

July 14, 2021 Education Working Group Call

Attendees: Mary Lofton, Alyssa Willson, Jason McLachlan, Tadhg Moore, Anna Sjodin, Olivia Tabares, Jody Peters

Regrets: Shannon LaDeau

Agenda/Notes:

1. Education Meeting Recap
 - a. Spent a lot of time thinking about gaps in educational resources and started to plan how to fill those gaps and had groups start working on projects such as 1-day zero to forecast for a DataFest, emphasis on ethics in forecasting in teaching forecasting, how to make current NEON Challenge forecast themes culturally relevant to students and why we should care about the themes, updates to the Challenge Shiny app showing the forecasts
 - b. Next steps - working on a follow up survey to send out to participants, getting materials we want to share up on the EFI website, and encouraging groups to continue working or figure out next steps
2. Announcement: Group from EFI was invited to submit full proposal for NSF Data Science Synthesis Center
 - a. The education/diversity part of the pre proposal received good reviews which is a nice reflection on this group
 - b. If the proposal gets funded there will be a lot of resources for education and there will be opportunities for people in this group to participate in that bigger effort.
 - c. Will also need to address the differences between grassroots EFI and the Center
3. Forecasting, Prediction, Projection Manuscript Update (Anna and Gretchen)
 - a. Gretchen is supposed to defend in August and then will be taking a break
 - b. Anna will touch base with Gretchen when she is back and then will pick back up on the manuscript
 - c. The Theory WG is working on a manuscript that may use some of the definitions that are in this manuscript. The Theory manuscript submission is planned for the March 2022 deadline for the Forecasting Journals special issue.
 - d. Olivia is available for about a month to look over chunks of the manuscript if that would be helpful
4. Olivia's R infographic for teaching/learning biostatistics with R Updates.
 - a. Teaching Biostats with R Infographics are now on the EFI [resources](#) and [education](#) webpages.
 - b. Olivia shared her update on infographic for students learning biostatistics.
 - c. It looks great! Olivia will send. Jody will add to the website.
 - d. Next steps - Olivia has scripts she uses in her classes (they need to be translated). Has Basic R 101 - basic operations, indexing, histograms, etc. Data

wrangling for beginners - has data from world wide demographics, but would like to find an ecological database, Basic inferential stats, Advanced stats - GLM with ecology examples

- i. Alyssa could share the document with the R resources already collected to help prioritize what scripts to translate.
 - ii. Also think that having scripts shared is less common than Shiny Apps or tutorials. So even if there is repeat material, it can be useful especially for students who are learning R and stats at the same time.
 - iii. Maybe shouldn't translate - have some resources in Spanish or have both.
 - iv. Olivia will try to have them ready for the next meeting
5. Document for People (guidance counselors/instructors) working with students interested in ecological forecasting
- a. See updates from Anna, Lisa, and Shannon from last month.
 - i. Lisa edited, Anna is working on it now and then will send it Shannon
 - ii. We are over 2 lines in the Google doc, but that won't be a problem when we transition to pdf.
 - iii. Need to add a figure to the 3rd box - want options that match the cycle in box 2 - someone in the field, someone at a computer, and a decision maker
 - b. Melissa Kenney also provided input on the original document. Jody will look to see if those can be incorporated
 - c. Venues for sharing: Ecolog, Career counselors, QUBES (see notes from May/April calls for details about QUBES options)
6. Task for the future. Jody is leaving this on as a reminder.
- a. What kind of biostats do students need to know to set them up for being able to take a forecasting course?
 - i. Jason - provide update on ideas from RCN Steering Committee Call
 - ii. From Feb 2021 call: How do we make those materials available? Don't want to create a textbook, but could think about an [AGU Monograph](#) style resources. 10 chapters that build on each other.
 - iii. Go back to the notes from Feb 2021 call for details about this conversation.
 - iv. Elva Escobar is interested in participating on this project
 - v. Here are some ideas that came from a separate call with the RCN Steering Committee.
 - Quinn is trying to think about how to put some of his course materials together. Thinking of perhaps a How To Guide for the forecasting challenge
 - Has anyone seen the [Open Forecasting Textbook](#) (does exist as a [paperback](#) as well)

- In the Preface this is for a 3rd year undergrad intro master's course
 - Interesting template. Success in part due to free online and R packages are nicely user friendly
 - This is a bookdown format where R code is integrated and is a living document
 - Wouldn't get the credit of an AGU Monograph, but would be more broadly available.
 - Could do something that are RMarkdowns that could be combined as a book
 - Loop John Zobitz into this. He is also writing a book for his courses. Mike has used some of his chapters in his 300 level course.
 - Do this in the context of NEON data and walking through all the steps of forecasting. Could get long, but would be a nice resource.
 - A self-contained book to walk through. Could reference other books.
 - This sounds like a strong potential for a proposal for NSF Education Directorates, especially if we could bring in an education evaluator who evaluates the open source, collaborative textbook.
 - If we structured it well it could have a strong educational research component
- vi. Disciplinary expertise - think we are downplaying the empirical researchers who are providing data/data collection. Don't want to leave those people out
- Ecological methods course
- vii. Also don't want to leave out people more interested in the social science/partners side of things. But this is where the note up at the top of page 2 will be important to convey that not all courses are necessary.