After completing the readings and instructional materials for this module, answer the following discussion questions in 1-2 paragraphs. Provide citations for any research conducted to complete this discussion. Justify your answers using examples or outside research to demonstrate critical thinking about the topics.

What is your opinion on using packages? What constraints do you think you’re imposing on your code by using packages? How do you ensure that your code is reproducible when you are using multiple packages?

<https://journal.r-project.org/archive/2009/RJ-2009-014/RJ-2009-014.pdf>

<http://rstudio-pubs-static.s3.amazonaws.com/275466_5b148ae941254114ab0620c2fd6be4fb.html>

<https://learning.edanz.com/powerful-benefits-of-using-r-to-analyze-your-research-data-and-a-few-limitations/>

https://data-flair.training/blogs/pros-and-cons-of-r-programming-language/

Packages in R are useful in that are allow users access to functions to perform many operations; including “for processes such as data cleaning, creating sophisticated graphs, testing different theoretical models, building forecasts, and manipulating time series data.”[[1]](#endnote-1) R is described by Data Flair as a language with a “steep learning curve.”[[2]](#endnote-2) The programming needed for more complicated functions and operations would be beyond the talents of many beginning, and possibly, more advanced R users. Therefore, the advantage of using a package would hold great allure for many students and users.

On the other hand, packages can create problems with code. In a previous class, and my first introduction to R, I found myself forgetting to ensure that the packages were called within my R Markdown file. It was necessary within the code to be sure that I called for each package before using it so that each time I ran the code the packages would load. For code to be reproducible outside a session, the code calling the package must be included. Now as I have just downloaded R and am writing code in the current version I have not yet encountered a problem discussed in this Rstudio Publication.[[3]](#endnote-3) The RStudio Publication discusses that packages can cause issues when R software is updated or a different version is used. Not all versions of R recognize every package or the package may no longer work correctly in a new version of R. As discussed in lecture, it may be necessary to download previous version of R and packages to ensure that code continues to work. Constraints on your code then will be to ensure that you and anyone looking to reproduce your code are running a version of R and a version of the packages that work together. I would imagine that this could lead to potential issues.

Considering the pros and cons, my opinion is that packages should be used with caution and sparingly.

1. <https://learning.edanz.com/powerful-benefits-of-using-r-to-analyze-your-research-data-and-a-few-limitations/> [↑](#endnote-ref-1)
2. <https://data-flair.training/blogs/pros-and-cons-of-r-programming-language/> [↑](#endnote-ref-2)
3. <http://rstudio-pubs-static.s3.amazonaws.com/275466_5b148ae941254114ab0620c2fd6be4fb.html> [↑](#endnote-ref-3)