

## February 10, 2025 Education Working Group Call

Attendees: Jason McLachlan, Diana Dalbotten, Jody Peters, John Zobitz, Antoinette Abeyta

Regrets: Mary Lofton, Rachel Torres

Agenda/Notes:

1. Icebreaker: 3 words on how you are feeling
2. Recent ideas/resources new to Jody
  - a. new terminology Jody just became aware of “workforce development” vs “educational resources”
  - b. CNS Wellness Guidelines: <https://susnano.wisc.edu/csn-wellness-guidelines/>
    - i. PDF version: <https://susnano.wisc.edu/wp-content/uploads/Wellness-Guidelines-CSN.pdf>
3. Update from Jason about working with Salish Kootenai College to write grant on curriculum for their master’s natural resources program
  - a. Solicitation for the proposal was archived without warning
  - b. So Plan B... move forward without federal money. Internal U of Notre Dame funding to support a poverty initiative. Mostly social scientists/economists, but may be able to pitch something ND will be supportive
    - i. Poverty - many people think about wealth in money/material, but there is also wealth in knowledge, wealth in connections
    - ii. Building cultural competency of faculty at ND will also be a benefit for ND
      1. Cultural assets (not sure if that is the terminology) - but this is another benefit to highlight
    - iii. Data sovereignty and Indigenous data sovereignty - there are people-focused principles vs process-oriented principles. Connections and cultural competency helps bring in richer understanding of sovereignty
  - c. Has Diana’s SLAWR REU done a study to see the long term track of students?
    - i. Have tried to keep track of students and where they end up in their careers
    - ii. But also want to be clear that certain activities are just one thing that influences students
    - iii. Think there is some literature on the multiplicative affect of bold change makers
    - iv. E.g., from 70s/80s there was 1 student who became a professor who then is recruiting underrepresented students and then there students get in to positions that they can recruit students
    - v. Nature study that shows that many grad students have parents who are faculty: <https://www.nature.com/articles/s41562-022-01425-4>
      1. Use this to show the amplified effect of a minority individual getting a grad degree

- vi. Thinking about metrics - think there is too much emphasis put on individual student achievement. Need to also think about the connection between academic institutions which will pay off longer than just through the individual student. Important to continue institutional relationships.
- vii.

4. EFI2025 Conference; <https://bit.ly/efi2025>

- a. Working group accepted!
- b. What next? How to prepare for the conference?
  - i. Focus on what we are doing right and take what we have and make it more accessible - start here. Do not start with what is wrong.
  - ii. "EFI University" people may be drawn to it in terms of curriculum, admin, student life - what are all the pieces of "University" that need to be considered
  - iii. Here are all the things needed to make an institution sustainable
  - iv. Where should it be located? In city, rural, online that allows for asynchronous learning
  - v. Providing accessible and easy to understand starting places might be appealing to those outside the higher ed realm
  - vi. We don't have a giant, heartless MOOC - so what makes us work?
  - vii. Want to give students multiple ways to participate and get to know individual people and get mentored
  - viii. **Have a session during the workshop on this - what parts of a University are important to allow students to participate in ways that works for them.**
  - ix. Challenge for people who are starting to work in new curriculum on a topic that you aren't familiar with is to know how to start
  - x. **It would be good to create guides on who to start - how to introduce this new topic into your curriculum**
    - 1. This is a module, this is a lesson, this is a whole section
    - 2. Having clear starting points
    - 3. National Association of Geoscientists have workshops that lay out the curriculum - it is clear and easy to access. Can take pieces that are ready to go.
    - 4. We have lots of stuff already developed - now make it accessible.
  - xi. Goal - what do we want people to walk out with?
    - 1. If audience is the EFI group. We want them to be comfortable starting on education projects and feel they can contribute to.
    - 2. Want people in EFI to see the things they already have and already know can be leveraged/used by the education group
    - 3. Think about the ways that the work the education group does can pay off for people

4. Ask in advance for faculty to bring curriculum, a teaching tool, an exercise that can contribute to the list of resources?
  - a. Take something that you do and is there a version that would be for everyone
  - b. Not sure if people would have time to think about this beforehand. But ask people to bring activities. Then could go through an example together to show an activity and how to think about making it more accessible.
  - c. Also would be good to have some go to case studies for people who didn't have a chance to bring something to be able to think through it further
5. How to have your research reflected and integrated into their teaching?
  - a. Just thinking about the parallels of the duality of identity - like merging cultural identity with your academic identity, maybe something is similar with researcher identity and educator identity?
  - b. Perhaps this is a way to get people who are research-focused into the educational space
  - c. Would someone in an R1 space be motivated to go to such a workshop?
    - i. Not sure how we will get people there.
    - ii. Don't have to reach everyone
6. We can ask people who register and rank this working group to bring examples and reach out early to help set up the working group
7. **What is the next thing to do over the month and on the next call**
  - a. Set out a draft agenda for the working group
  - b. Background, activity, etc
  - c. Get an agenda that we can play around with
- c.
- d. **EFI University for Everyone**
- e. **Short Description:** Participants in this working group will collaboratively redefine and reimagine what a curriculum in ecological forecasting might look like, including the different components of data science, ecology, and community based efforts to create a resource that can be shared with the EFI community.
- f. **Additional Details:** When we talk about 'bottlenecks' in training students for careers in ecological forecasting we are often focusing on the negatives, the reasons why such inequities exist in education or the persistent achievement gaps for underrepresented students. This can include anything from not having enough relevant educational content for culturally diverse students, lack of access to stable internet or technology, geographical isolations and less

involvement in social scientific communities, or fewer offerings of quantitative courses at Minority Serving Institutions.

Rather than centering our discussions on a deficit mindset, focusing on what is lacking, we are proposing to create a resource to uplift existing programs and success stories from our partnering MSIs to envision what an inclusive and equitable education in ecological forecasting would look like. Our goal is to envision: if we were to create an EFI university, what would the curriculum look like? Who are the students we invite to participate? What resources would be needed? In this project we want to redefine and reimagine what a curriculum in ecological forecasting might look like, including the different components of data science, ecology, and community based efforts. We will draw from frameworks including Design Justice Principles and Universal Design for Learning. This EFI University would aim to be accessible, inclusive, and equitable to everyone.

The working group will include brief intros and flashtalks to set the context of where we are currently, followed by small group discussions to share ideas and resources. We aim to produce a framework for inclusive curriculum, including existing resources and materials, that will support cross-institutional collaborations to implement the curriculum and will lay the groundwork for grants to support growing and implementing activities.

5. Code Review Blog Post Text (Jody)
  - a. Waiting to get input from Cayelan and Quinn
  - b. There are suggestions from the last Education and Theory calls that Jody still needs to incorporate - she will have more time for this the week of Feb 17.
    - i. Goal is still to get it out before the March 3 newsletter
  - c. The following are notes from the discussion from the January call that Jody is keeping in for easy access for when she goes back to do the revisions
  - d. Remaining tasks
    - i. get Quinn's okay on docker text referencing his materials (Mary and Jody have pinged him)
    - ii. Check with the group on a few more comments, mainly in the pain points section
      - Alyssa and Mary will work on pain point 1 text base on our discussion today
    - iii. Do we want to say anything about using AI to create code and the continued need to check that code? Jody thought of this following the Stats seminar by Ben Weinstein on Jan 6
      - Yes! Mention it!
      - Jody will consider how to include this on her next read through
    - iv. Think about how to include the point that these recommendations are also helpful for educators teaching students to code

- v. Be clear that the blog post is focused on internal review, but the considerations about external reviews as well.
  - Is this for internal or external review?
  - This is for an internal code reviewer (e.g., lab mate).
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  - It is materials that is too big for GitHub, and isn't at the stage to put on Zenodo/FigShare for an external reviewer.
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  - Intermediate outputs - what do people recommend for external reviewers? Do you include intermediate outputs for external reviewers?
  - Mary has had external reviewers try to rerun code and get stuck. Don't want that.
  - External reviewers don't want to spend days rerunning your code.
  - How do you steer an external reviewer that demonstrates what you have done and will run in a reasonable amount of time. This will be different for different workflows.
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  - Instead of specific advice for internal vs external review - do what you need to do for your goals for review both internally and externally.
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  - For journal, if you are asked to review a paper. The journal will have guidelines about this.
  - There is a need for journals to have policies in place.

2. ***Follow up on this task as we have time to do so - not necessarily on this call:***

Developing scaffolding material to help people in the EFI community know what code is available in the [EFI GitHub repo](#)

- a. Project - can add a description that is more useful for the EFI project
- b. Not sure if there is an overall ReadMe
- c. Could make repo that is a guide to resources
- d. It is possible to do a collection of code repos in Zenodo - could do one bin in Zenodo to see all the code that is published from EFI.
  - i. Community in Zenodo
  - ii. Provide benchmarks of the code
- e. GitHub repository option
  - i. <https://docs.github.com/en/organizations/collaborating-with-groups-in-organizations/customizing-your-organizations-profile>

Other resources

3. Padlet with list of the working group activities the group had been thinking about in 2023. Jody still needs to update it to add what has been done. She has updated to add some color coding for activities in progress and those that have been worked on.
  - i. <https://padlet.com/jmurray716/brainstorming-efi-education-wg-activities-p78o4h18zdk397nk>