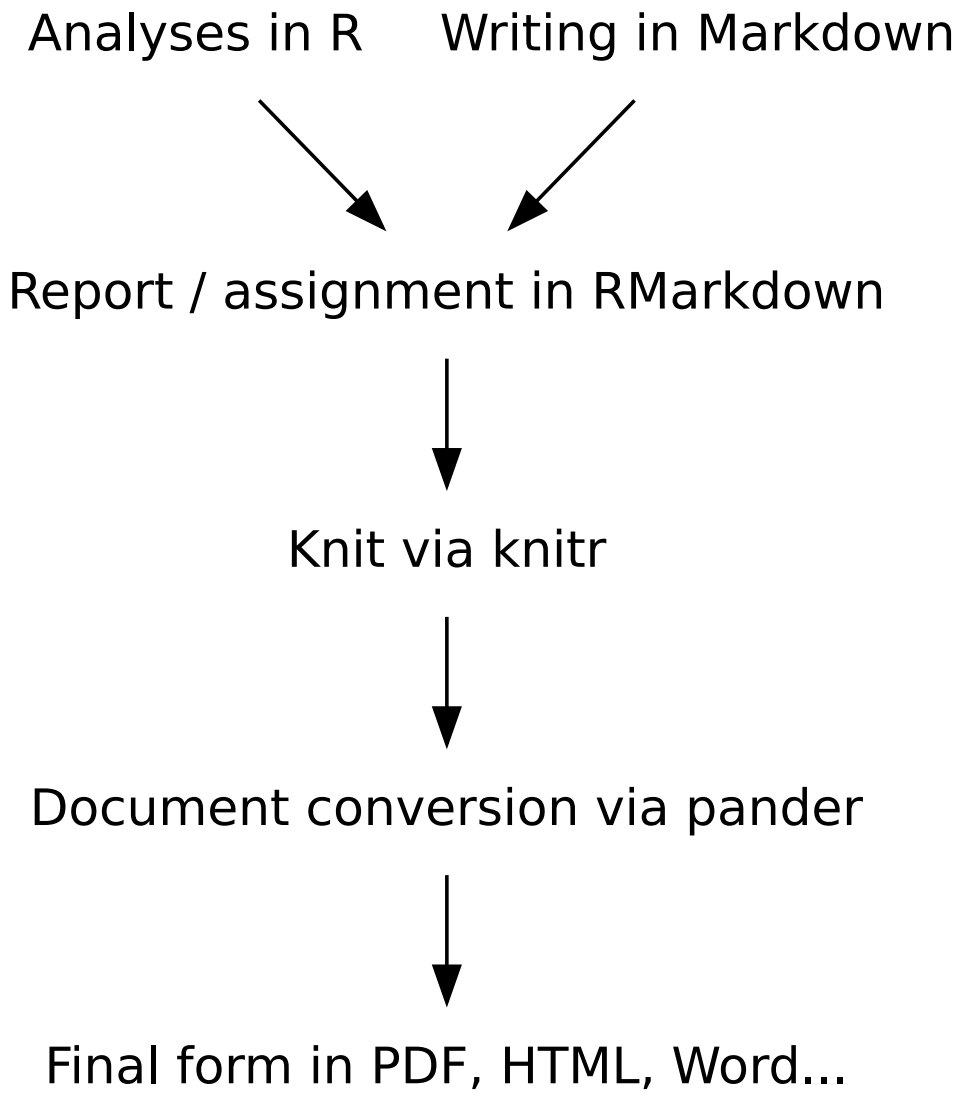
RMarkdown Tutorial

Hao Ran Lai

16 March 2020

R Markdown

Combining scientific analyses and writing in one programme.



Installation

```
install.packages("rmarkdown")
```

- Or just install RStudio, which comes with RMarkdown thesedays.
- To compile PDFs, you may need to manually:

```
install.packages("tinytex")
tinytex::install_tinytex()
```

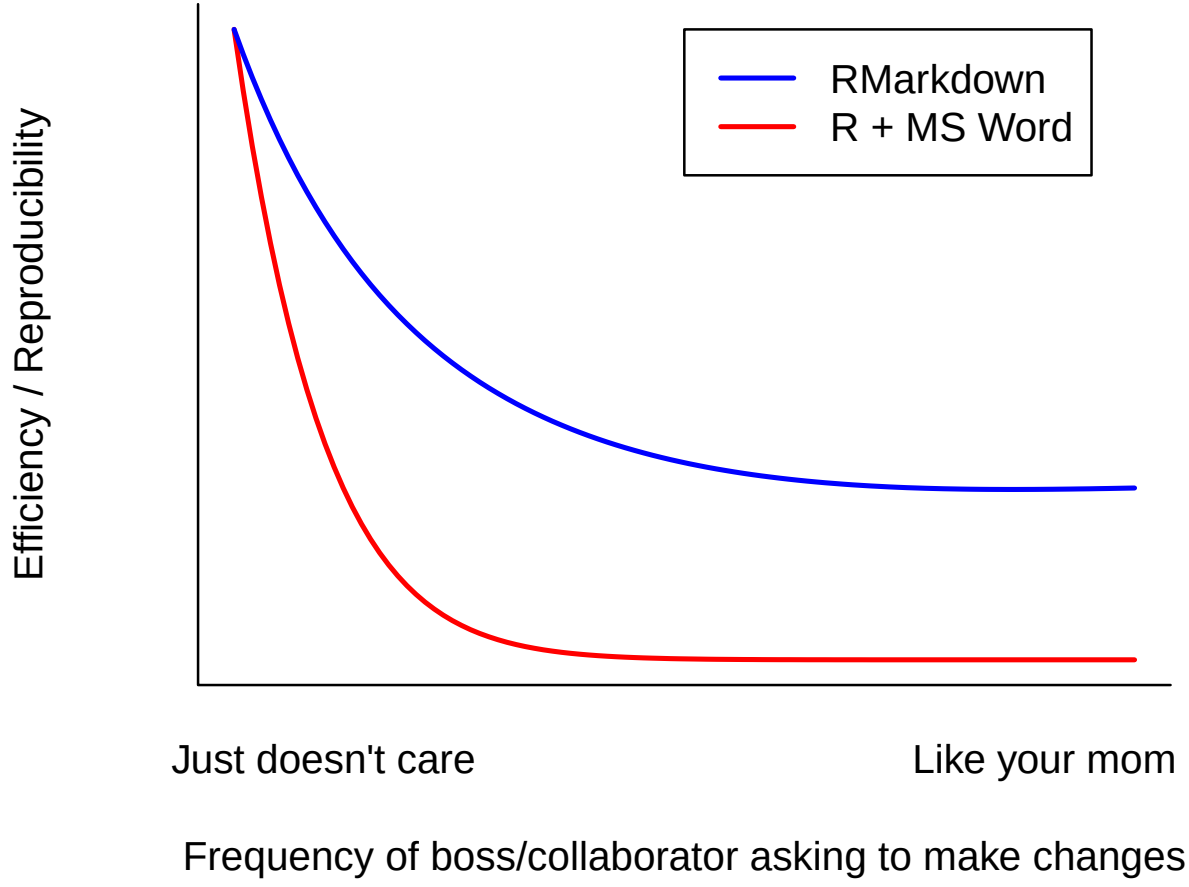
How to learn RMarkdown

- Come to this session (peer support)
- RMarkdown cheatsheets: link
- RStudio > Help > Markdown Quick Reference
- Google

Some examples: link

Why all the fuss?

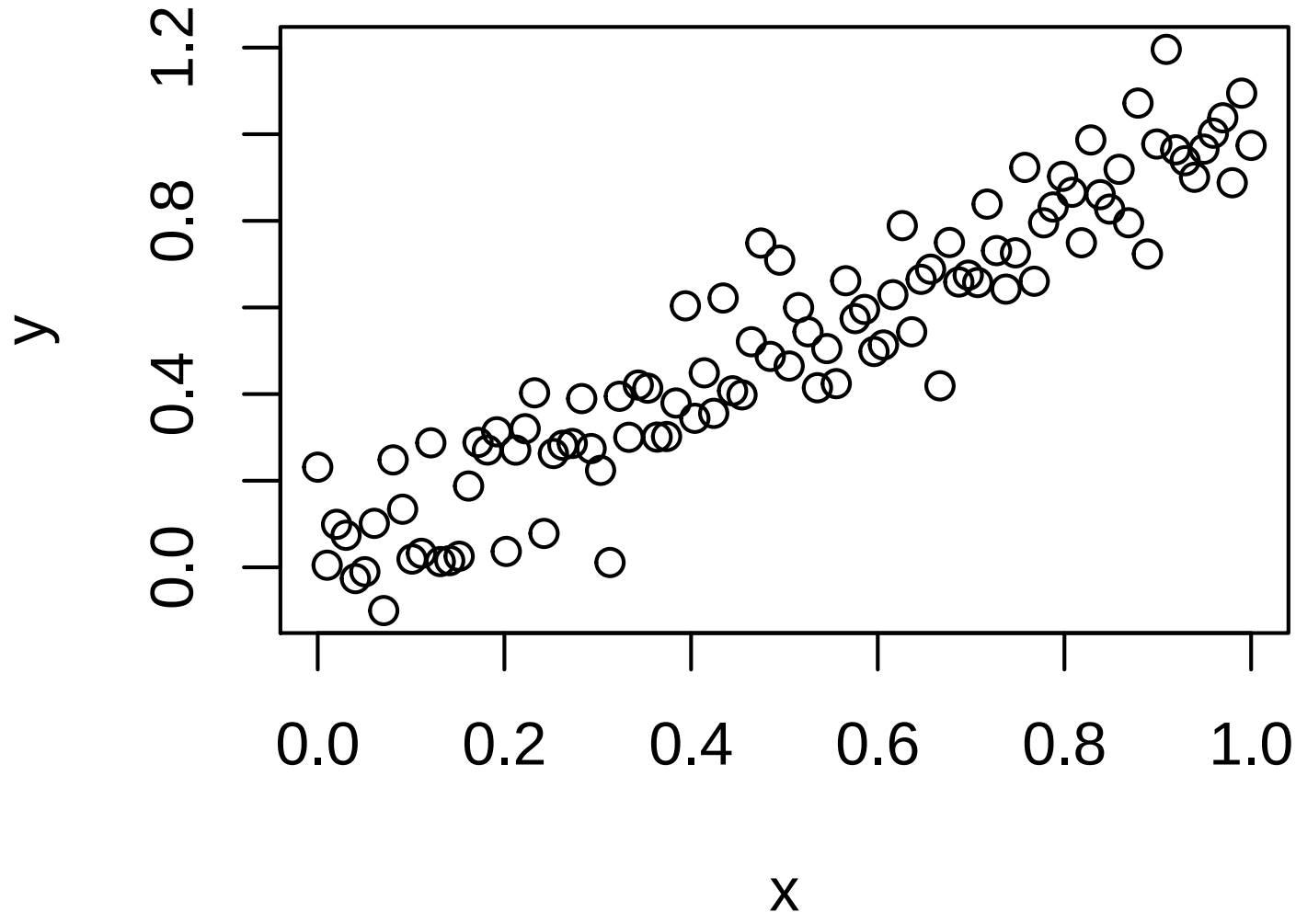
- Reproducibility



- More of a "one-stop-shop" than LaTeX

Reproducible plot

```
x <- seq(0, 1, length.out = 100)
y <- x + rnorm(length(x), 0, 0.1)
plot(x, y)
```



Reproducible analyses

```r
mod <- lm(y ~ x)
summary(mod)
```

```
##
## Call:
## lm(formula = y ~ x)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -0.31154 -0.07187 -0.00057  0.06339  0.26730
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept) 0.004243   0.021633   0.196    0.845
## x           1.016868   0.037376  27.207   <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.109 on 98 degrees of freedom
## Multiple R-squared:  0.8831, Adjusted R-squared:  0.8819
## F-statistic: 740.2 on 1 and 98 DF,  p-value: < 2.2e-16
```

Reproducible analyses

```
plot(x, y)
abline(mod, col = "red", lwd = 2)
```