Summary Graphs of NUTR630 Post-Semester Feedback

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Contents

```r
library(readr)
onboarding.filename <- 'https://docs.google.com/spreadsheets/d/e/2PACX-1vQI-b1A4Zd-gx3FuY3lkKbWEOzKUfmA
onboarding.data <- read_csv(onboarding.filename)

end.filename <- 'https://docs.google.com/spreadsheets/d/e/2PACX-1vTxPKhKOwkZ18U1X0Z44M8wGqtM5ow18tVPF4y
end.data <- read_csv(end.filename)

merged.data <- full_join(onboarding.data,end.data, by='Email Address', suffix=c("before","after"))
```

These data can be found in /Users/davebrid/Documents/GitHub/TeachingLectures/Michigan/NUTR630/Evaluation/GradeCra
Summary/Student Feedback/Post-Semester. This script was most recently updated on Wed Jan 31 17:41:34
2018.

Analysis

Interests

Learning Activities

Thoughts about whether they learned a lot from the activity

```r
library(dplyr)

mylevels <- c('Strongly Agree','Agree','Neutral','Disagree','Strongly Disagree')


activity.data <-
  end.data %>%
  dplyr::select(contains("learned")) %>%
  rename(`Written Reports` = `Select one in reference to written reports [I learned a lot from this acti
         `Presentation` = `Select one in reference to your presentation [I learned a lot from this acti
         `Peer Reviews` = `Select one answer in reference to the peer reviews [I learned a lot from thi
```
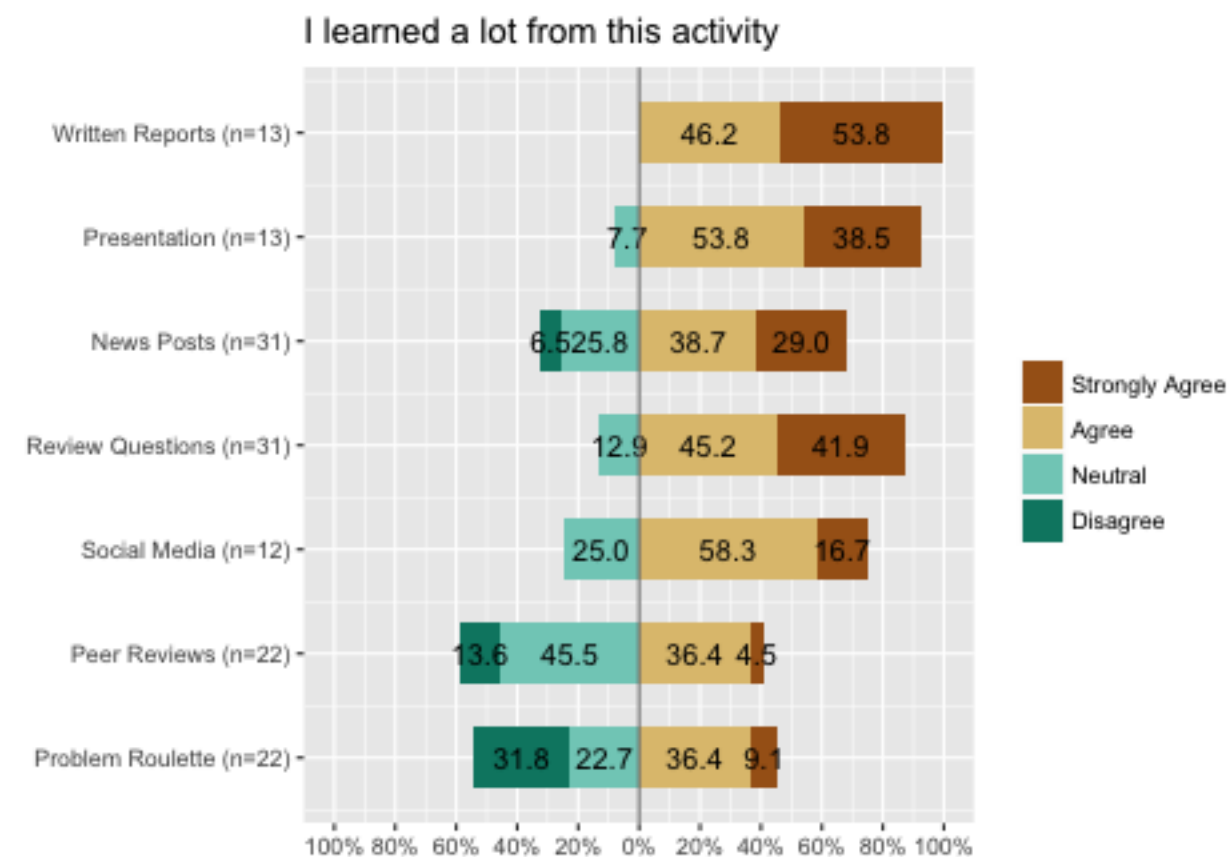
```
            `Social Media` = `Select one in reference to the social media assignments [I learned a lot from
            `News Posts` = `Select one in reference to the news posts [I learned a lot from this activity]`
            `Review Questions` = `Select one in reference to the review questions [I learned a lot from thi
            `Problem Roulette` = `Select one answer in reference to problem roulette [I learned a lot from
    mutate(`Written Reports` = factor(`Written Reports`,levels=mylevels),
           `Presentation`= factor(`Presentation`, levels=mylevels),
           `Peer Reviews`= factor(`Peer Reviews`, levels=mylevels),
           `Social Media`= factor(`Social Media`, levels=mylevels),
           `News Posts`= factor(`News Posts`, levels=mylevels),
           `Review Questions`= factor(`Review Questions`, levels=mylevels),
           `Problem Roulette`= factor(`Problem Roulette`, levels=mylevels))

library(sjPlot)
sjp.likert(activity.data, title="I learned a lot from this activity")
```


I learned a lot from this activity

Thoughts about whether these assesed knowledge

```
assessed.data <-
  end.data %>%
  dplyr::select(contains("assessed")) %>%
  rename(`Written Reports` = `Select one in reference to written reports [This effectively assessed my
         `Presentation` = `Select one in reference to your presentation [This effectively assessed my kn
         `Peer Reviews` = `Select one answer in reference to the peer reviews [This effectively assessed
         `Social Media` = `Select one in reference to the social media assignments [This effectively ass
```

```r
        `News Posts` = `Select one in reference to the news posts [This effectively assessed my knowled
        `Review Questions` = `Select one in reference to the review questions [This effectively assesse
        `Problem Roulette` = `Select one answer in reference to problem roulette [This effectively asse
  mutate(`Written Reports` = factor(`Written Reports`,levels=mylevels),
        `Presentation`= factor(`Presentation`, levels=mylevels),
        `Peer Reviews`= factor(`Peer Reviews`, levels=mylevels),
        `Social Media`= factor(`Social Media`, levels=mylevels),
        `News Posts`= factor(`News Posts`, levels=mylevels),
        `Review Questions`= factor(`Review Questions`, levels=mylevels),
        `Problem Roulette`= factor(`Problem Roulette`, levels=mylevels))

sjp.likert(assessed.data, title="This effectively assessed my knowledge")
```


Thoughts as to whether it was worth an ppropriate amount of points

```r
points.data <-
  end.data %>%
  dplyr::select(contains("appropriate amount")) %>%
  rename(`Written Reports` = `Select one in reference to written reports [This was worth an appropriate
        `Presentation` = `Select one in reference to your presentation [This was worth an appropriate a
        `Peer Reviews` = `Select one answer in reference to the peer reviews [This was worth an appropr
        `Social Media` = `Select one in reference to the social media assignments [This was worth an ap
        `News Posts` = `Select one in reference to the news posts [This was worth an appropriate amount
        `Review Questions` = `Select one in reference to the review questions [This was worth an approp
```
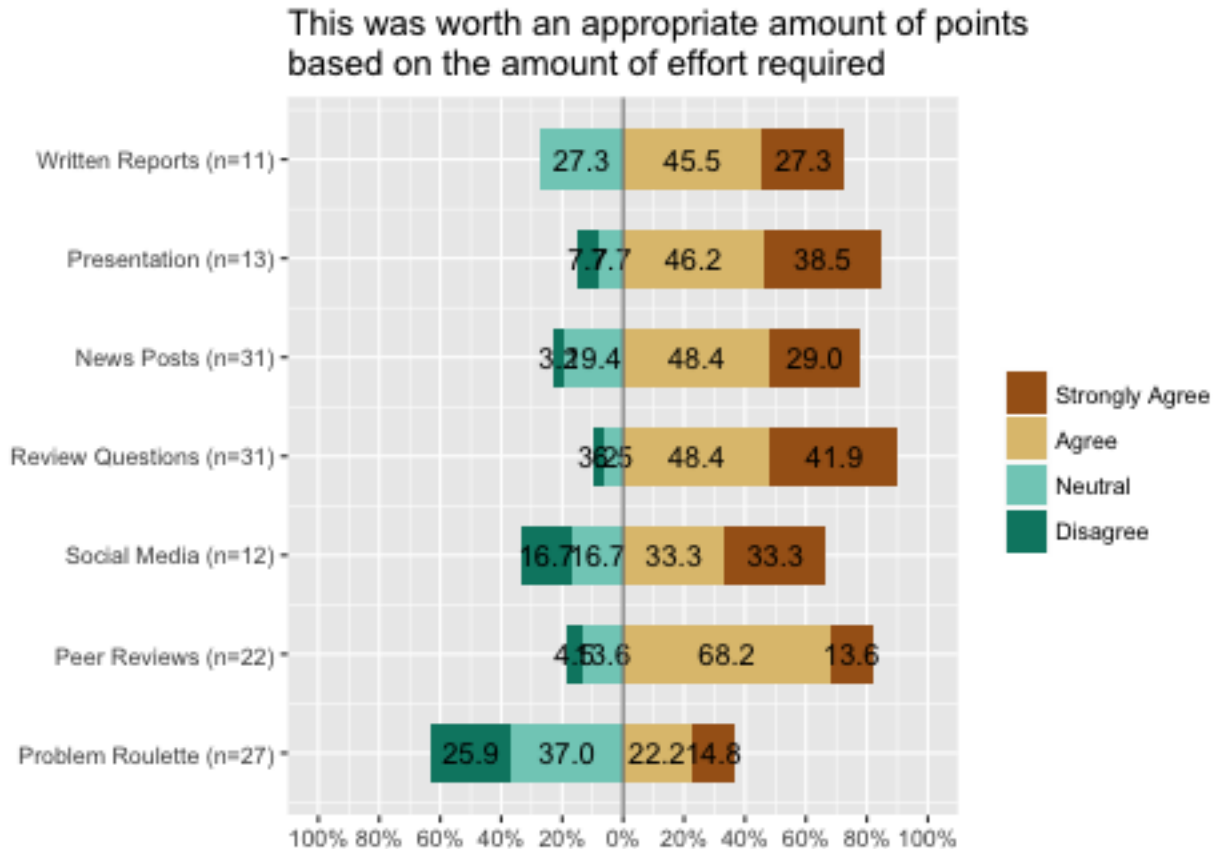
```
        `Problem Roulette` = `Select one answer in reference to problem roulette [This was worth an ap
  mutate(`Written Reports` = factor(`Written Reports`,levels=mylevels),
        `Presentation`= factor(`Presentation`, levels=mylevels),
        `Peer Reviews`= factor(`Peer Reviews`, levels=mylevels),
        `Social Media`= factor(`Social Media`, levels=mylevels),
        `News Posts`= factor(`News Posts`, levels=mylevels),
        `Review Questions`= factor(`Review Questions`, levels=mylevels),
        `Problem Roulette`= factor(`Problem Roulette`, levels=mylevels))

sjp.likert(points.data, title="This was worth an appropriate amount of points based on the amount of ef
```


This was worth an appropriate amount of points based on the amount of effort required

Changes over the semester

Interests and Aptitudes

```
merged.data[merged.data==1]<-'Strongly Agree'
merged.data[merged.data==2]<-'Agree'
merged.data[merged.data==3]<-'Neutral'
merged.data[merged.data==4]<-'Disagree'
merged.data[merged.data==5]<-'Strongly Disagree'


macronutritent.aptitude.data <-
```
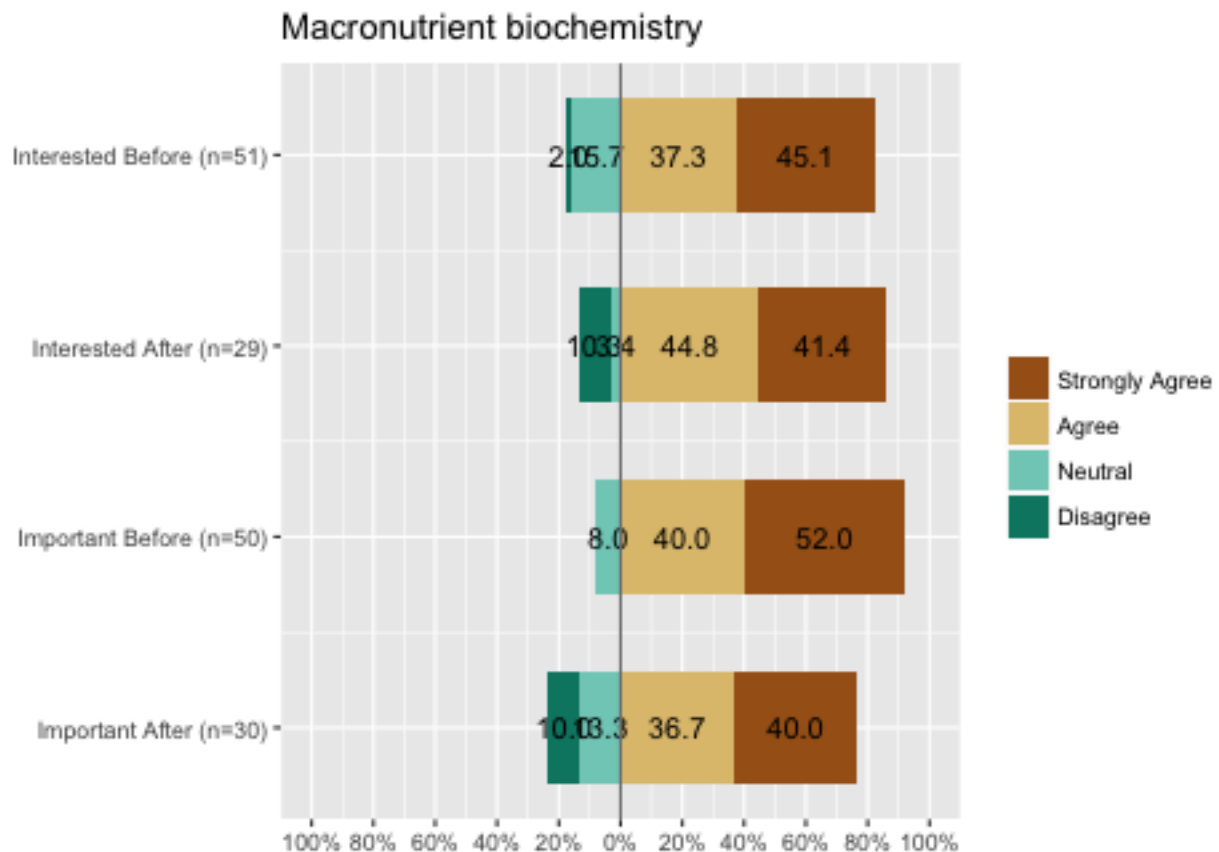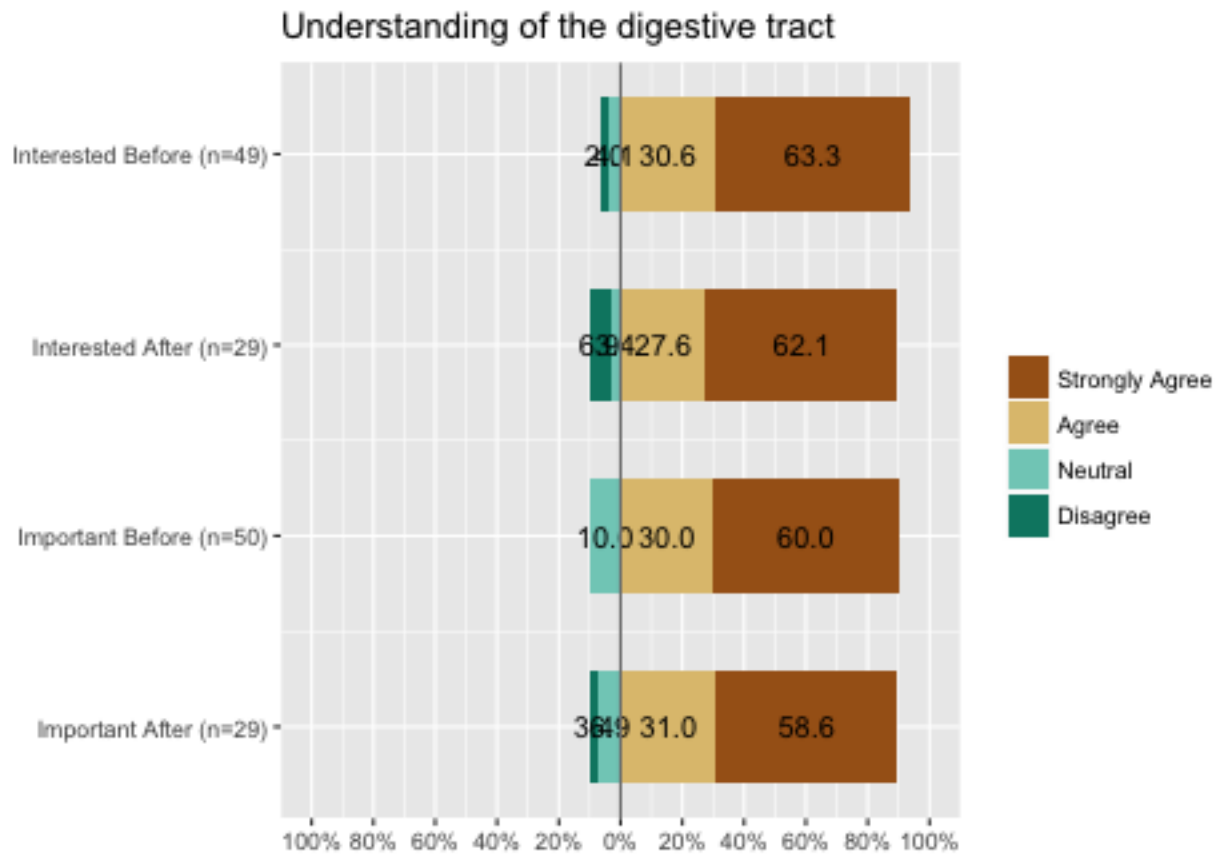
```
  merged.data %>%
  dplyr::select(contains("macronutrient")) %>%
  rename(`Interested Before` = `Macronutrient biochemistry is of interest to me.before`,
         `Interested After` = `Macronutrient biochemistry is of interest to me.after`,
         `Important Before` = `Macronutrient biochemistry is important for my career interests.before`,
         `Important After` = `Macronutrient biochemistry is important for my career interests.after`) %>
  mutate(`Interested Before`= factor(`Interested Before`, levels=mylevels),
         `Interested After`= factor(`Interested After`, levels=mylevels),
         `Important Before`= factor(`Important Before`, levels=mylevels),
         `Important After`= factor(`Important After`, levels=mylevels))
col.order <- c(1,3,2,4)

sjp.likert(macronutritent.aptitude.data[,col.order], title="Macronutrient biochemistry")
```


Macronutrient biochemistry

```
digestive.aptitude.data <-
  merged.data %>%
  dplyr::select(contains("digestive")) %>%
  rename(`Interested Before` = `Comprehensive understanding of the digestive tract is of interest to me
         `Interested After` = `Comprehensive understanding of the digestive tract is of interest to me.a
         `Important Before` = `Comprehensive understanding of the digestive tract is important for my ca
         `Important After` = `Comprehensive understanding of the digestive tract is important for my ca
  mutate(`Interested Before`= factor(`Interested Before`, levels=mylevels),
         `Interested After`= factor(`Interested After`, levels=mylevels),
         `Important Before`= factor(`Important Before`, levels=mylevels),
         `Important After`= factor(`Important After`, levels=mylevels))
col.order <- c(1,3,2,4)
```

5

```r
sjp.likert(digestive.aptitude.data[,col.order], title="Understanding of the digestive tract")
```
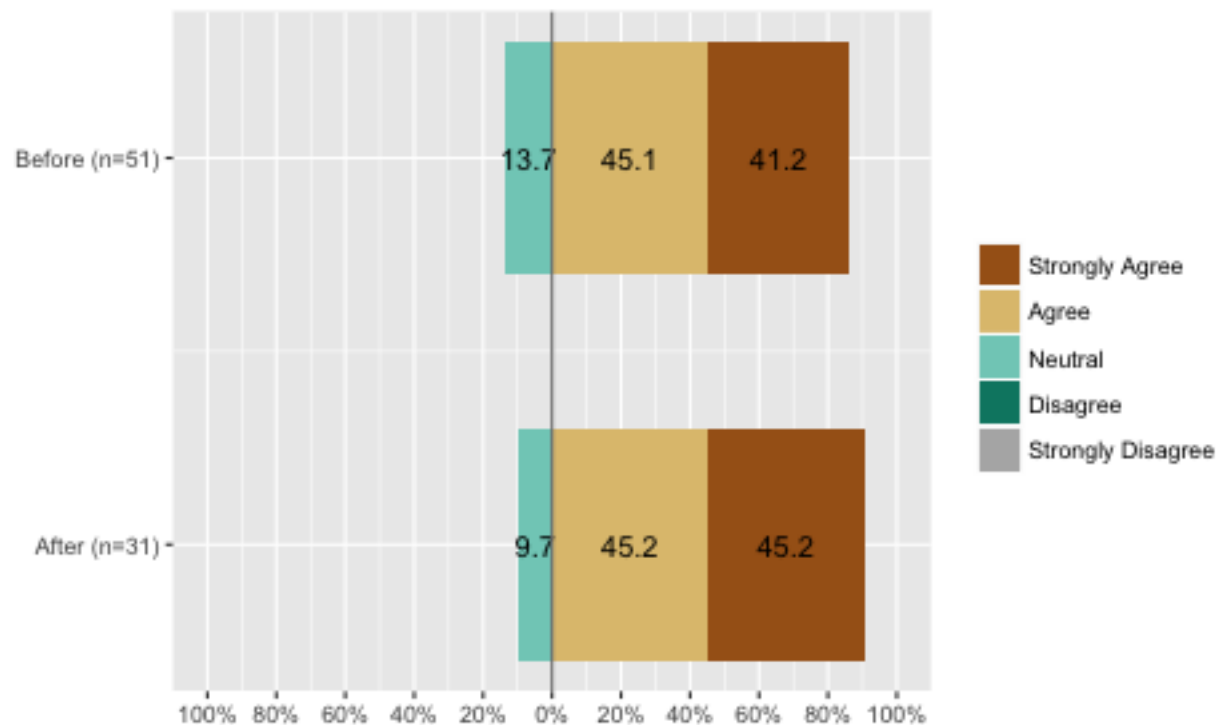
Understanding of the digestive tract

Metacognition

```r
meta.data <-
  merged.data %>%
  dplyr::select(contains("What is your level of agreement on the following statements? [When given an as
  rename(`Before` = `What is your level of agreement on the following statements? [When given an assignm
         `After` =  `What is your level of agreement on the following statements? [When given an assignm
  mutate(`Before`= factor(`Before`, levels=mylevels),
         `After`= factor(`After`, levels=mylevels))

sjp.likert(meta.data, title="When given an assignment to complete, I produce better outcomes with a comm
```
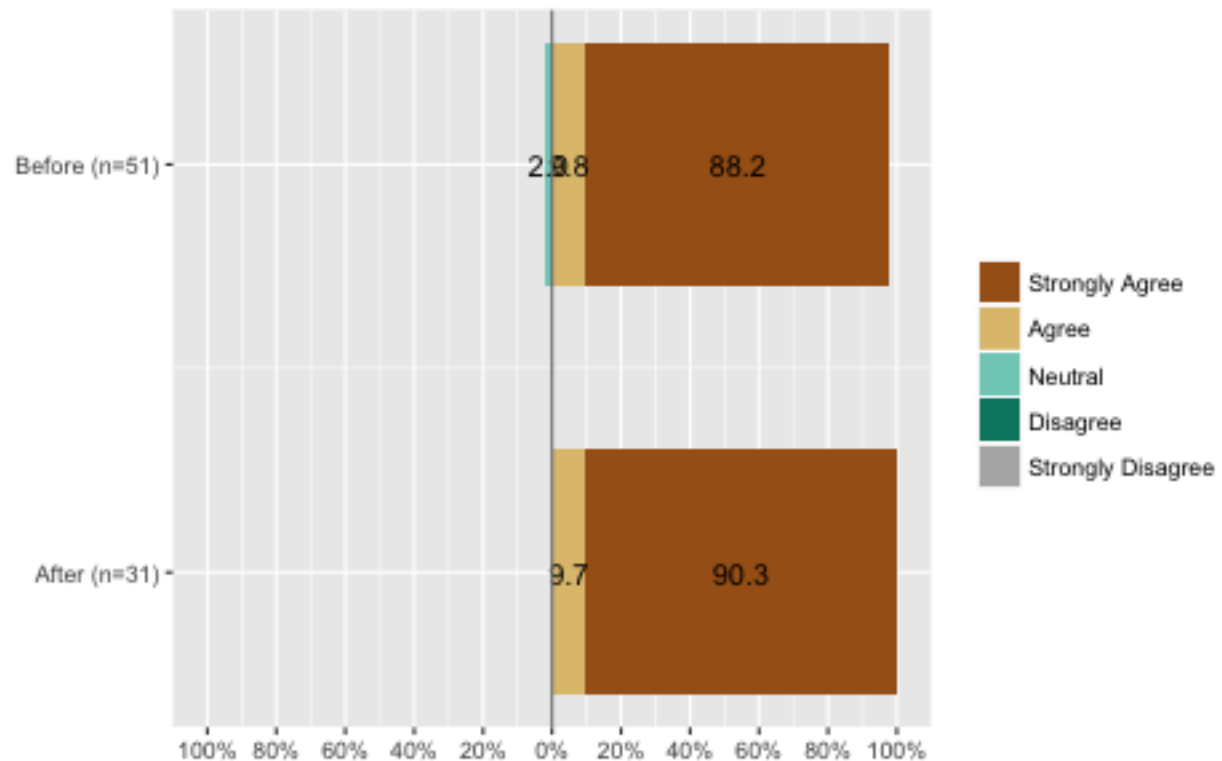
When given an assignment to complete, I produce better outcomes with a community of support (i.e., instructor or peer support)

Before (n=51): Neutral 13.7, Agree 45.1, Strongly Agree 41.2

After (n=31): Neutral 9.7, Agree 45.2, Strongly Agree 45.2

Legend:
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

X-axis: 100% 80% 60% 40% 20% 0% 20% 40% 60% 80% 100%

```
meta.data <-
  merged.data %>%
  dplyr::select(contains("What is your level of agreement on the following statements? [I am motivated
  rename(`Before` = `What is your level of agreement on the following statements? [I am motivated to com
        `After` =  `What is your level of agreement on the following statements? [I am motivated to com
  mutate(`Before`= factor(`Before`, levels=mylevels),
        `After`= factor(`After`, levels=mylevels))

sjp.likert(meta.data, title="I am motivated to complete an assignment if I enjoy doing it.", cat.neutral
```
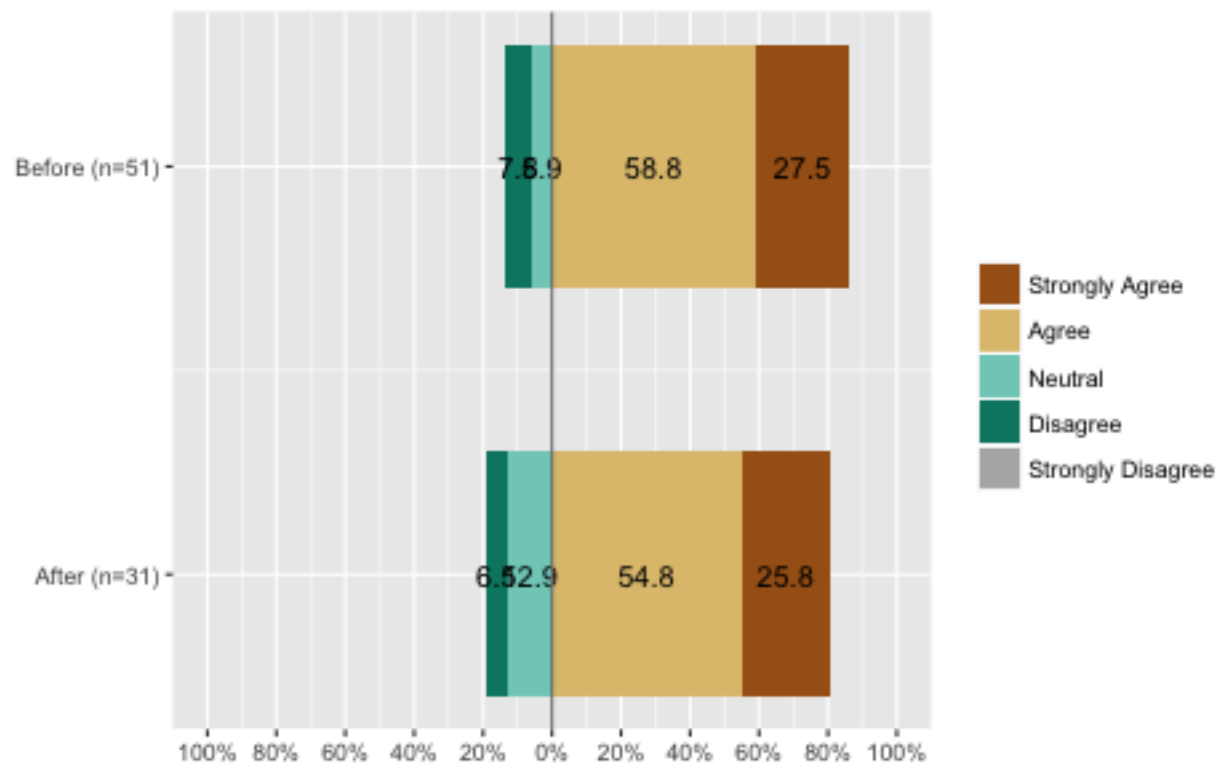
I am motivated to complete an assignment if I enjoy doing it.

	Strongly Agree
	Agree
	Neutral
	Disagree
	Strongly Disagree

Before (n=51) — 2.9.8 | 88.2

After (n=31) — 9.7 | 90.3

100% 80% 60% 40% 20% 0% 20% 40% 60% 80% 100%

```
meta.data <-
  merged.data %>%
  dplyr::select(contains("What is your level of agreement on the following statements? [I am aware of tl
  rename(`Before` = `What is your level of agreement on the following statements? [I am aware of the sk:
         `After` =  `What is your level of agreement on the following statements? [I am aware of the sk:
  mutate(`Before`= factor(`Before`, levels=mylevels),
         `After`= factor(`After`, levels=mylevels))

sjp.likert(meta.data, title="I am aware of the skills I develop when I complete different types of assig
```
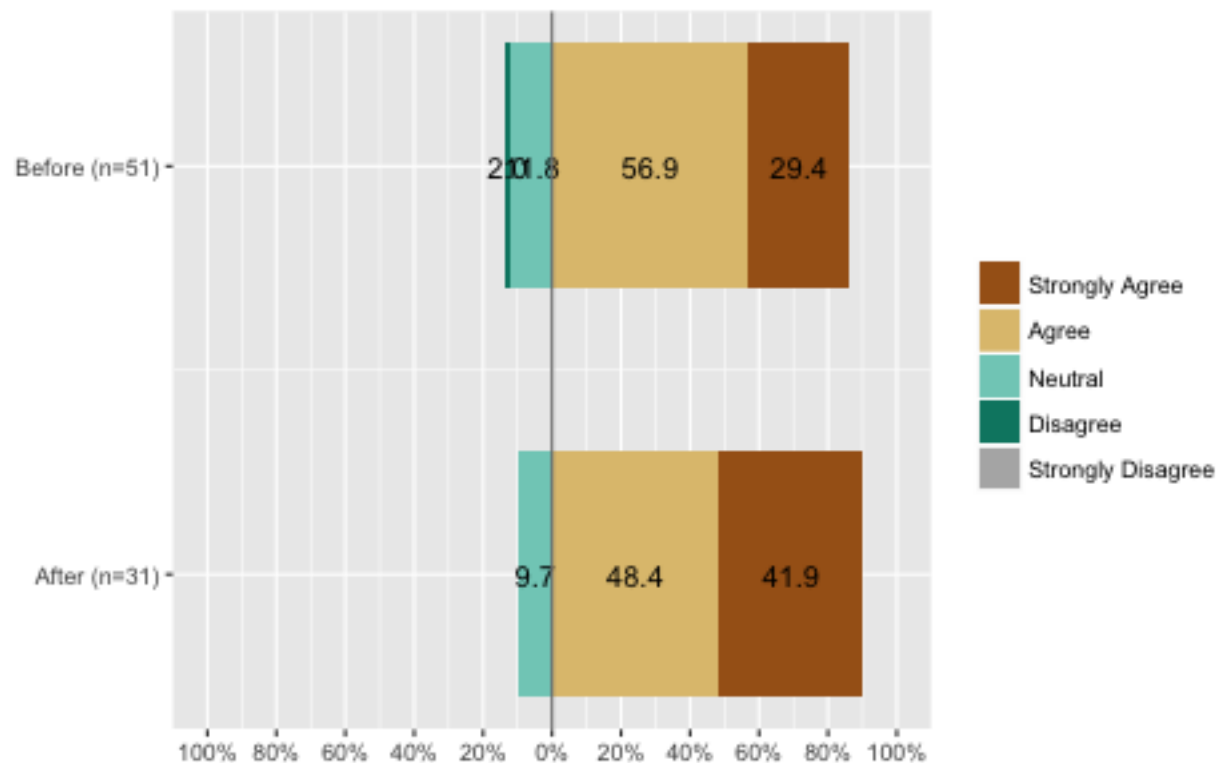
I am aware of the skills I develop when I complete different types of assignments.

Before (n=51) — 7.8 3.9 | 58.8 | 27.5

After (n=31) — 6.5 2.9 | 54.8 | 25.8

Legend:
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

```
meta.data <-
  merged.data %>%
  dplyr::select(contains("What is your level of agreement on the following statements? [When a difficult
  rename(`Before` = `What is your level of agreement on the following statements? [When a difficult ass
         `After` =  `What is your level of agreement on the following statements? [When a difficult ass
  mutate(`Before`= factor(`Before`, levels=mylevels),
         `After`= factor(`After`, levels=mylevels))

sjp.likert(meta.data, title="When a difficult assignment is given to me, I feel confident that I can com
```
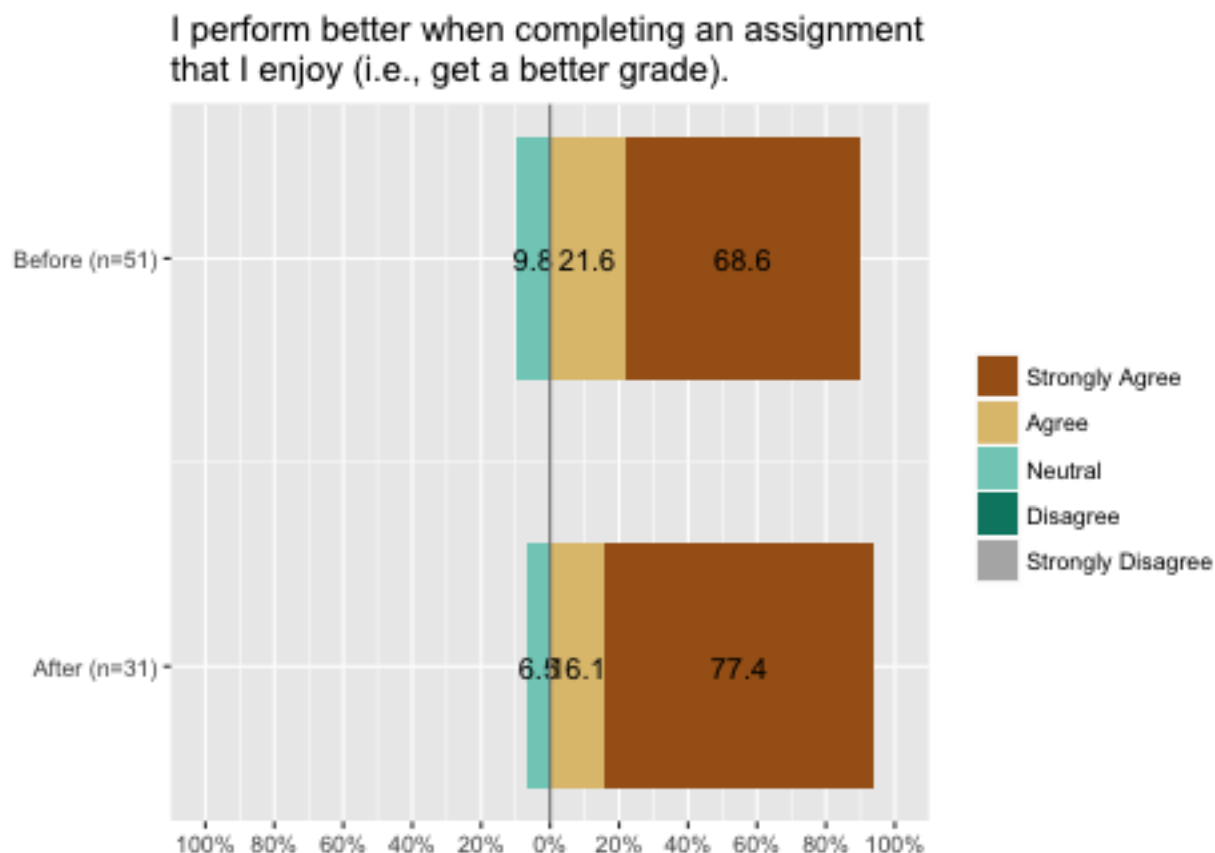
When a difficult assignment is given to me, I feel confident that I can complete it

Before (n=51): 2 | 11.8 | 56.9 | 29.4

After (n=31): 9.7 | 48.4 | 41.9

Legend:
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

```
meta.data <-
  merged.data %>%
  dplyr::select(contains("What is your level of agreement on the following statements? [I perform better
  rename(`Before` = `What is your level of agreement on the following statements? [I perform better when
         `After` =  `What is your level of agreement on the following statements? [I perform better when
  mutate(`Before`= factor(`Before`, levels=mylevels),
         `After`= factor(`After`, levels=mylevels))

sjp.likert(meta.data, title="I perform better when completing an assignment that I enjoy (i.e., get a be
```

I perform better when completing an assignment that I enjoy (i.e., get a better grade).

Session Information

```r
sessionInfo()
```

```
## R version 3.4.2 (2017-09-28)
## Platform: x86_64-apple-darwin15.6.0 (64-bit)
## Running under: macOS High Sierra 10.13.3
##
## Matrix products: default
## BLAS: /Library/Frameworks/R.framework/Versions/3.4/Resources/lib/libRblas.0.dylib
## LAPACK: /Library/Frameworks/R.framework/Versions/3.4/Resources/lib/libRlapack.dylib
##
## locale:
## [1] en_US.UTF-8/en_US.UTF-8/en_US.UTF-8/C/en_US.UTF-8/en_US.UTF-8
##
## attached base packages:
## [1] stats     graphics  grDevices utils     datasets  methods   base
##
## other attached packages:
## [1] sjPlot_2.4.0 bindrcpp_0.2 readr_1.1.1  dplyr_0.7.4  tidyr_0.7.2
## [6] knitr_1.17
##
## loaded via a namespace (and not attached):
##  [1] nlme_3.1-131       RColorBrewer_1.1-2 rprojroot_1.2
```

```
##  [4] tools_3.4.2        TMB_1.7.12        backports_1.1.1
##  [7] R6_2.2.2          sjlabelled_1.0.6  DT_0.3
## [10] lazyeval_0.2.1    colorspace_1.3-2  nnet_7.3-12
## [13] tidyselect_0.2.3  mnormt_1.5-5      emmeans_1.1
## [16] curl_3.0          compiler_3.4.2    cli_1.0.0
## [19] sandwich_2.4-0    effects_4.0-0     scales_0.5.0
## [22] lmtest_0.9-35     mvtnorm_1.0-7     psych_1.7.8
## [25] blme_1.0-4        stringr_1.2.0     digest_0.6.12
## [28] foreign_0.8-69    minqa_1.2.4       rmarkdown_1.8
## [31] stringdist_0.9.4.6 pkgconfig_2.0.1  htmltools_0.3.6
## [34] lme4_1.1-14       pwr_1.2-1         htmlwidgets_1.0
## [37] rlang_0.1.4       rstudioapi_0.7    shiny_1.0.5
## [40] bindr_0.1         zoo_1.8-1         magrittr_1.5
## [43] modeltools_0.2-21 bayesplot_1.4.0   Matrix_1.2-12
## [46] Rcpp_0.12.14      munsell_0.4.3     abind_1.4-5
## [49] prediction_0.2.0  stringi_1.1.6     multcomp_1.4-8
## [52] yaml_2.1.15       merTools_0.3.0    snakecase_0.8.1
## [55] carData_3.0-0     MASS_7.3-47       plyr_1.8.4
## [58] grid_3.4.2        parallel_3.4.2    sjmisc_2.6.3
## [61] forcats_0.2.0     crayon_1.3.4      lattice_0.20-35
## [64] ggeffects_0.3.1   haven_1.1.0       splines_3.4.2
## [67] sjstats_0.14.0    hms_0.4.0         estimability_1.2
## [70] reshape2_1.4.2    codetools_0.2-15  stats4_3.4.2
## [73] glue_1.2.0        evaluate_0.10.1   modelr_0.1.1
## [76] httpuv_1.3.5      nloptr_1.0.4      gtable_0.2.0
## [79] purrr_0.2.4       assertthat_0.2.0  ggplot2_2.2.1
## [82] mime_0.5          coin_1.2-2        xtable_1.8-2
## [85] broom_0.4.3       survey_3.32-1     coda_0.19-1
## [88] survival_2.41-3   tibble_1.3.4      arm_1.9-3
## [91] glmmTMB_0.2.0     TH.data_1.0-8
```