# R group Open conversation 17/07/2019

1.Project management

2. Interpreting output

3. Interacting with colleagues

4.Getting past the learning curve

1. **Project management in R**

* keeping a copy of your raw data in the raw form
* naming conventions – name everything in your project as if you were sharing it!
  + Build on names for subsets of data in R
    - site1
    - site1.control
    - site1.treatment
  + Number your scripts in terms of processes –
    - 01\_import\_data
    - 02\_joins
    - 03\_transform
* Version control – some tools and packages are below
  + Github - <http://swcarpentry.github.io/git-novice/>
  + Eclipse <https://marketplace.eclipse.org/content/statet-r>
  + RJ [http://www.walware.de/;jsessionid=e299b6d9a26d8  
    71ad37d193e6c52?page=/it/rj/index.mframe](http://www.walware.de/;jsessionid=e299b6d9a26d871ad37d193e6c52?page=/it/rj/index.mframe)
* Formatting scripts
  + Package “format R”
  + Splitting project into multiple scripts, rather than having 1 script to rule them all with 1000 lines of code!
  + Standard script size should fit on a single monitor.

1. **Interpretation of output from linear models**

* The first point here was we need to understand what we are measuring, what do you want from the model.
  + This book was highly recommended <https://www.crcpress.com/Probability-and-Statistics-with-R/Ugarte-Militino-Arnholt/p/book/9781466504394>
  + So was this book <https://learningstatisticswithr.com/lsr-0.6.pdf>
  + Some publications have a link to the scripts and data used – if you are repeating a similar test you can have a look the raw results and interpretations from the publication.
  + Google! Just google extracting the coefficients of whatever model it is that you are using – this usually brings up a simple explanation.
  + There is and R Markdown package called PAPAJA that brings across the most important parts of your analysis
  + Look at the source code of the test you are running so you can understand what it is doing! For example understanding what the lines are representing in a box and whisker plot.
  + Check out how the errors are estimated - be careful making comparisons between studies
  + Get on twitter and ask you will likely get a really quick response #rstats #rladies (I did this last night and someone responded within minutes!)
  + Check out stack overflow and look at the ratings of the answers

1. **Interacting with colleagues and asking for help – when this is appropriate – the stigma**

* This is really personal preference and time availability
  + The r group is great place to bring your questions as we have many skilled people willing to help. This is time which has specifically been set aside.
  + Contact Peta [pryan31@une.edu.au](mailto:pryan31@une.edu.au) I will help get your research moving
  + Some people are too busy to help, some are very willing. Do not pressure people if they decline. And do not expect someone to sit with your for hours if they accept.
  + For the better part people won’t be upset if you ask them for advice – Do some research first and keep your expectations in check.
  + Nobody writes perfect code – don’t worry about people thinking it’s bad just share it!

1. **Getting past the learning curve – how have you done it? Where are we at with this?**

* We had a few approaches taken by the crowd today.
  + Read a book first
  + Start with some training
  + Have something specific that you want to achieve
* The main points were that there are multiple ways to do everything in R. If you go through a book or some training first you might learn the more efficient or better ways to write your code.
* You are also more likely to learn about data types and structures, if these are incorrect they are a major trap in your research!
* There are loads of resources and help available,
* UNE help
  + Intersect courses
  + Stats group courses
  + Intro stats units
* Online resources
  + Software carpentry <https://software-carpentry.org/>
  + Coursera <https://www.coursera.org/courses?query=r%20&>
  + R studio cheat sheets <https://www.rstudio.com/resources/cheatsheets/>
  + And so much more!