Indigenous Mentoring Program Facilitator Guide

Creating Networks of Mentors to Support American Indian/Alaska Native Graduate Students in STEM

Raquel A. Arouca, Ph.D. (Ed)

PNW-COSMOS; 1st Edition *(06/28/18)*

Evaluation and Logistics 24

Making the Most out of the Program 24

Suggested Readings/Videos 32

Materials Used in the IMP.................................32

Acknowledgements 37

AGEP-T: PNW-COSMOS

In 2014, an Alliance of eight geographically dispersed institutions — Washington State University, University of Idaho, University of Montana, Montana State University, Salish Kootenai College, Montana Tech, Heritage University, and Northwest Indian College — was formed supported by an award from the National Science Foundation Directorate for Education and Human Resources (EHR), Division of Human Resource Development (HRD), through their program Alliances for Graduate Education and the Professoriate - Transformation (AGEP-T).

Through the named Pacific Northwest Circle of Success: Mentoring Opportunities in STEM (PNW-COSMOS) Alliance, these institutions are committed to supporting American Indian and Alaska Native (AI/AN) graduate students in Science, Technology, Engineering, and Mathematics through culturally appropriate interventions. One of the products of the grant is the development of an Indigenous Mentoring Program (IMP) to mentor faculty, staff and administrators, who work with or are interested in working with AI/AN students in graduate degree programs.

PNW-COSMOS supports creating a community like the one found in the Camas (Camassia quash Greene) fields, where the diversity of life supports the Camas. This flower, depicted in the Alliance logo, represents our students. PNW-COSMOS hopes to transform higher education by ensuring that our students are supported by mentors from their home and academic communities, and are intellectually nourished by both STEM and Indigenous

knowledge to achieve STEM graduate degrees, and give back to their indigenous and academic communities throughout their careers.

Getting Started

This Facilitator Guide should not become your template to a canned program. Rather, the guide aims to help you think through your own objectives for creating a mentoring program, and adapt the program to your institution's and students' context and needs.

The guide is divided into the following sections: Program, Adaptation, Participants, Budget, Contributors, Evaluation and Logistics, and Suggested Readings. Detailed information about the research that developed the Indigenous Mentoring Program can be found in the following publications:

Windchief, S., & Brown, B. (2017). Conceptualizing a Mentoring Program for American Indian/Alaska Native Students in STEM Fields: A Literature Review. Mentoring & Tutoring: Partnership in Learning, DOI:10.1080/13611267.2017.1364815

Windchief, S., Arouca, R., & Brown, B. (2018). Developing an Indigenous Mentoring Program for Faculty Mentoring American Indian and Alaska Native graduate students in STEM: A Qualitative Study. Mentoring & Tutoring: Partnership in Learning, in press.

An Indigenous Mentoring Program
Meaningful and Culturally Appropriate Interactions

Cautionary note

As mentioned in Getting Started, the IMP is not a canned program. The information contained herein serves to guide your thinking about needs and resources within a research-based, programmatic structure. Bellow is an overview of the program developed by the Montana institutions of PNW-COSMOS (University of Montana - UM, Montana State University - MSU, Montana Tech - Tech, and Salish Kootenai College - SKC). These institutions differ from one another as do their American Indian and Alaska Native student populations and faculty mentors. Sections two through seven of the guide contain broad considerations for the adaptation and implementation of similar programs.

Caveats
Participants in the Program

The program was initially designed for STEM faculty and later broadened to include professional staff and administrators. All program participants currently mentor, are interested in mentoring, or interact with AI/AN graduate students. We approached working with mentors with an understanding that they:

- Have an interest in contributing to the success of AI/AN students;

- Are adult learners, thus the relaying of information is more effective when task-oriented rather than memorization-driven;

- Have access to a differing range of services and resources, and are at institutions with different leadership structures and supports for those services and resources;

- May encounter AI/AN students with different tribal affiliations (among the 566 federally recognized tribes in the United States) that are culturally different, although there can be some similarities.

Students to Be Mentored

It is important to keep in mind the students who are expected to benefit from the culturally responsive mentoring, and to recognize that:

- AI/AN students are located along an indigenous identity continuum, meaning they come from varying backgrounds that include, but are not limited to, urban and rural settings, different levels of engagement with traditional practices, and knowledge of those;

- Most AI/AN students thrive in activities that are place-based and that are meaningful to their communities.

Purpose

The main purpose of the IMP is to transform graduate education for AI/AN students in STEM fields by creating a space in which they are not assimilated, rather are respected as contributors in the creation of knowledge. Given the importance of the faculty mentor-student mentee relationship in graduate education, our initial focus had been on faculty working with graduate students. However, faculty and staff working with undergraduate students can similarly benefit from this program. Additionally, staff and administrators who have an interest, or work with, or informally mentor AI/AN students can also benefit.

STEM fields have historically lacked good models for effective faculty mentoring in general; however, culturally competent mentoring is a particularly important factor in the success of underrepresented minorities. While the IMP was developed around the needs of STEM faculty and indigenous students, we anticipate that many of the topics in the modules will be relevant to all disciplines and to students from other cultural backgrounds.

Goal

The goal of the program is to train and support the work of mentors through a sequence of modules designed to provide information and awareness related to mentoring, student resources, student socialization, cultural humility, and culturally attuned research practices applicable to AI/AN students. Mentors include faculty, staff, and administrators who provide support in different areas of graduate education from enrollment and student services to policy, research and teaching support.

Research-Based

The IMP is the product of a research study focused on understanding mentorship from an indigenous paradigm in a comprehensive and culturally attuned way with the goal of improving retention, graduation, and academic identity development compatible with cultural identity of AI/AN students in STEM graduate programs. Thirty-three participants, including faculty, staff, and students were engaged in conversation about the factors and

strategies that contribute to positive experiences of Native graduate students in STEM. The themes that emerged became the basis for the 9 modules in the IMP.

Curriculum

Module Overview

The nine modules are designed to coincide with the number of months in the academic year. Modules were designed based on information collected by means of qualitative research that included interviews with Native and non-Native faculty and staff at three Montana institutions of higher education (MSU, SKC, UM). The curriculum aims to counter the assimilation of Indigenous students, and instead promote strengthening or maintenance of students' Indigenous identities by providing access to education and more precisely to the STEM fields, so that Indigenous students (future researchers) have an opportunity to contribute to the body of research in a responsible way; and for mentors who work with these students to become more attuned to the distinct needs of AI/AN students, their communities, and provide access to graduate study in the STEM fields. The nine modules are:

1. Indigenous Mentoring Models

2. Indigenous Research Methodologies (IRM)

3. Indigenous Student Services

4. Visiting Student's Home Communities

5. Interface with Prospective Students

6. Informal Gatherings for Mentors and Mentees

7. Cultural Humility

8. Presentation of Research and Services to Tribal Communities

9. Resources on Mentoring Indigenous Students

The modules are constructed so that in each module:

- Presenter explains why specific things are being taught (e.g., certain commands, functions, operations, etc.);

- Information is task-oriented as opposed to memorization -- learning activities are in the context of tasks to be performed;

- Teaching approach takes into account the wide range of different backgrounds of learners;

- Learning materials and activities allow for different levels/types of previous experience with AI/AN students;

- Activities are self-directed-- instruction allow learners to discover things for themselves.

Modules

Module 1: Indigenous Mentoring Models

The main objective of this module is to introduce and provide specific examples of Indigenous Mentoring Models and knowledge helpful in working with AI/AN graduate students.

In the module, participants will:

- Consider the differences between a mentor and an advisor;

- Examine traditional academic mentoring;

- Examine the Multiple Mentorship Model (UM-Amherst);

- Be introduced to various Indigenous mentoring systems:

  - Clone, Critic, or Peer: Mentoring, Developmental Positioning and Potential (Downs & Windchief, 2015);

  - Family Education Model (Heavy Runner & DeCelles, 2002);

  - Community-based systems;

  - Relationship-based systems;

  - An indigenous art studio model; and

  - Hawaiian example.

- Reflect on their own experience of being mentored:

  - Who are your mentors?

  - How were you mentored?

Module 1 Assessment: At the end of this module, participants will be able to provide examples of Indigenous Mentoring models; share how they were mentored, and distinguish between mentor and advisor.

Module 2: Indigenous Research Methodologies

The main objectives of this module are to introduce Indigenous Research Methodologies and how research can contribute to Indigenous communities.

In the module, participants will:

- Learn about self-location statements;

- Compare "Indigenous research" with "Indigenous methodologies;"

- Consider the concept of "Bicultural Accountability" in an Indigenous context;

- Develop an understanding how research contributes and impacts tribal communities; and

- (Staff/Administrators) Understand the relationship between indigenous students' graduate studies and desire to contribute to tribal communities.

Module 2 Assessment: At the end of this module, participants will be able to produce self-location statements; (faculty) explain how their research can contribute to tribal communities; (staff/administrators) explain the relationship between student's work and tribal community.

Module 3: Indigenous Student Services

The main objective of this module is to gain familiarity with student services for AI/AN on campus.

The module emphasizes the network of resources available for students. In the module, participants learn about student services and offices in their campus and/or other campuses that directly or indirectly serve AI/AN students. These resources include, but are not limited to:

- American Indian Student Services (Name varies at different campuses)

- Writing

- Financial education

- Funding/financial aid

- Cultural activities

- Academic support

- Resource services that indirectly impact students: e.g. diversity office, TRiO, student support services, and McNair Programs

- Cultural awareness workshops for faculty, administrators and staff

- Resources and services off-campus in the local community.

Module 3 Assessment: At the end of this module, participants will have a better understanding of different services that support students in all facets of their higher education experience; and be able to name services and know how to reach their personnel.

Module 4: Visiting Student's Home Communities

The main objective of this module is to provide mentors with a greater understanding of AI/AN lived realities.

In the module, participants will converse with mentors and mentees who have visited student's home communities and gain insights into:

- Lived realities of our AI/AN students,

- Students' family structures,

- Students' ties to their communities, and

- How one would go about setting up visits to tribal communities.

Module 4 Assessment: At the end of this module, participants will have a better understanding of the importance of family and community; the lived realities of indigenous students; and the considerations useful for conducting a successful visit.

Module 5: Interface with Prospective Students

The main objective of this module is to provide mentors with information on recruitment, from people involved in recruitment to factors important when choosing a program, and venues for recruitment.

In the module, participants will:

- Learn about current recruitment practices at the institution,

- Explore factors students use to choose a program/institution,

- Share stories of success and failure of recruitment practices, and

- Discuss collaboration between the campus and Tribal Colleges/Universities and minority-serving institutions.

Module 5 Assessment: At the end of this module, participants will better understand factors relevant to recruitment of AI/AN students, and name the recruitment activities at their institutions. Participants will also be able to develop more targeted approaches to recruit AI/AN students.

Module 6: Informal Gatherings for Mentors and Mentees

The main objective of this module is to provide mentors with insight on venues/ activities for building and strengthening relationships with their mentees.

In the module, participants will:

- Be introduced to opportunities and resources for informal activities between mentors and mentees,

- Learn more about pow wows, and

- Learn about the importance of informal gatherings for development/strengthening of relationship.

Module 6 Assessment: At the end of this module, participants will be able to list several informal gatherings that can strengthen their relationship with their mentees; have a better understanding of pow wows; and be able to develop a strategy for engaging in informal activities with their mentees.

Module 7: Cultural Humility

The main objective of this module is to explore the difference between cultural competence and cultural humility.

In the module, participants will:

- Learn about the difference between cultural competence and cultural humility, and

- Engage in storywork: hear and share stories about cultural humility.

Module 7 Assessment: At the end of this module, participants will be able to distinguish between cultural competence and cultural humility.

Module 8: Presentation of Research and Services to Tribal Community Leaders

The main objective of this module is to bring research results and information on services back to Indigenous Communities.

In the module, participants will learn about:

- Decolonizing research, and the

- Indigenous paradigm and ways of presenting research to tribal communities.

Module 8 Assessment: At the end of this module, participants will be able to describe decolonizing research, discuss indigenous paradigm, and demonstrate ways to present data to an indigenous community.

Module 9: Resources on Mentoring Indigenous Students

The main objective of this module is to provide research-based resources to mentors.

In the module, participants will be provided literature, including peer-reviewed journal articles, on mentoring AI/AN students.

Structure of Previously Implemented Program

Two rounds of the program were implemented in Montana. The key elements of the program were:

Recruitment of participants

- Round 1 participants were recruited by personal invitation from the Graduate Dean based on a) they were faculty currently mentoring an AI/AN student, b) they were faculty who previously mentored an AI/AN student; or c) they had expressed interest in mentoring an AI/AN student;

- Round 2 participant pool was expanded from faculty to also include administrators and staff who work with AI/AN graduate students. One institution informed School and College Deans about the program first, then sent letters to all administrators, staff, and STEM faculty that fit the criteria. At another institution, round 1 participants were asked to provide names of colleagues who they thought would be interested in participating.

Logistics

- Video conferencing: The participants on each campus met face-to-face once a month, but each site also connected virtually with one another. There are two positive elements to video conferencing, 1) you can connect speakers from other campuses/places to your participants, and 2) you can connect with participants from other institutions who are in the same IMP. However, technology can be unreliable and burdensome, preventing participants to fully engage in the module. When possible, face-to-face interactions are preferable; but we found that Zoom web conferencing works well. Each site had program coordinators that communicated via a smartphone conversation app like Whatsapp or Message, to troubleshoot problems during a module without interrupting the session/presentation.

- Technology availability: The sites had different capabilities in regards to surround sound, camera with a wide angle, and microphone. Sites with desks that had microphones facilitated participant engagement, while sites with cameras that could not show who was speaking proved a distraction or disengaging for participants, according to reports from surveys. Although the sessions were recorded (IRB approval was acquired and recordings are not available for future use) for those who missed a session, the recordings were not ADA compliant, nor had high sound quality.

  •Inviting speakers: For each module, we determined what expertise we had on the participating campuses that could be drawn from. We started reaching out to possible speakers a month to a month and a half prior to each module workshop. Some speakers were provided with a short overview of the IMP, as well as an outline of the module.

- Module content: Reading materials and sometimes 5-10 minute videos were provided for participants to read/view prior to or during the face-to-face workshops. The workshops included presentations and panels on the module topics, and time for participants to discuss and ask questions.

- Campus specific: Module 3 was presented separately at each institution, as it introduced participants to the specific people on campus that provide resources for AI/AN students.

- Information repository: An online learning environment (Moodle) was used to store workshop materials, including video recordings of the sessions, for participants to read/view the content if they missed a face-to-face session. In Round 2, participants had access to the information via Box cloud storage folders.

Assessment

Workshop/module feedback and assessment of the learning objectives was elicited using an anonymous survey within the online learning environment or as a link in a document in Box.

Communication

Program coordinators on each campus were in charge of workshop logistics and communicating with participants about upcoming sessions, updates on completion of online surveys, and events/ opportunities related to faculty mentoring of AI/AN students. One overall coordinator at one of the campuses provided guidance on those communications and communication templates and reminders.

Recognition

All program participants who completed the program received a certificate. At some institutions, participants also received a letter recognizing their program completion that could be used for their annual evaluation; and another letter of recognition was sent to their department/division chair with a copy to the respective dean.

Adapting the IMP to Your Institution
Not a Canned Program
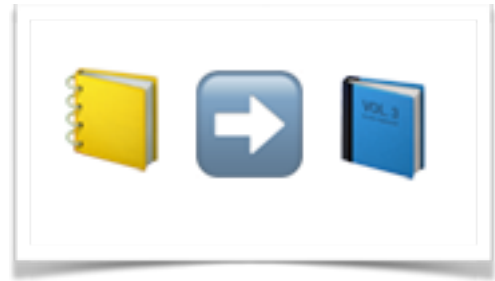
The IMP is designed to be adapted to your institutional needs, but that requires *planning* on your part. Here are some questions to ask yourself as you think about adapting the program.

Purpose

- What need would a mentoring program on your campus fill?

- Would the mentoring program serve the whole institution or a specific division/department?

- What group(s) of students (mentees) would benefit from such a program being implemented at your institution?

Participants

- Who would the participants (mentors) be?

  - Would participants include those in academic, administrative, and on staff positions?

  - Would they represent certain disciplines?

  - Would they include any individual working at the institution interested in mentoring?

- How do you plan on recruiting participants, and what is your minimum and maximum capacity to be able to operate the program?

- What incentives and rewards would you offer to participants? Could they earn professional development credit?

- What type of recognition would participants receive? A certificate? A letter of recognition? A highlight in a news article?

Invited Speakers

- What offices, activities, and other resources at your institution or in the community could be helpful in creating or reenvisioning an existing mentoring program?

- Who are the key individuals on your campus, or in the community who could provide expertise in support of such a program?

Evaluating your Campus Resources

- What kinds of resources could contribute to developing the <u>content</u> for training related to mentoring? (diversity office? faculty development center? graduate school?)

- What kinds of resources could contribute to the <u>development and facilitation</u> of training related to mentoring? (diversity office, faculty development center, information technology, ADA compliance office, conference rooms/centers with video and audio capability, graduate school)

Your Program Format

- What kinds of andragogical techniques could you employ to engage participants during training sessions and maximize their learning and the utility of the program to them?

- What format (frequency and length of sessions) makes the most sense given your participants' availability?

- In what ways, if any, would or could mentees be involved in the training aspects of the program?

- Do you have a need and sufficient numbers to invest in mentoring software/platform?

The Value Proposition
Program Benefits

You may be asked why an Indigenous Mentoring Program on your campus is important or even necessary. You may also be asked why create another program to train faculty. Changing academia to reflect the diversity of our population and training faculty, professional staff, and administrators to effectively interact with that diversity population are national goals. Below you will find the rationale for Broadening Participation and the motivations of our participants.

Broadening Participation in STEM

- Diversifying the national workforce is a priority recognized by government agencies and the business sector, and providing better mentoring to underrepresented minorities is a means to that end.

- Serving and growing a segment of an underrepresented student population is part of the institutional strategic plan.

- It is a federal and state responsibility to provide AI/ANs access to education under tribal treaty rights, and state institutions of higher education share in that responsibility.

Motivation from IMP Participants

Some of our participants relayed their motivations for becoming involved with the IMP, most of which are applicable to mentoring all underrepresented or underserved groups:

- Being part of a community of like-minded faculty, staff, administrators who are invested in the success of AI/AN students.

- Becoming more critically aware of issues around diversity and inclusivity.

- Gaining knowledge and information about best practices and resources to better serve AI/AN students.

- Providing culturally relevant mentoring.

- Increasing access to and contributing to persistence in graduate studies.

- Earning professional development credit that can be reported on annual review.

- Fulfilling expectations for involvement with diversity and inclusion efforts delineated in promotion and tenure policies.

- Being better informed and able to invest in relationships when writing a funding proposal that involves research with AI/AN communities.

The Program described in this guide was designed for AI/AN students; however, the research conducted and the information on adaption are appropriate for other underrepresented or underserved populations. The guide will, hopefully, help you think through and implement your own program that fits your needs.

Budget Matters

Using Available Resources and Other Costs

Every program has its cost, and the IMP is no different. Our program leveraged PNW-COSMOS NSF funds with resources available at the institutions where it was deployed. Below is a list of potential costs based on the needs of the program.

Personnel

- Program coordinator(s): the national average salary of a program coordinator is $50,000; however, the coordinators in our program were not working exclusively on the program. Based on the different levels of commitment and resource for the program, at least 0.5 FTE or 0.25 FTE for a program coordinator is suggested.

- Researchers: at least one lead-researcher and two research associates or assistants is recommended to conduct the research associated with adapting the program to your institution. Time commitment for the adaptation phase is one year; lead-researcher commitment averaged 0.15 FTE/calendar year, and associate or assistant at 0.25 to 0.45 FTE/calendar year.

- Speakers' appreciation: a small token of appreciation was given to speakers, i.e., $5 coffee card for local campus store and parking pass for the session.

Logistics for Research and Implementation

- Room: Availability for suitable rooms varied, some university rooms are free of charge for programs on campus, but others can cost from $75 to $150 per session.

- Video/audio equipment: As with the room, availability of video/audio equipment will vary, from nominal rental fee at the institutions ($7) to purchase of equipment ($130 - $250).

- Online learning platform access: Each institution may use a different online learning platform that restricts users to their own institution, which would necessitate purchasing access for non-institution participants if that is a need. This can be an average cost of $15-20 per participant.

- Recording devices/transcription services: The IMP is not a canned program and it may require you to interview individuals at your institution to refine/adapt the program. Recording devices can be purchased (if not available already) for $100; and transcription services to analyze the data can be $1 a minute of recording. If you interview about 33 people, with an average of 35 min per interview, you would need about $1,155 for transcription.

- Catering: Programs that either run during lunch hour or more than one hour can benefit from some refreshments for participants. Catering will be dependent on the number of participants, menu, and setting up requirements at your institution. A program with about 12 participants per meeting would require anywhere from $100 to $250 per session.

Experienced Resource People
Who Can Contribute to the Program?

Selecting speakers and presenters for a program like the one described here is paramount for its success. It will also help you identify the current resources you already have at your own institution, and the experts you have available. A side-effect of planning for the modules was the development of a resource list of people working or affiliated with our institutions that could be drawn upon to help with the modules.

Choosing your Speakers

Here are some questions to consider when selecting speakers:

- Who has been speaking on cultural/mentoring topics relating to the specific demographic of students the mentoring program would serve?

- Who is a champion/advocate for the specific student population?

- What services used by the specific student population should faculty, staff or administrators know about?

Calling your Campus Experts

For the IMP, we selected individuals from the following areas as speakers:

1. Counseling & Psychological Services

2. The Writing Center

3. Office of Financial Aid

4. American Indian/Alaska Native Student Success

5. Office of Sponsored Programs

6. Indigenous Research and STEM Education

7. Financial Education Program/Financial Aid

8. TRiO

9. Urban Indian Health Center (off-campus)

10. Outreach Tribal Liaison

11. AI/AN graduate students

12. AI/AN researchers

13. Cultural Experts

14. Graduate School

15. Tutoring Center

You should also consider developing a one-page summary about the program, target audiences, and what you wish to accomplish at the module you invite the speaker for, to provide each person you invite. Developing a list of those resources and contact information for the participants of your program is also important.

Evaluation and Logistics

Making the Most out of the Program

The best laid plans will always go awry, and you will need a plan to remediate that. In order to understand and make the most of what your programs is accomplishing, evaluative tools are important.

Connecting the Dots

- Effective evaluation connects program objectives to activities and evaluation tools; make sure that you are collecting information on what you hope the program will achieve.

- Plan to collect feedback from participants at different times in the program; do not wait until the end of the program to either collect or read the evaluation forms.

- Vary your evaluation tools; explore other ways of evaluating than surveying participants.

- When preparing an evaluation report, think about the different stakeholders and consider how you could share program outcomes with participants as well as administrators and sponsors.

- If publishing about the program is a possibility, then make sure you consult with your institutional review board (IRB) to see if you need to submit an application PRIOR to collecting data from participants.

Surveys Used by the IMP

We developed surveys for each module for participants to assess their knowledge prior to and after completing the module, and to provide feedback about the delivery, presentation quality, and relevance of the content to their role at the university. Each survey included a demographic questionnaire, but responses were not linked to participants' answers regarding the modules.

After each module, participates were sent a link via email for the Qualtrics evaluation form for that particular modules, or the link was made available in the shared folder. A hard lesson learned from Round 1 of the program is that tying completion of the evaluation to progression of the module was a deterrent for completion.

This is an examples of side-by-side pre and post questions posed to IMP participants in one evaluations:

Module 1 statements:

(If selected Instructor or Other in 1)

•I had/have adequate information about Indigenous Mentoring Models.

•I had/have adequate information about ways to incorporate Indigenous Mentoring approaches to my mentoring.

•I had/have adequate information about strategies that increase the likelihood that AIAN students will fit well into my lab/classroom.

•I was/am committed to thinking about ways to provide a sense of belonging for AI/AN students in STEM programs.

•I was/am committed to incorporating Indigenous mentoring activities to my mentoring.

(If selected Administrator or Professional Staff in 1)

•I had/have adequate information about Indigenous Mentoring Models.

•I had/have adequate information about ways to incorporate Indigenous Mentoring approaches to my interactions with students.

•I was/am committed to thinking about ways to provide a sense of belonging for AI/AN students at my institution.

•I was/am committed to incorporating Indigenous mentoring strategies to my interactions with AIAN students.

Logistics

There are some logistics required in implementing the program. Here are some suggestions to help with the organization and administration of your mentoring program. Our program coordinators were responsible for all the program logistics. Your coordinator could be expected to:

- Be the point of contact for recruiting, sending information and reminders, supporting faculty and students who attend the IMP/your program;

- Provide technical support for the online learning platform to participants;

- Assist research lead(s) and presenters;

- Collect and compile statistical data and participation in each module;

- Manage content on the online learning platform;

- Distribute and collect online surveys;

- Coordinate logistics with other program coordinators;

- Contact guest speakers for the modules, and provide them with an overview of the mentoring program, an outline of the module, and the goal of the module;

- Facilitate discussion during modules;

- Liaison with information technology personnel on campus; and

- Arrange logistics for implementing the modules which could include any of the following:

  - Scheduling the video conference using Adobe Connect, Zoom, WebEx, etc.;

  - Scheduling a room with video conference capabilities;

  - Arranging for catering;

  - Obtaining other technology, if necessary, such as video camera and microphone;

  - Drafting the agenda;

  - Obtaining video recording consent for participation in each module; and

  - Arranging closed-captioning for videos to be ADA compliant, and being a resource for all participants in case of audio issues.

Materials

The materials you use will be determined by your program needs and campus climate. These are the documents and resources that we used in implementing the IMP.

- Overview of the program (Text can also be used for program web page);

- Curriculum/training manual;

- Template letters for recruiting participants (See Example A);

- Certificates of program completion (See Example B);

- Spreadsheet for tracking participant attendance/module completion (See Example C);

- Letters of recognition to participant and appropriate department/division chair (See Example D);

- Technical support for use of online platforms/apps; and

- Cloud storage for organizing/sharing resources with participants.

Example A: Template Recruitment Letter

Greetings!

You have been recognized as a person at {institution} who works with, or is interested in working with, students in the STEM fields, and thus, we hope you might participate in the Indigenous Mentoring Program (IMP). The main purpose of the IMP is to transform graduate education for American Indian and Alaska Native (AI/AN) students in STEM fields, including those studying to complete advanced degrees in STEM education, by creating a network of mentors who can support them during their graduate program. The IMP seeks to develop the mentor network through a sequence of modules designed to provide information relating to mentoring, student resources, student socialization, cultural humility, and culturally attuned practices for research conducted by AI/AN students.

The program is an initiative of the Pacific Northwest Circle of Success: Mentoring Opportunities in STEM (PNW-COSMOS), an Alliance funded by the National Science Foundation Alliances for Graduate Education and the Professoriate (NSF AGEP). The institutional partners on the project include Washington State University, University of Idaho, Montana State University and University of Montana; and partners Salish Kootenai College, Heritage University, Montana Tech, and Northwest Indian College.

Your participation will involve attending monthly face-to-face meetings and reviewing resources provided online through an online learning platform. Face-to-face meetings are 90 minutes in length. If you are unable to participate on a specific day, a video recording of the session will be available online. The online participation can range from 20 minutes (if you participated in the face-to-face meeting) to 90 minutes (if you are completing the whole module online) per session.

The online learning platform will have a section for each module and progression/access to those are dependent on completion of the survey. The short survey you will be asked to complete takes 5-10 minutes of your time. This is an important component of the IMP that helps us improve the program.

The IMP team is excited to extend this invitation. If you are willing to be an IMP participant, or if you have further questions about the program, please contact [program coordinator] by [date]. The program starts on [date/time] and will conclude on [date]. The schedule for the nine modules is described in the table below.

<Example of how we structured our IMP modules>

Module	Day/Date	Time for face-to-face
IMP 1	Wednesday Nov 2, 2016	12:30 p.m. to 2:00 p.m.
IMP 2	Wednesday, Dec 9, 2016	12:30 p.m. to 2:00 p.m.
IMP 3	Wednesday, Feb 1, 2017	12:30 p.m. to 2:00 p.m.
IMP 4	Wednesday, March 1, 2017	12:30 p.m. to 2:00 p.m.
IMP 5	Wednesday, April 5, 2017	12:30 p.m. to 2:00 p.m.
IMP 6	Wednesday, May 3, 2017	12:30 p.m. to 2:00 p.m.
IMP 7	Wednesday, June 7, 2017	12:30 p.m. to 2:00 p.m.
IMP 8 & 9	After June 8, 2017	Online – self-paced

Thanks in advance for your interest in taking part in this exciting and important program. The IMP team looks forward to your response and interacting with you in the near future.

Sincerely,

<Dean's signature>

Example B: Certificate of Program Completion

Example C: Participant Tracking Spreadsheet

Last Name	First Name	Department	Title	email	telephone	Invitation	Accepted/Next Year/Unable to participate	Invited to Box	Want to Attend Remotely
Doe	John	Chemistry	Research Assistant Professor	john.doe@institution.edu	555-555-5555	10/12/16			
✓	present								
O	Online attendance								

M1 11/2/2016	M2 12/7/2016	M3 2/1/2017	M4 3/1/2017	M5 4/5/2017	M6 5/3/2017	M7 6/7/2017	online M8	Online M9	Wrap-up	Completed	Supervisor/Department Chair	Dean
✓	✓	O	✓	✓	O	O	O	O		yes	Jane Doe	John Smith

Example D: Letters of Recognition

Letter of recognition to participant

Dear <name>,

The [institution], wishes to recognize your participation in our <year> Indigenous Mentoring Program (IMP), from <month, year to month, year> engaging in nine modules for at least one and a half hours each time. We appreciate that <faculty/staff/administrators> have competing priorities during the academic year, thus we wish to recognize your engagement with the IMP to develop mentoring skills and cultural humility necessary for working with American Indian/Native Alaskan (AI/AN) students and understanding their diverse background and lived realities.

In addition to advancing [institution]'s values of leadership, engagement, diversity and sustainability, your participation advances the White House 2013 strategic plan to better serve groups historically underrepresented in STEM Fields. This effort also helps [Institution] in furthering several goals, including cultivating learning and discovery in undergraduate and graduate education, improving the mentoring skills of faculty advisors, and developing an environment that respects, welcomes, encourages, and celebrates diversity; ensures access to education for AI/AN; and fosters the preservation of the cultural identity of AI/AN students.

If you have additional testimony about your participation in the IMP program, we would be happy to hear it.

Sincerely,

[Program lead]

Letter of recognition to division/department chair

Dear <department chair/supervisor>,

The [Institution] is part of the Pacific Northwest Circle of Success: Mentoring Opportunities in STEM (PNW-COSMOS) Alliance for the NSF Alliances for Graduate Education and the Professoriate (AGEP) program. The Alliance goal is to develop, implement and study a culturally appropriate mentoring program for Native American students in STEM graduate Programs. The other members of the Alliance are Washington State University (Project Lead), Montana State University, University of Idaho, Montana Tech, Salish Kootenai College, Heritage University and Northwest Indian College.

The ,name of the person/team at the institution who implemented the IMP> wants to recognize <faculty/staff/administrator> member <Dr. name> for <his/her/their> participation in our <year>Indigenous Mentoring Program (IMP). The program started in <month, year and ended month, year.. We appreciate that <faculty, staff, administrators> have competing priorities during the academic year. Thus, we wish to recognize <his/her/their> engagement with the IMP to develop mentoring skills and cultural humility necessary for working with American Indian/Native Alaskan (AI/AN) students and understanding their diverse background and lived realities.

In addition to advancing [Institution]'s values of leadership, engagement, diversity and sustainability, the participation of <Dr./name> advances the White House 2013 strategic plan to better serve groups historically underrepresented in STEM Fields. This effort also helps [Institution] in furthering several goals, including cultivating learning and discovery in undergraduate and graduate education, improving the mentoring skills of faculty advisors, and developing an environment that respects, welcomes, encourages, and celebrates diversity; ensures access to education for AI/AN; and fosters the preservation of the cultural identity of AI/AN students.

If you have additional testimony to support <Dr./name>'s participation in the IMP program, we would be happy to hear it.
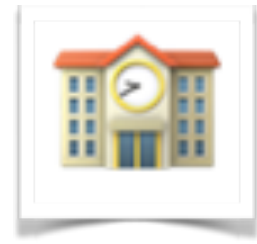
Sincerely,

[Project lead]

CC:

<Dean of department chair>

Suggested Readings/ Videos

Materials Used in the IMP

Below are some resources relating to the IMP that are focused on AI/AN graduate students.

Indigenous Methodologies in Research

American Indigenous Research Association. (2018). https://
       www.americanindigenousresearchassociation.org

Archibald, J. A. (2008). Indigenous storywork: Educating the heart, mind, body, and
       spirit. UBC press.

Brayboy, B. M. J. (2005). Toward a tribal critical race theory in education. *The Urban
       Review, 37*(5), pp. 425-445.

Dana-Sacco, G. (2010). The Indigenous researcher as individual and collective.
       American Indian Quarterly, 34(1), pp. 61-82.

Gonzalez y Gonzalez, E. M., & Lincoln, Y. S. (2006) Decolonizing qualitative research:
       Nontraditional forms in the academy. In N. K. Denzin, & M. D. Giardina (Ed.),
       Qualitative inquiry and the conservative challenge. (pp. 193-214) Walnut Creek,
       CA: Left Coast press.

Hodge, P., & Lester, J. (2006). Indigenous Research: Whose Priority? Journeys and
       Possibilities of Cross–Cultural Research in Geography. *Geographical Research,
       44*(1), 41-51.

Kahakalau, K. (2004). Indigenous heuristic action research: Bridging western and
       Indigenous research methodologies. *Hulili: Multidisciplinary research on
       Hawaiian well-being, 1*(1), 19-33.

Kanuha, V. K. (2000). "Being" native versus "going native": Conducting social work
       research as an insider. *Social Work, 45*(5), 439-447.

Menzies, C. R. (2001). Reflections on research with, for, and among Indigenous peoples.
       Canadian Journal of Native Education, 25(1), 19-36.

National Congress of American Indians: Research that benefits native people: A guide
       for tribal leaders: Module 1: Foundations of research: An Indigenous perspective.
       (2009). Washington, DC: National Congress of American Indians Policy Research
       Center.

Rigney, L. I. (1999). Internationalization of an Indigenous anticolonial cultural critique
       of research methodologies: A guide to Indigenist research methodology and its
       principles. *Wicazo sa review*, 109-121.

Walters, K. L., et al. (2009). "Indigenist" collaborative research efforts in Native
       American communities. In A. R. Stiffman (Ed.). The field research survival guide.
       (pp. 146-173) New York, NY: Oxford University Press.

Weber-Pillwax, C. (2001). What Is Indigenous Research?. *Canadian Journal of Native Education, 25*(2), 166-74.

Weber-Pillwax, C. (2004). Indigenous researchers and Indigenous research methods: Cultural influences or cultural determinants of research methods. *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health. 2*(1), pp. 77-90.

Wilson, S. (2001). What Is an Indigenous Research Methodology?. *Canadian Journal of Native Education, 25*(2), 175-79

Wilson, S. (2008). Research is ceremony. Indigenous research methods. Fernwood Publishing, Winnipeg, Manitoba CAN.

Wilson, S. (2014, March 4) Engaging Aboriginal communities through applied research. *An Open Forum on Indigenous Research Methodologies*, University of Manitoba. https://www.youtube.com/watch?v=N2aCxNbtTvo

Community Based Participatory Research

Dé Ishtar, Z. (2004). Living on the ground research: Steps towards white women researching in collaboration with Indigenous people. *Hecate, 30*(1), 72-82.

Johnson, C.V., Bartgis, J., Worley, J.A., Hellman C.M., & Burkhart, B. (2010) Urban Indian Voices: A Community-Based Participatory Research Health and Needs Assessment. pp. 49-70

Lambert, L. (2017, September 28). Indigenous methods of research: Beyond community-based participatory research. Montana Tech Public Lecture Series. https://www.youtube.com/watch?v=dbxIRWtXCVs

Silka, L., Cleghorn G.D., Grullon, M., & Tellez, T. (2008). Creating Community Based Participatory Research in a Diverse Community: A Case Study. *Journal of Empirical on Human Research Ethics*.5-16.

St. Denis, V. (1992). Community-Based Participatory Research: Aspects of the Concept Relevant for Practice. *Native Studies Review 8(*2) 52-74.

University of Alaska Fairbanks, Fairbanks, USA; Department of Rural Student Services, University of Alaska Fairbanks, Fairbanks, USA (Online), Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3459272/

Williams, G. (2016, July 17). Non-Indigenous people thinking about research in the Indigenous space. Office of Pro Vice-Chancellor Indigenous Leadership, Charles Darwin University. https://www.youtube.com/watch?v=2-Rfj8nKmXA

Traditional Ecological Knowledge

Berkes, F., Colding, J., & Folke, C. (2000). Rediscovery of traditional ecological knowledge as adaptive management. *Ecological applications*, *10*(5), 1251-1262.

Freeman, M. M. (1992). The nature and utility of traditional ecological knowledge. *Northern Perspectives*, *20*(1), 9-12.

Huntington, H. P. (1998). Observations on the utility of the semi-directive interview for documenting traditional ecological knowledge. *Arctic*, 237-242.

Huntington, H. P. (2000). Using traditional ecological knowledge in science: methods and applications. *Ecological applications*, *10*(5), 1270-1274. 1275-1287.

Kimmerer, R.W. (2017, February 13). The teaching of plants: Finding common ground between traditional and scientific knowledge. Franke Program in Science and Humanities, Yale University. https://www.youtube.com/watch?v=ZAH_pqVMZ0Q

Kimmerer, R. W. (2002). Weaving traditional ecological knowledge into biological education: a call to action. *BioScience*, *52*(5), 432-438.

Wenzel, G. W. (1999). Traditional ecological knowledge and Inuit: Reflections on TEK research and ethics. *Arctic*, 113-124.

Gaining Familiarity with American Indian Student Services

Keith, J. F., Stastny, S. N., & Brunt, A. (2016). Barriers and Strategies for Success for American Indian College Students: A Review. *Journal of College Student Development, 57*(6), 698-714.

Kimbark, K., Peters, M. L., & Richardson, T. (2017). Effectiveness of the student success course on persistence, retention, academic achievement, and student engagement. *Community College Journal of Research and Practice*, *41*(2), 124-138.

Shotton, H. J. (2017). "I Thought You'd Call Her White Feather": Native Women and Racial Microaggressions in Doctoral Education. *Journal of American Indian Education*, *56*(1), 32-54.

Tachine, A. R., Cabrera, N. L., & Yellow Bird, E. (2017). Home away from home: Native American students' sense of belonging during their first year in college. *The Journal of Higher Education*, *88*(5), 785-807.

Visiting AI/AN Home Community

Denzin, N. K. (2016). Indians on display: Global commodification of Native America in performance, art, and museums. Routledge. https://www.youtube.com/watch?v=37rma3Cxb-E

Recruiting AI/AN students

American Indian Higher Education Consortium. http://www.aihec.org/who-we-serve/TCUmap.cfm

American Indian Science and Engineering Society. http://conference.aises.org

The California Forum for Diversity in Graduate Education. https://www.caldiversityforum.org/index.php

Graduate Record Examination (GRE) Search Service, Educational Testing Service. https://www.ets.org/gre/institutions/services/search_service

Society for Advancement of Chicanos/Hispanics and Native Americans in Science. http://sacnas.org

McNair Scholars Directory, Council for Opportunity in Education. http://coenet.org/mcnair.shtml

Stevens, S., Andrade, R., & Page, M. (2016). Motivating young Native American students to pursue STEM learning through a culturally relevant science program. *Journal of Science Education and Technology, 25*(6), 947-960.

Socialization of AI/AN Student to the Lab

Digital Commons @ Montana Tech. (2017, Feb 8) *Mentoring American Indian Students with NASA* by Dr. Ed Galindo, University of Idaho. Retrieved from https://www.youtube.com/watch?v=37rma3Cxb-E

Page-Reeves, J., Marin, A., Moffett, M., DeerInWater, K., & Medin, D. (2018). Wayfinding as a concept for understanding success among Native Americans in STEM:"learning how to map through life". Cultural Studies of Science Education, 1-21.

Smith, J. L., Cech, E., Metz, A., Huntoon, M., & Moyer, C. (2014). Giving back or giving up: Native American student experiences in science and engineering. *Cultural Diversity and Ethnic Minority Psychology, 20*(3), 413.

Williams, D. H., & Shipley, G. P. (2018). Cultural taboos as a factor in the participation rate of Native Americans in STEM. *International Journal of STEM Education, 5*(1), 17.

Cultural Competence Informing Cultural Humility

Chang, E. S., Simon, M., & Dong, X. (2012). Integrating cultural humility into health care professional education and training. *Advances in Health Sciences Education, 17*(2), 269-278.

Cruess, S. R., Cruess, R. L., & Steinert, Y. (2010). Linking the teaching of professionalism to the social contract: A call for cultural humility. Medical Teacher, 32(5), 357-359.

Hook, J. N., Davis, D. E., Owen, J., Worthington Jr, E. L., & Utsey, S. O. (2013). Cultural humility: Measuring openness to culturally diverse clients. *Journal of Counseling Psychology, 60*(3), 353.

Juarez, J. A., Marvel, K., Brezinski, K. L., Glazner, C., Towbin, M. M., & Lawton, S. (2006). Bridging the gap: A curriculum to teach residents cultural humility. *Family Medicine-Kansas City-, 38*(2), 97.

Kumas-Tan, Z., Beagan, B., Loppie, C., MacLeod, A., & Frank, B. (2007). Measures of cultural competence: examining hidden assumptions. *Academic Medicine, 82*(6), 548-557.

Ortega, R. M., & Faller, K. C. (2011). Training child welfare workers from an intersectional cultural humility perspective: A paradigm shift. *Child welfare, 90*(5), 27.

Schuessler, J. B., Wilder, B., & Byrd, L. W. (2012). Reflective journaling and development of cultural humility in students. *Nursing education perspectives, 33*(2), 96-99.

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.

Acknowledgements

The development and implementation of the IMP and of this Guide would not have been possible without the support of the following individuals:

Blakely Brown*	Barbara Komlos *	Co Carew
Sweeney Windchief *	Michael Munson	Shanny Spang Gion
Raquel Arouca*	Amy Lommen	Amanda Shroyer
Paige Payne*	Beverly Harline*	Karlene Hoo
J. B. Alexander Ross	Lorelei Lambert	Aaron Thomas

*Contributed to this Guide

For more information, please contact:

Blakely Brown, Ph.D.- blakely.brown@umontana.edu

Sweeney Windchief, Ed.D.- sweeney.windchief@montana.edu