Community-based learning and knowledge sharing

Teaching R within an organisation using edu-package

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2017-07-06 13:00:30
How this differs from other presentation on learning R

1. Discusses teaching R for professionals with knowledge in statistics and data analysis, but new to R and modern computation
2. Not a platform, but a tool for creating assignments and summarising completed assignments locally
3. To supplement the generic learning platforms with tailored exercises for ones domain and (human) language
4. Primarily a tool to make my own life easier
We are loose community of R enthusiasts from academia, business and government
We work to build and maintain tools for their own work
We aim at building community to develop and maintain tools collaboratively
ropengov.github.io

See talk by Leo Lahti today 5:50pm - 5:55pm room 3.02
The Social Insurance Institution of Finland (KELA)

- Backbone of Finnish welfare state, distributes social benefits worth of 15 billion euros for 4 million Finns
- Register data on many aspects of all Finnish individuals and families
- First Finnish SAS customer in 1984, now migrating into R after major data warehousing reform
- Need to integrate R for research, IT and statistics production

Known for running **basic income experiment** in 2017-2019
We ran 12 week course for researchers

• 12 week introduction to applied data analysis with focus in tidyverse for data analysis and zeligverse for statistics (R for data science as text book)

• Two introductory classroom lectures and ten thematical online lectures (material from webinars, video lectures, text book chapters, learning platforms, QA-sites, r-packages etc.) with homework assignments followed by feedback session

• Targeting experienced and very busy researchers (from economy, sociology, statistics, biomedicine) with strong statistical background, but less in modern computation or R

• Aiming at providing a “working knowledge” of R and integrating R into daily work and doing that as quick as possible
Lessons learned

from students

• more about basics of coding (vs. point and click) and R
• more, easier and better tailored exercises
• well-known problems and well-known datasets
• less ideological bs

From instructors

• aims not fullfilled - instructor & students need to work harder
• know your students better, discuss in detail how they work with data
• language is important, many it-terms unclear in your own language, not to mention in English
• even simple exercises are labor intensive to construct. Domain spesific, relevant and gradually intensifying ones even more.
• Process of constructing and assessing assignment has to be better facilitated
With edu you can create, distribute and summarise assignments with customised exercises. You only need R, shared folder and perhaps an email. Steps are:

1. **Creating assignments**
   Packages provides an Rstudio addin for creating assignments for students with simple R exercises. See vignette: creating assignments.

2. **Assessing assignments**
   Package also provides a simple script for processing the completed assignments collected from students. Answers are processed into a single R-script with correct answers. See vignette: assessing assignments

3. **Manipulating existing and adding new exercises**
   You can use the pre-existing exercises covering multiple themes or you can create your own specific to your domain as a simple .yml-file. Package also has a simple support for different languages. See vignette: manipulating exercises
Conclusions

• teaching professional (colleagues) vs. students different, ie
  • time constraints, critical
  • unlearning prior/while learning
  • direct benefits (if colleagues) for you as scaling up productivity etc.

• be generic, but use well-known datasets when possible
• have fun, be creative and fool
• different target levels (more advanced you are, the less support you need)
• contributions of any kind welcome
• package developers could add exercises for their packages
Questions?

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