Lesson Plan Overview

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Link to Lesson: https://wildcast.nmu.edu/episode.php?id=C3AE53CF-B0DD-3661-E960-EA1C5BCE1B2E
The video walks you through what I do with students in a F2F, synchronous learning environment but could easily be adapted to an asynchronous learning environment.

Discipline: Biology

Unit Title/Topic: Inclusive Conservation

Essential Question(s): How will you, an NMU student, use this information and/or your privilege in the context of conservation to interrupt the inequitable status quo in the field of Conservation Science?

Context (What have students learned before and will learn after lesson?): Because of inequity in the hard sciences, most students coming into the field of Conservation Science at NMU are white students, with very narrow understandings of inequity in the discipline; therefore, it is imperative that I build their background knowledge to help them connect the dots among Conservation Science, Equity, Inequity, Privilege, and Oppression, so they are able to apply these concepts to the work they do in the field, to their future professional lives, and to their work as an engaged, informed citizens.

Objectives (using Bloom's or Webb's Verbs):

Students will
  ● apply active reading strategies to deepen comprehension;
  ● demonstrate their comprehension using technology to seek feedback that informs and improves their practice;
  ● reflect on BIPOC scientists lived experiences, increasing their capacity to empathize;
  ● identify opportunities in which they can make a positive difference in making Conservation Science a more welcoming, inclusive, and safe profession for people who represent the diversity of our shared society, fostering a greater sense of urgency and commitment in each student; and,
  ● integrate stories and experiences that BIPOC sometimes face as students and professionals in Conservation Science, as collated by BIPOC scientists, into their own work in the field.

Anchor Standards/Strategies: The following standards/strategies should be considered throughout the lesson/unit.

  ● Council for the Advancement of Standards in Higher Education (CAS)
  ● International Standards for Technology in Education Standards (ISTE)
  ● Social Justice Standards (SJS)
  ● NMU's Strategic Plan:

    NMU acknowledges that historical patterns of oppression in US society—beginning with colonization, and continuing with racial and ethnic discrimination, and mistreatment of LGBTQIA+ people and people with disabilities and other marginalized populations—also exist on college campuses. NMU commits to understanding those patterns and will work to create a more just university and society.

We must recognize that diversity, equity, inclusion and belonging (DEIB) do not simply exist with a statement but rather must be sewn into the fabric of our university culture and values. NMU will ensure the sustainability of the comprehensive, transformative work of diversity, equity, inclusion and belonging, and understands the long journey that will create a community where everyone feels safe, supported, and included.

    1. Establish DEIB leadership and increase institutional capacity to better support and improve diversity, equity, inclusion and belonging efforts.

    2. Assess internal information and data in order to develop a shared understanding of the current state of DEIB at NMU.

    3. Ensure DEIB learning opportunities and training are available to all students, faculty, and staff members to increase individual and collective knowledge around diversity, equity, inclusion and belonging.

    4. Improve services and supports for students, faculty, and staff (at all levels of employment) from diverse backgrounds in ways that improve recruitment.

    5. Improve services and supports for students, faculty, and staff (at all levels of employment) from diverse backgrounds in ways that increase retention.

    6. Improve efforts to integrate diversity, equity, accessibility and inclusion into academics.

    7. Promote efforts that enhance cross-departmental collaborations and integration of DEIB-related perspectives into curriculum in order to increase faculty engagement with diversity.

Active Learning/Research-Based Instructional Practices:

- Interactive lecture/PPT
- Using a Mentor Text
- Modeling/Guided Practice
- Whole class annotation activity
- Whole class discussion

Gradual Release of Responsibility Framework (list activities as they are related to phase(s) of framework:

- Explicit/Focused Instruction: Through an interactive PPT/lecture I will connect to and build upon students' background knowledge in the area of Diversity, Equity, Inclusion, Belonging (DEIB) situated within Conservation Science.
- Guided Instruction: I model how to apply foundational active reading strategies (surprising information and questioning) and critical literacy strategies (reading through a DEIB lens, using a mentor text (an annotated article in Hypothesis, a digital annotation collaborative resource). Then, students will apply the foundational reading and critical literacy strategies while reading an Inclusive Conservation article I have chosen for them. Before moving into a face-to-face (f2f) whole class discussion, I will review their annotations, so I am able to use appropriate cues, prompts, questions etc. during the whole class discussion.
- Collaborative Learning: Students will actively read each other's annotations in Hypothesis and then participate in a whole-class discussion on Inclusive Conservation, creating a foundation built with shared knowledge and lived experiences.
- Independent Learning: Students will demonstrate what they have learned by writing a response to the following prompt: How will you contribute to the advancement of DEIB in your role as an NMU

student of conservation science, in your future employment opportunities, and in your role as an informed and engaged citizen?

Academic/Discipline-Specific Vocabulary:

Students tend to really struggle with the difference between equity and equality, so I help them better understand that difference with the following image, linked here.
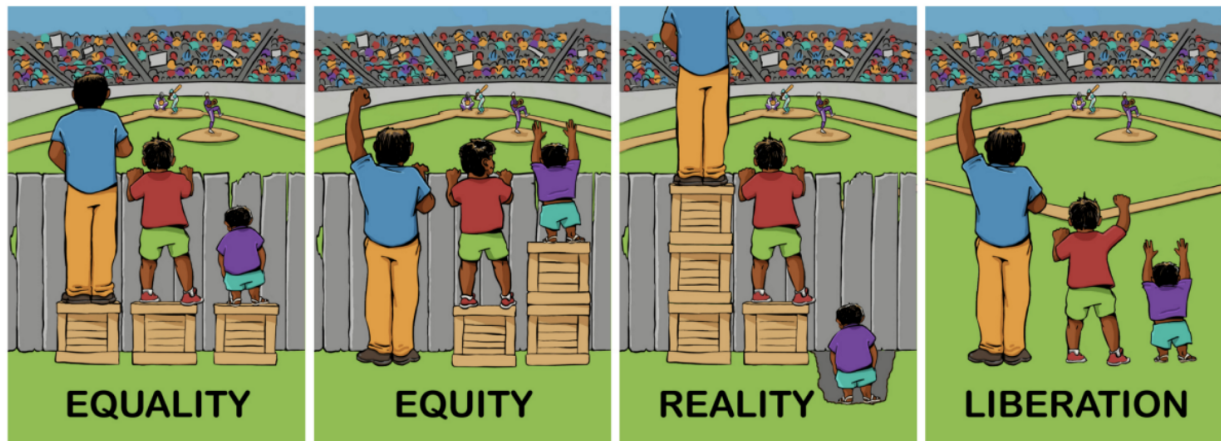
Students often understand Diversity as a black and white issue, when in reality it includes way more than skin color, that there are levels of inclusion and exclusion associated with the term. Students need a better conceptual framework for understanding the intersection of the --isms (Classism, Racism, Sexism, Ableism, etc.) and Oppression and Privilege and Positionality and Conservation Science. For example, Ableism is a front and center concern in the STEM disciplines, especially in Conservation Science because so much of the work is in the field. By providing a more in-depth explanation (with examples) of the vocabulary terms above (capitalized), students begin to think beyond what is traditionally considered in Diversity work, skin color, to the myriad of needs of oppressed populations of people, which they will begin to learn about in this lesson. They will see these terms come to life in the lived experiences and voices of people who have oftentimes been omitted from conversations in Conservation Science and excluded by oppressive barriers in the field.

Texts:

- **Required book:** *Conservation Science: Balancing the Needs of People and Nature* by Peter Kareiva and Michelle Marvier, 2nd Edition, Macmillan Learning, New York. 2017.
- **Peer-reviewed essay for this assignment**: Bailey, K., Morales, N. and Newberry III, M., 2020. Inclusive conservation requires amplifying experiences of diverse scientists. *Nature Ecology & Evolution*, *4*(10), pp.1294-1295.

Resources/Technology:

- Internet Access
- NMU Student Computer
- Interactive, Multimodal PPT Presentation
- Hypothesis

Formative and Summative Assessment:

- Annotations in Hypothesis (Formative)
- Whole Class Discussion (Formative)
- Extended Writing Assignment: Students synthesizing what they learned by explaining how they may contribute to the advancement of DEIB in their role as students of conservation science, their future employment opportunities, and as informed and engaged citizens etc. (Summative)

Special Considerations (Have I examined my course for bias? How am I integrating socially just and culturally sustaining instructional practices (tenents of Diversity, Inclusion, Justice, Equity, Belonging—DIJEB)? Have I considered accessibility issues? Critical literacy levels (reading comprehension/writing skills/whose story is being told, omitted, manipulated and why), etc.)?:

- One of the things that I have reflected on is my students' literacy levels. What are some ways that I can better prepare my students to reach deeper levels of reading comprehension? How can I apprentice them into reading, writing, speaking, and listening as a Conservation Scientist? So what can I do to further support my students if they need additional help in this area?
    - ❖ Metacognitive Think-Aloud in a Reciprocal Teaching Activity: If students are really struggling with reading comprehension, I could model explicitly how I apply a variety of reading strategies flexibly while reading. I could project a text on the overhead (or in Hypothesis) and read the text aloud, stopping when I want to write an annotation (apply a strategy), explaining my thought process for the strategy application. This makes my thinking, as a Conservation Scientist, visible for my students. I could then put them in pairs or small groups and have them practice applying the strategies I modeled with a new text, each person doing a metacognitive think-aloud for a small portion of the text. When they finish reading the text, they can discuss the content as well as why they used the reading strategies they did and how those strategies deepened their understanding of the text. More importantly, they can see how their peers used strategies they may not have considered and why, adding more literacy tools to their comprehension toolbox (Reciprocal Teaching).
- I wanted to be sure that my video is accessible for all of my students, so I was sure to have it captioned (automatic in Wildcast) and recorded at a high quality (utilized the expertise of the Center for Teaching and Learning (CTL) staff and resources in Studio 102).
- The tenets of DEIB are integrated throughout my lesson (see [video](#)).

Lesson Sequence/Description:

- Connecting to and building/building upon students' background knowledge and vocabulary through interactive PPT/lecture
- Students annotate an Inclusive Conservation article in Hypothesis
- Students participate in a whole-class discussion
- Students individually respond to a prompt in an extended writing activity

Final Note: Please reach out if you would like to discuss any part of this lesson. Also, the truly amazing piece of course, is the students' work, which I would also like to share.

Discipline Adaptation Resources: If you teach in one of the disciplines below, what article would you use? How would you adapt this lesson?

- Environmental Science:
- Geography:
- Chemistry:
- Math:

Reminder Checklist

Lesson Plan Rubric

Directions: Use this checklist to analyze written lesson plans. Indicate for each Lesson Component if the plan *Met Expectation* (Y) or *Did Not Meet Expectation* (N) or if the item was *Not Applicable* (N/A).

	Lesson Component	Expectation	Met Expectation	Did Not Meet Expectation	Met? Y/N or N/A	Notes
Lesson Basics	**Meaningful Topic**	Topic was relevant to young adults and/or adult learners.	Topic was relevant for young adults or adults.	Topic was missing or not relevant.	Y	
	Standards	Stated Next Gen and/or Common Core Standards or Council for the Advancement of Standards in Higher Education; International Standards for Technology in Education Standards, and Social Justice Standards were addressed.	Standards were stated (including reference number) and matched objectives and instructional practices.	Standards were missing or not addressed adequately in the instructional practices.	Y	

	Lesson Component	Expectation	Met Expectation	Did Not Meet Expectation	Met ? Y/N or N/A	Notes
	Depth of Knowledge	Depth of Knowledge (DOK) was correctly identified and the lesson involved at least one DOK Level 3 or 4 instructional practice.	Selected DOK levels matched instructional practices.	DOK levels were not indicated or misidentified.	Y	
			At least one DOK level 3 or 4 instructional practice was included in the lesson.	Only DOK level 1 or 2 instructional practices were included in the lesson.	Y	
	Essential Question	An essential question that was meaningful and relevant to young adult or adult learners framed the central idea of the lesson and was adequately addressed by instructional practices.	Stated question was meaningful and relevant for adults.	Question was missing or not relevant.	Y	
			Instructional practices addressed aspects of the question.	Instructional practices did not address the given question.	Y	
	Objectives	The objectives were designed to answer the essential question and clearly stated what students would be able to do at the end of the lesson (versus what the teacher would do or what the students should know).	Objectives addressed the essential question and matched what was taught and assessed.	Objectives were missing, not relevant, or did not match what was taught or assessed.	Y	
			Objectives included active verbs that defined what students would be able to do.	Objectives were missing or did not define what students would be able to do.	Y	
Lesson Basics	**Required Materials/ Equipment/ Technology/ Community Resources**	A variety of audio/visual materials were identified and were used to support the lesson allowing students to acquire information/skills via a variety of modalities.	Necessary resources were identified in the plan and their use specified in the instructional practices.	Some necessary items were not identified or their use was not specified.	Y	
			Resources were identified that addressed more than one type of modality.	There was no variety in the type of resources identified.	Y	
	Prior Knowledge/ Connections	Pre-requisite skills were identified that matched the lesson content and the skills of	Appropriate pre-requisite skills were identified.	Appropriate pre-requisite skills were not identified.	Y	

	Lesson Component	Expectation	Met Expectation	Did Not Meet Expectation	Met ? Y/N or N/A	Notes
		students in the group.	Students had the pre-requisite skills needed to participate in the instructional practices	Students were unable to participate in the instructional practices due to lack of pre-requisite skills.	Y	
	Required Vocabulary	Required vocabulary was identified and taught for each part of the lesson.	Necessary vocabulary was identified for each part of the lesson.	Necessary vocabulary was not identified for some parts of the lesson plan.	Y	
			The lesson plan indicated how the vocabulary was introduced and taught.	There was no indication of how the vocabulary was introduced and taught.	Y	
	Instructional Methods	A variety of techniques/ methods were identified that were appropriate to the learning objectives and allowed students to acquire information/skills via a variety of contexts. The chosen techniques were appropriate for the learning activities, and differentiated when necessary.	More than one instructional method was identified and used in the lesson.	Only one or no instructional methods were identified and used in the lesson.	Y	
			Methods matched the purpose of each activity.	Methods were inappropriate for the activities.	Y	
Lesson Activity Plan	**Warm-up/ Review/ Make Connections**	Lesson started with a warm-up activity that helped students review any previous instruction and make connections to what they already knew or believed about the new topic.	Provided an activity, which activated prior knowledge by reviewing previous learning.	Activity was missing or did not review previous learning.	Y	
			Made connections to previous experiences.	Activity was missing or did not connect students to their own experiences.	Y	

	Lesson Component	Expectation	Met Expectation	Did Not Meet Expectation	Met? Y/N or N/A	Notes
	Introduction to Content/ Explanation	The essential question and the content of the lesson were introduced. A clear explanation of the objectives and their relationship to the essential question was given.	Introduced essential question.	Essential question was not introduced.	Y	
			Gave clear explanations of objective and purpose of activities.	Objectives were not explained adequately.	Y	
			Discussed context and rationale for the lesson.	Rationale for the lesson was not addressed.	Y	
	Presentation/ Model the Learning Process	Concepts were communicated in multi-sensory ways. Direct explicit instruction was provided. The instructor clearly described steps while modeling the tasks.	Communicated the lesson content using a variety of multi-sensory methods.	The lesson content was conveyed using only one modality or was not conveyed adequately.	Y	
			Demonstrated and explained steps while students observed.	No modeling occurred or the steps were not adequately explained.	Y	
			Modeled strategies by doing—correctly, clearly, and concisely using "think aloud."	No modeling done or it was not done adequately.	Y	
	Scaffolded/ Guided Concrete Practice	The instructor broke skills down into learnable parts and provided constructive feedback.	Introduced structured activities that allowed students to practice skills clustered into increasingly larger chunks.	Activities were not structured to offer increasingly difficult tasks.	Y	
			Provided guidance and constructive feedback while students were working on the activities.	Feedback was not constructive or not offered while students were engaged in practicing skills.	Y	Provided whole class feedback (discussed specific examples and discussed trends, misunderstandings etc. during follow-up f2f discussion.

	Lesson Component	Expectation	Met Expectation	Did Not Meet Expectation	Met? Y/N or N/A	Notes
Lesson Activity Plan	**Communicative/ Collaborative Concrete Practice**	New skills were practiced allowing student interaction and cooperation.	Effectively organized students into differentiated groups and/or created an interactive setting.	No grouping strategies were employed that effectively allowed for differentiation and/or interaction.	Y	Interactive setting in Hypothesis and in follow-up f2f discussion.
			Set up tasks that required participants to communicate and collaborate.	Students were not given the opportunity to interact and operate in pairs or small groups.	Y	Explained a mentor text.
			Monitored students' use of skills during activities.	The instructor did not effectively monitor groups during activities.	Y	
	Independent Concrete Practice/ Application	New skills were practiced by individuals that could transfer to a real world setting.	Provided the opportunity to work independently (either within the class or as a class assignment).	No individual work was assigned.	Y	
			The application tasks approximated the demands of tasks adult students would need to perform in real-life.	Tasks were absent or purely skill-based without connections to real world applications.	Y	
	Assessment	Assessment activities measured student application of objectives taught in the lesson and the instructor provided feedback following assessment.	Designed assessments that provided the opportunity to demonstrate mastery of the skills taught in the lesson.	No assessment activity was provided or it did not measure was practiced and taught.	Y	Also, integrated into extended learning follow-up class activities, essays, projects.
			Provided immediate, positive, and corrective feedback regarding the assessment.	Instructor gave no feedback or did not provide effective feedback.	Y	

	Lesson Component	Expectation	Met Expectation	Did Not Meet Expectation	Met? Y/N or N/A	Notes
	Wrap-up/ Concluding Activity	Class reviewed lesson objectives and revisited the essential question. Students (rather than the instructor) were encouraged to reflect on and summarize the lesson.	Provided the opportunity for students to recap what was taught and learned.	The instructor summarized the lesson or no wrap-up occurred.	Y	
Follow-up	**Instructor Reflection**	After delivering the lesson, the instructor commented on the success of the lesson and any changes to be made when using the lesson again in other contexts.	Reflected on the success of the lesson.	Did not reflect on the success of the lesson.	Y	
			Noted changes to be addressed in future lessons.	Did not identify any future modifications.	Y	
	Note: There is a total of 36 possible items. Raters who do not observe an item, should not count it into the total rated when determining the percent.		Total **Yes** of Total Rated	**36/36**	Percent **Yes**	100%