

Pacific Food System Education Analysis

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Summary

Project files are on Google Drive: https://drive.google.com/open?id=1imgIb_voKPfAizWXIeVZKX68lGW_sZw0&usp=drive_fs

Things to do

- ☒ Compare the different programs using Ebel
- ☒ Compare the stated program description with the course descriptions using Ebel
- ☒ Wordclouds
- ☒ Princomp
- ☒ Heatmap (notebook LM results)

```
#' Food System Education Analysis Functions
#'
#' This is a set of functions for analyzing food system
#' program data.
#'
#' @param x Text for a program.
#' @param kw Named list of key words.

analyze_kw <- function(x = "text", kw = "keywords"){

  x.collapse <- paste(x, collapse = " ")
  x.collapse <- tolower(x.collapse)

  out <- kw

  for (i in seq_along(kw)){
    for (j in seq_along(kw[[i]])){
      out[[i]][j] <- as.numeric(grepl(kw[[i]][j], x.collapse))
    }
  }

  out <- lapply(out, as.numeric)

  return(out)
}

#' Create alignment heat map
#'
#' @param x Alignment data frame.
```

```

quant_align <- function(x){
  x <- tolower(x)
  out <- c(grepl("weak", x),
           grepl("partially", x),
           grepl("moderate", x),
           grepl("strongly", x),
           grepl("fully", x))
  out <- c(0, seq_along(out)[out])
  out <- max(out)
  return(out)
}

#' Return keyword list.
#'
#' @param x List of binary word presence vectors.
#' @param kw Keyword list.

list_kw <- function(x = "word presences", kw = "keyword list"){
  out <- x
  for (i in seq_along(x)){
    out[[i]] <- kw[[i]][x[[i]] == 1]
  }
  return(out)
}

## load data files
ebel <- readLines("data/ebel_framework_lo.txt")

scfs.courses <- readLines("data/scfs_courses.txt")
scfs.program <- readLines("data/scfs_program.txt")

ctahr.courses <- readLines("data/ctahr_courses.txt")
ctahr.program <- readLines("data/ctahr_program.txt")

usp.courses <- readLines("data/usp_courses.txt")
usp.program <- readLines("data/usp_program.txt")

tab.align <- googlesheets4::read_sheet("https://docs.google.com/spreadsheets/d/1u3fUuchbD1iYc_YHG3p0ZW6G
sheet = "alignment_table")

## v Reading from "DATA Higher Ed Meets Food Systems Thinking Paper ".
## v Range 'alignment_table'.
tab.align <- as.data.frame(tab.align)
rownames(tab.align) <- tab.align[, 1]
tab.align <- tab.align[, -1]
hm.align <- apply(tab.align, 2, function(x) sapply(x, quant_align))

hm2.in <- abs(max(hm.align) - hm.align)
## hm2.in <- hm.align
rownames(hm2.in) <- substr(rownames(hm.align), 1, 3)
colnames(hm2.in) <- c("USP", "CTAHR", "SCFS")[c(grep("USP", colnames(hm.align)),
        grep("CTAHR", colnames(hm.align)),

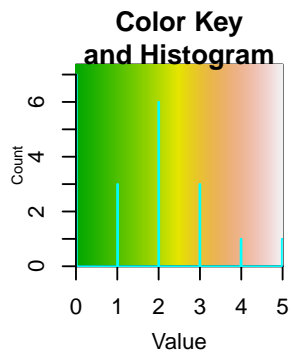
```

```

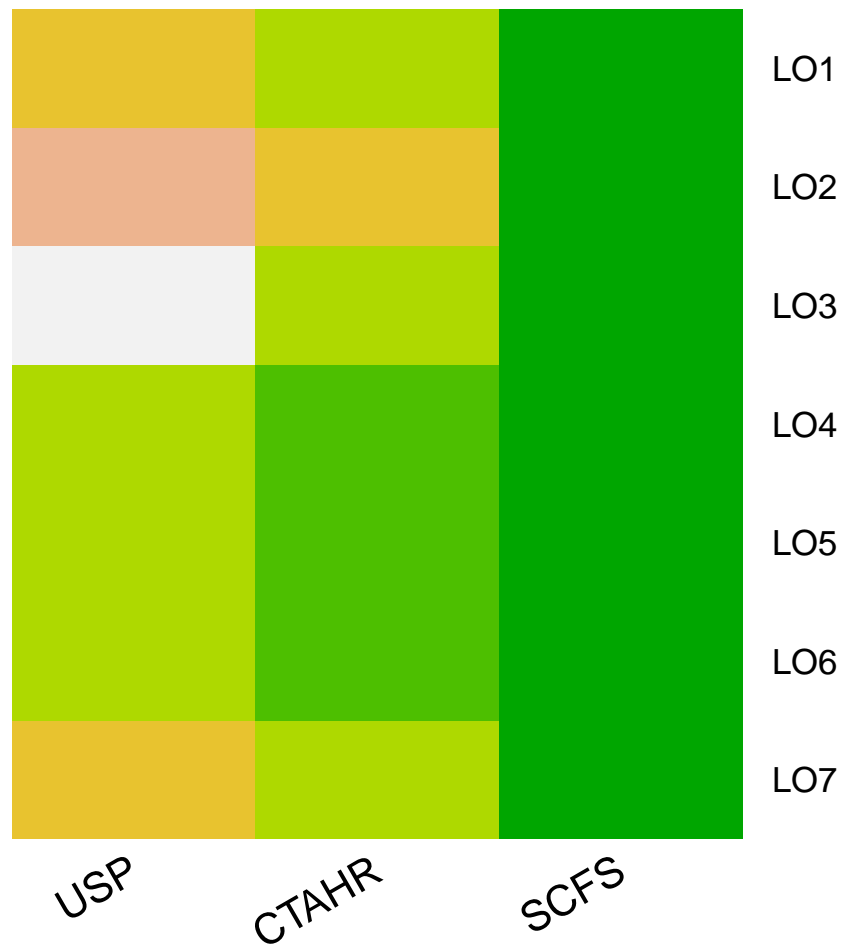
        grep("SCFS", colnames(hm.align))
    )]

heatmap.2(hm2.in,
  key = T,
  dendrogram = "none",
  trace = "none",
  cexCol = 1.75,
  col = terrain.colors(256),
  Colv = F, Rowv = F,
  srtCol = 30,
  margins = c(7, 6),
  main = "Degree of Misalignment"
)

```



Degree of Misalignment



SCFS Program

real-world problems
communication
policy practical
experiential learning
hands-on
systems thinking
equity teamwork
internships
experiential
leadership
advocacy

SCFS Courses

innovation
public speaking
experiential
food production
evaluation rights
holistic
resilience
equity advocacy
hands-on
practical
oral presentations
oral communication
communication

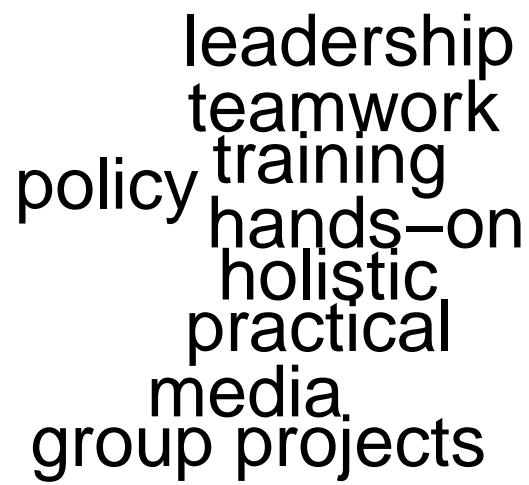
CTAHR Program

evaluation
leadership
written communication
practical
communication
capstone
real-world problems

CTAHR Courses

evaluation
audience engagement
innovation media
hands-on
resilience
food production
practical
communication

USP Program



leadership
teamwork
training
hands-on
holistic
practical
media
group projects
policy

USP Courses

evaluation
training
hands-on
communication
policy

SCFS Program



LO 5: Effective Communication
LO 1: Systems Thinking
LO 6: Collaboration & Leadership
LO 4: Practical Skills
LO 8: Food Systems Advocacy
LO 2: Equity & Justice
LO 7: Systems-Based Solutions

SCFS Courses

LO 8: Food Systems Advocacy
LO 1: Systems Thinking
LO 4: Practical Skills
LO 2: Equity & Justice
LO 7: Systems-Based Solutions

CTAHR Program

LO 4: Practical Skills
LO 5: **Effective Communication**
LO 6: Collaboration & Leadership

CTAHR Courses

LO 1: Systems Thinking
LO 5: Effective Communication
LO 4: Practical Skills
LO 7: Systems-Based Solutions

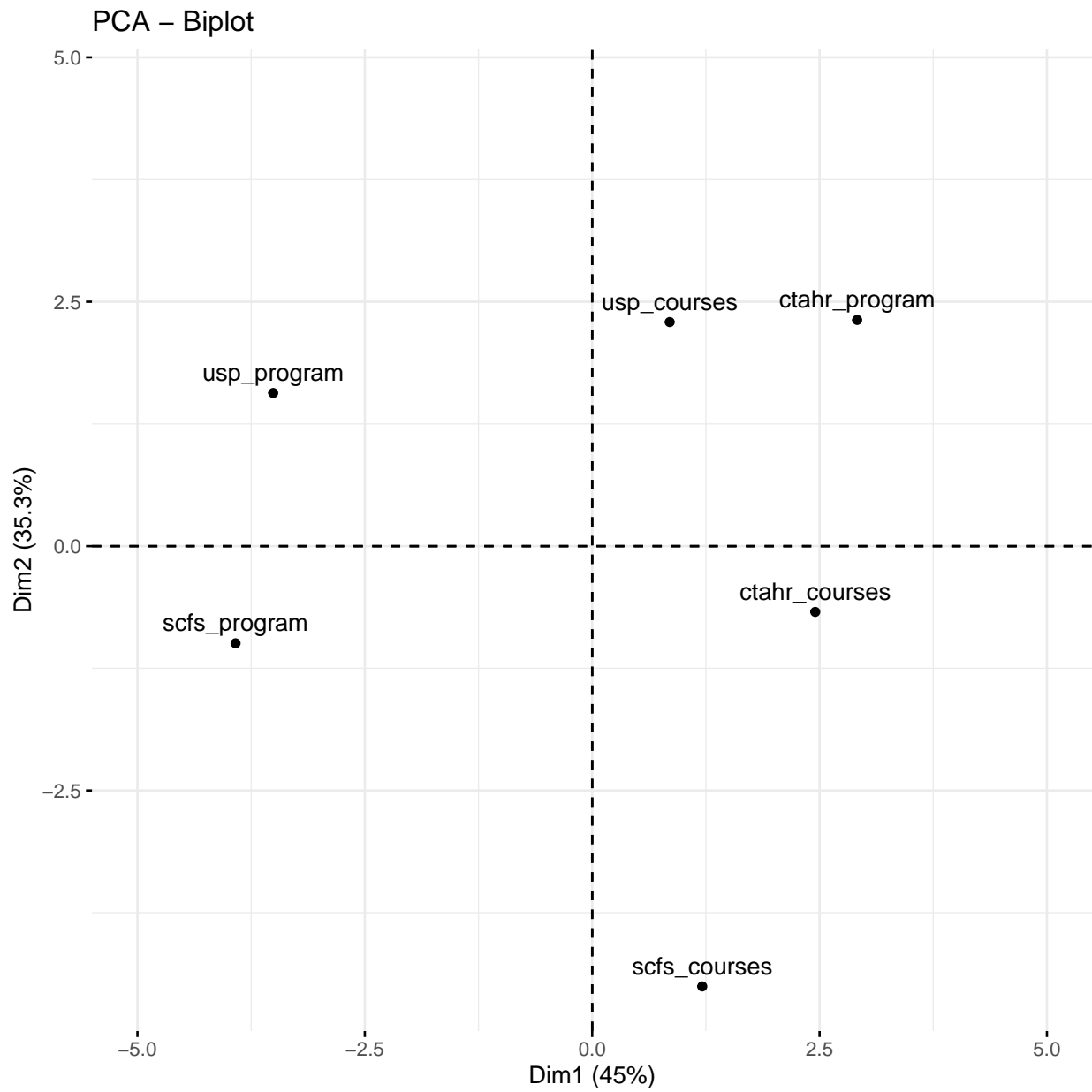
USP Program

LO 8: Food Systems Advocacy
LO 1: Systems Thinking
LO 4: Practical Skills
LO 5: Effective Communication

USP Courses

LO 8: Food Systems Advocacy
LO 5: Effective Communication
LO 4: Practical Skills
LO 7: Systems-Based Solutions

Coordinate system already present. Adding new coordinate system, which will
replace the existing one.



```
## Coordinate system already present. Adding new coordinate system, which will  
## replace the existing one.
```

