Data Processing of the Article: The Role of Feedback on Students' Diagramming: Effects on Monitoring Accuracy and Text Comprehension

Sophia

Introduction

This R project reflects the data cleaning and analyses of the article *The Role of Feedback on Students' Diagramming: Effects on Monitoring Accuracy and Text Comprehension:* https://doi.org/10.1016/j.cedpsych.2023.102251 (https://doi.org/10.1016/j.cedpsych.2023.102251)

For a more elaborate documentation, see Documentation.Rmd in the Documentation folder.

Usage

User who does not need any help with accessing this project/using git/etc.

- You should be able to run all scripts (in /Scripts/) without pre-installing packages, this will be handled in the first part of each script (if the packages are not yet installed on your system).
- To knit the formatted output 'Article_1_Feedback_Standards_Output_Summary_Artificial_Data.Rmd' in the main directory, you will need to
    - run the two analysis scripts in Scripts/Scripts_Data_Analyses first, **OR**
    - run the Package_Installation_Help.R in Scripts/ first.

User who has git and R installed (or is willing to do that) but needs some more guidance

- Make sure you have git, R and RStudio installed
- Open the project using Rstudio by selecting **file** -> **new project** -> **version control** -> **git** and enter https://github.com/SopBra/NRO-PROO_Article_1_Effects_Of_Feedback_Standards_During_Diagramming (https://github.com/SopBra/NRO-PROO_Article_1_Effects_Of_Feedback_Standards_During_Diagramming)

(Choose where you would like to store the project folder).

To inspect the single data cleaning and analysis scripts:

- Open any of the scripts located in the Scripts folder, (select the whole script) and click Run

To directly inspect the formatted output file of the analysis script:

- Open the Scripts folder and open + run the 'Package_Installation_Help.R' script
- Open 'Article_1_Feedback_Standards_Output_Summary_Artificial_Data.Rmd' in the main directory and click 'knit'

When none of the above it applicable to you/you start from scratch:

0. Install R and RStudio
1. Go to https://github.com/SopBra/NRO-PROO_Article_1_Effects_Of_Feedback_Standards_During_Diagramming (https://github.com/SopBra/NRO-PROO_Article_1_Effects_Of_Feedback_Standards_During_Diagramming)
2. Press Code –> Download ZIP

Mac OS

3. Move the ZIP file to a place you like and extract it there, for example in a new folder on your Desktop called Cool_RProject
4. Open Rstudio
5. Press File –> Open project
6. Choose [the place you liked, for example Desktop] –> Cool_RProject –> 0_PROO_Article_1_Feedback_Standards.Rproj
7. Press File –> Open File
8. Choose [the place you liked, for example Desktop] –> Cool_RProject –> Scripts –> Package_Installation_Help.R
    - Mark/select the entire script and press Run (alternative: command/cmd + A and then command/cmd + Enter) –> This will make sure you have all the right packages installed
9. Press File –> Open File
10. Choose [the place you liked, for example Desktop] –> Article_1_Feedback_Standards_Output_Summary_Artificial_Data.Rmd
11. Press Knit –> This will generate the output as presented in the paper

Windows OS

3. Extract ZIP file to a path (preferably short if you are using Windows), for instance: C:\Cool_RProject
4. Open Rstudio (default location Windows: “C:\Program Files\RStudio\rstudio.exe”)
5. Press File –> Open project
6. Choose C:\Cool_RProject\0_PROO_Article_1_Feedback_Standards.Rproj
7. Press File –> Open File
8. Choose C:\Cool_RProject\Scripts\Package_Installation_Help.R
    - Mark/select the entire script and press Run (alternative: CTRL + Enter) –> This will make sure you have all the right packages installed
9. Press File –> Open File
10. Choose C:\Cool_RProject\Article_1_Feedback_Standards_Output_Summary_Artificial_Data.Rmd
11. Press Knit (alternative: CTRL + SHIFT + K) –> This will generate the output as presented in the paper

Disclaimer and WARNING:

This project is set-up in such a way that people without any programming background can understand and make use of the R scripts. The scripts are partly VERY long (think about 1500 lines of code).
I strongly recommend folding the code to make navigation easier by:

- **Navigating to Edit->Folding->Collapse All** or,
- depending on the system you are using, with the **shortcuts: alt+cmd+o** or **ctrl+alt+o**