culturally different others and is aware of own judgment and expresses a willingness to change.	Begins to initiate and develop interactions with culturally different others. Begins to suspend judgment in valuing her/his interactions with culturally different others.	Initiates and develops interactions with culturally different others. Suspends judgment in valuing her/his interactions with culturally different others.

*Adapted from [Intercultural Knowledge and Competence Value Rubric](#) by Association of American Colleges and Universities (AAC&U).

- **Activity:** Instruct students to create a portfolio showcasing their assignments, their journey in understanding, recognizing, and constructively responding to their own cultural rules and biases. A sample rubric will be provided.
- **Assessment:** Each student shares/presents their portfolio to the instructor. Using the assignments collected in the portfolio, the students highlight their ability to recognize and constructively respond to (1, 2, or 3+) of their own potential cultural rules and cultural biases.

Instructors can choose to tweak and/or apply from a wide range of evidence-based, inclusive, equitable/anti-racist sample activities included in each of the 18 spiraling competencies. Within each of the 18 competencies, sample activities are provided in empirically based, diverse formats including T-charts, jigsaw activities, discussions, concept maps, polling, gallery walks, writings, interviews, surveys, and portfolio activities. Each of these comprehensive samples are based on clear objectives that align with each of the sample strategies and assessments. Incorporating a wide range of empirically based engaging strategies throughout the

IDC curriculum both limit activity redundancy and continually engage students in progressively deepening discipline-specific activities toward mastering the given global competencies.

Three Paths to Student Intercultural Development Competency

Currently, three academic units are reviewing their overall curriculum, their identified ID courses, and potentially additional courses, content, and strategies seen as amenable to building a cohesive path for student mastery of critical intercultural competencies. These spiral principles in themselves are nothing new to most faculty as many agricultural and natural resource disciplines and professions offer curricula with a structure that employs a spiral of deepening knowledge process as undergraduate students advance from their freshman through senior academic experience.

Each of the three units chose very different paths to reach a similar outcome of increased student intercultural competencies. Environmental Sciences, Policy and Management (ESPM) chose programmatic changes to incorporate intercultural development competencies

Pathways Toward Intercultural Competence *continued*

at each level of the student academic experience. This is the ultimate outcome for all units. Food Science and Nutrition (FScN) chose to begin with professional development to prepare faculty and instructional staff to create courses with intercultural objectives, activities, and assessments to increase intercultural development competencies at each level of the student academic experience. Forest and Natural Resource Management (FNRM) chose to build their student-centered strategies to revise existing courses that will now integrate strategies to increase student intercultural development competencies.

Even though these three departments remain early in the development phase of their IDC, we share our initial actions to date. The following sections depicts the differing pathways and processes each department has taken to develop an IDC in a spiral manner for students to master intercultural competencies throughout their academic experience. Each description includes both their goals and some of the challenges and opportunities they faced up to this point in their academic unit's intercultural development process.

Environmental Sciences, Policy and Management (ESPM)

The ESPM major is an interdisciplinary, environmental program that integrates faculty from multiple departments within CFANS. This interdepartmental major prepares graduates to solve environmental problems from an integrated knowledge base while seeking to improve students' basis for environmental decision-making by integrating physical, biological, and social sciences with policy analysis and management. The major is highly adaptable to student interest and built around five integrated core courses and four program tracks: Conservation and Resource Management; Environmental Education and Communication; Environmental Science; and Policy, Planning, Law, and Society. Intercultural competence is critical to this mission, as professionals working in program track three must be able to identify the distribution of environmental benefits and detriments across society.

Our IDC approach in ESPM was to first ask which outcomes would most benefit enrolled students, and how could a spiral curriculum empower them in their future careers. Surveys were first conducted to examine how

intercultural concepts were being presented by faculty, and how these concepts were being received by students. It was determined that while these concepts were integrated into several courses, they were not delivered in a spiral format and students reported redundancies and repetition in how content was delivered. Most commonly, IDC concepts were delivered through instruction on environmental justice (EJ). As EJ seeks the fair treatment and meaningful involvement of all people with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies (Mohai et al., 2009), a plan was developed to integrate intercultural concepts around an EJ curriculum.

First, we conducted an external review of existing EJ educational programs and held faculty workshops before settling on a set of four EJ competencies for students completing the ESPM major. These competencies focused on student capacity to:

1. Recognize and describe their personal relationship with the environment,
2. Utilize intercultural competence when approaching environmental questions,
3. Assess the allocation of environmental burdens and benefits among human populations, and
4. To ultimately justify environmental actions and/or policy positions.

The second competency emphasized the primary goal of this intercultural development curriculum process, namely enhancing students' capacity surrounding cultural awareness, non-judgmental examination, and critical thinking. Each competency will be integrated into the major's core courses. By revising content from each competency across the core courses, we will reinforce topics that will allow students to address complex scenarios through an intercultural and inclusion lens.

With the establishment of these competencies, our emphasis is now focused on curriculum construction. A new core course, ESPM 3004: Environmental Justice in Natural Resource Management, was created. This course requires students to examine the theories and principles of EJ and critically analyze the underlying

Pathways Toward Intercultural Competence *continued*

causes of injustices. This course was designed to actively engage students in critical thinking, discussion, debate, and reflection. Here, students work directly with core IDC content by building from material presented in introductory courses and provide them with skills needed to apply IDC concepts in capstone courses.

Currently, we are working with faculty of core courses to identify and develop IDC content that will align and deepen with each year of the student academic experience. Then we plan to identify assessments that will give us insight into student mastery of intercultural competencies and overall program effectiveness.

Food Science and Nutrition (FScN)

FScN carries two undergraduate major programs: Food Science and Nutrition. The two programs are both highly ranked and attract students nationally and internationally for work within food and health-care systems. Food science undergraduates are often interested in private sector food product development opportunities while nutrition undergraduates have interest in healthcare and public sector employment. The department recognizes that many cultures, communities, and individuals offer knowledge and experience of food and health relationships that advance health and well-being and strives to bring broader cultural perspectives to research-based food and nutrition sciences.

Accordingly, within their IDC initiative, FScN brought together faculty teaching undergraduates at introductory, third- and fourth-year courses to share intercultural objectives and activities to achieve those objectives. Content areas and skills that emerged as important included the following: critical thinking, reflection and cultural self-awareness, history and mission of land-grant universities, understanding of “hidden subjectivities” that form cultural foundations of “Western Science,” community-engaged experience, cross-cultural engagement experience, understanding the dynamics of a racialized society from intercultural perspectives, and participatory forms of scholarship emerging within nutrition and food science disciplines. Examples of two student activities are summarized below:

1. Choose a non-European American cultural group in the U.S. and then have a conversation

with a person from that culture. Ask them their views about their interaction and experience with mainstream Euro-American culture, its food and biomedical system, both positive and negative. Ask them to comment on any/all the aspects listed below from a personal and/or societal perspective:

- Social determinants of health
- Health disparities
- Food processing, fabrication, and the products currently available in our mainstream food system
- Cultural views of health and wellness

2. Case study

- You (students) will be given a case that presents an intercultural dilemma or paradox. You will frame the central question or issue from different, often opposing, cultural standpoints and make the strongest case possible from within each cultural perspective. You will do your best to empathetically bring forward the strengths and limitations within each perspective and then use your own best judgement to propose a way forward toward resolution or compromise.

As mentioned earlier in this essay, a challenge in creating a pathway for student intercultural competence remains that not all faculty feel equipped to teach IDC content areas, although they agreed that IDC should be taught and revisited through at least one iteration in both undergraduate majors. Participant faculty have little or no formal training themselves within these IDC content areas. Given this, a majority of faculty expressed a subjective sense of risk in introducing first-person reflective assignments and activities within the context of well-established science-based curricula. Yet they were unanimous in agreeing that it is important for students to develop these intercultural capacities. The group indicated that faculty should hold themselves accountable for developing these capacities but differed

Pathways Toward Intercultural Competence *continued*

with respect to whether such professional development ought to be mandated. FScN has taken the approach to offer development opportunities for all faculty, but a commitment to actively engaging in the IDC process should be left to individual faculty choice.

Forest and Natural Resource Management (FNRM)

The FNRM major is one of the oldest degree programs within the University of Minnesota and celebrated its 120th year in 2023. As one of the longest continually accredited forestry programs by the Society of American Foresters (SAF) in the United States, the FNRM major has a long history of educating and training the next generation of forestry and natural resource professionals. While FNRM's long educational history provides our students many strengths, it also requires reflection on the competencies that foresters and natural resource professionals need in the future to be stewards of forest ecosystems and work towards equity and inclusion within these spaces.

After graduation, many FNRM students commit to professional work in the public sector such as the National Park Service, Forest Service, and the state Division of Natural Resources to manage and steward public lands. This work requires application of many intercultural competencies, which include understanding and working effectively with multiple perspectives, differing needs, diverse experiences, and developing overall management plans to meet diverse goals of the public sector.

Understanding the history of forestry is critical for effective stewardship and management of forest ecosystems. Forestry's history, also deeply tied to the history of the United States, indicates that past practices by federal and state governments influence the current forest ownership and distribution. For example, the Morrill Act in 1862, which established Land Grant Universities, took land from Indigenous Nations (Lee & Ahtone, 2020). The Forest Service of the United States government is now legally responsible to protect tribal treaty rights, such as the right to hunt and fish on ancestral lands, some of which include public lands managed by the Forest Service (*Seminole Nation v. United States*, 1942).

Also, Black families, particularly in the South after the

Civil War, encountered historical barriers and little access to legal support or government assistance programs. This resulted in land loss to family heirs. Still another example is the disproportionate impacts of climate change on marginalized communities across urban and rural environments (Environmental Protection Agency, 2021). These examples highlight the need for student mastery and application of intercultural competencies essential for effective forest ecosystem management.

To ensure that FNRM students are prepared to meet the needs of both the forest and communities that depend on these ecosystems, FNRM reviewed their curriculum from both the instructor and student perspective. Opportunities related to student intercultural development were brought to light, informing FNRM's next IDC steps to address the challenges facing future forestry professionals. Based on student and faculty input, FNRM is now identifying and revising curriculum to ensure the incorporation of intercultural competencies into the current use of empirically based, student-centered teaching and learning strategies such as case studies, simulations, reflections, jigsaws, small team-based projects, and more. Revisions currently underway also include integration of readings, resources, and guest speakers representing non-dominant perspectives.

Finally, moving forward in developing the IDC spiral curriculum, FNRM identified a series of current courses to serve as a pathway toward student intercultural competence. Curriculum revision within this pathway of FNRM courses help to ensure student mastery of IDC competencies at deepening levels that prepare them to serve as effective stewards of forest ecosystems and management.

Next Steps and Recommendations

CFANS continues to develop the overall IDC. We encourage faculty and instructors throughout CFANS, the (university) community, and beyond to incorporate student intercultural development competencies throughout their courses, programs, and overall curricula. The learning management platform, Canvas, is used to provide faculty with an IDC Handbook (in progress), which describes and guides faculty through the IDC process, both those instructors already involved and those considering potential involvement,

Pathways Toward Intercultural Competence *continued*

Currently, instructors are working together in the ESPM, FScN, and FNRM departments within CFANS to select which of the 18 competencies they will focus on throughout their respective courses and course levels (years one, two, three and four) to ensure that students graduate with mastery of the intercultural competencies. Next steps include both pilot testing and expanding the IDC processes throughout all disciplines represented in CFANS.

As we continue to navigate the current anti-DEI climate, creating pathways toward intercultural competence is essential. Students become the next generation's leaders to take on global challenges. No matter where one stands in this politically charged climate, everyone can start with working effectively across differences. Our ultimate outcome remains constant: students, our future leaders, who demonstrate genuine intercultural competencies to work inclusively and equitably across differences to solve problems across our environment and planet.

Pathways Toward Intercultural Competence *continued*

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Pathways Toward Intercultural Competence *continued*

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