**Parson’s Problems**

DBER Talk: February 11, 2021

**Presenter**: Derek Sollberger

* Data science lecturer (Bio 18, Bio 175, Bio 184, Math 32)
* RStudio Certified Instructor
* Carpentries training and helper

**Seminar Learning Objective**: Give an overview of pedagogy trends in computer programming among R programmers

**Seminar Learning Objectives**:

1. Demonstrate LearnR (platform of self-guided tutorials)
2. Explore Parson’s Problems (techniques to teach computer programming)
3. Introduce Tidyverse (tools for data wrangling)

(15 minutes) Breakout rooms

* One person per breakout room needs to “install” access to RStudio Cloud
  + Go to <https://rstudio.cloud>
  + Create an account with your Google credentials
  + Then use our access link: <https://rstudio.cloud/spaces/121572/join?access_code=DBCTtHIt%2FzQ6DJSv9R6Jk8D8VI6y6BGygkO0FPBs>
  + Click on the DBER20210211 project space
  + Click “Save a Permanent Copy” (upper-right corner)
  + Click on the tab for your group (upper-left corner or lower-right corner in “Files”)
    1. DBER\_learnr\_1.Rmd
    2. DBER\_learnr\_2.Rmd
    3. DBER\_learnr\_3.Rmd
  + Click “Run Document”
  + Complete the exercises

(10 minutes) Group presentations

* Each group selects a volunteer to talk about what they learned, observed, and/or felt about the exercise

(10 minutes) One-up, One-down

* Feedback acquisition

Open discussion

Future work:

* GradeThis: complementary R package to check answers
  + Hash grading submissions
  + Automate grading
    - Re-allocate some TA time to join lecture sessions for active-learning assistance
* Create variety of learnR tasks and tutorials
  + Can be done for Python programming language too?
* Form pedagogy research project based on Parson’s Problems?

Thanks to

* DBER
* Greg Wilson (RStudio Education lead)
  + Teaching Tech Together: <https://teachtogether.tech/>
* Mine Cetakaya-Rundel (pre-eminent Data Science instructor)
  + Tutorials and documentation for creating learnR tutorials

Disclaimer: data sets have been complete fabricated; no real or confidential data

* Undergraduate students are Klingon
* Teaching Assistants are hobbits

One-up, One-down

* Each audience member supplies ONE feedback comment (I.e. no more than one)
* We alternate
  + +++ positive comments (praise, optimism, support, etc.)
  + --- negative constructive feedback (errors, confusion, room for improvement, etc.)