FERRIS STATE UNIVERSITY

General Education Course Registrations[*]

An Overview of Registration Patterns for Fall 2017

Dr. Clifton Franklund

General Education Coordinator

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Contents

Abstract

> Assessment is not a spreadsheet; it's a conversation. — Irmeli Halinen

In an effort to get uniform and systematic assessment data, all faculty teaching courses with General Education attributes were asked to voluntarily register. These registrations were facilitated using a Google form and the data were gathered in a Google sheet. This document summarizes the results of those activities for the fall semester of 2017. Here are links to different versions of this report:

- Multi-part HTML

- Single-page HTML

- PDF

Introduction

This is the first semester of assessing our revised General Education program at Ferris State University. To simplify and automate data reporting, TracDat assignments will be sent to all General Education instructors. Each faculty member will assess FLO3 this semester. Each can select any of the 14 pre-defined measures to evaluate their student's work. With 10 competencies (2 diversity and 2 communication), each with 14 measures, there are 140 different possibilities for assignments. To keep all of this straight, a registration process has been created. This report summarizes the course registrations that were made in fall 2017.

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Methods

Data provenance

Data provenance refers to a system that permits tracking of the origin, movement, modification, and utilization of data sets (Buneman et al., 2001). The provenance of General Education data will be explicitly declared to facilitate the reproducibility and extensibility of these studies.

Location of public website files

All files related to this report can be found online at the Open Science Framework (Nosek, 2012). This site contains all of the files needed to reproduce this report from the de-identified data set. The site's url is https://osf.io/t6u8m/.

Session information

This report was written using RStudio (RStudio Team, 2015) and the R statistical programming language (R Core Team, 2013). These products are free to download for PC, Macintosh, and Linux operating systems. The following information pertains to the session parameters used to generate this report. If you have trouble reproducing this report, it may be due to different session parameters. You may contact Dr. Franklund if you need assistance.

R version 3.4.4 (2018-03-15)

Platform: x86_64-apple-darwin15.6.0 (64-bit)

locale: en_US.UTF-8||en_US.UTF-8||en_US.UTF-8||C||en_US.UTF-8||en_US.UTF-8

attached base packages: stats, graphics, grDevices, utils, datasets, methods and base

other attached packages: pander(v.0.6.1), googlesheets(v.0.2.2), forcats(v.0.3.0), stringr(v.1.3.0), dplyr(v.0.7.4), purrr(v.0.2.4), readr(v.1.1.1), tidyr(v.0.8.0), tibble(v.1.4.2), ggplot2(v.2.2.1) and tidyverse(v.1.2.1)

loaded via a namespace (and not attached): xfun(v.0.1), reshape2(v.1.4.3), haven(v.1.1.1), lattice(v.0.20-35), colorspace(v.1.3-2), htmltools(v.0.3.6), yaml(v.2.1.18), rlang(v.0.2.0), pillar(v.1.2.1), foreign(v.0.8-69), glue(v.1.2.0), modelr(v.0.1.1), readxl(v.1.1.0), bindrcpp(v.0.2.2), bindr(v.0.1.1), plyr(v.1.8.4), munsell(v.0.4.3), gtable(v.0.2.0), cellranger(v.1.1.0), rvest(v.0.3.2), psych(v.1.8.3.3), evaluate(v.0.10.1), knitr(v.1.20), parallel(v.3.4.4), broom(v.0.4.4), Rcpp(v.0.12.16), backports(v.1.1.2), scales(v.0.5.0), jsonlite(v.1.5), mnormt(v.1.5-5), hms(v.0.4.2), digest(v.0.6.15), stringi(v.1.1.7), bookdown(v.0.7), grid(v.3.4.4), rprojroot(v.1.3-2), cli(v.1.0.0), tools(v.3.4.4), magrittr(v.1.5), lazyeval(v.0.2.1), crayon(v.1.3.4), pkgconfig(v.2.0.1), xml2(v.1.2.0), lubridate(v.1.7.4), assertthat(v.0.2.0), rmarkdown(v.1.9), httr(v.1.3.1), rstudioapi(v.0.7), R6(v.2.2.2), nlme(v.3.1-137) and compiler(v.3.4.4)

Processing instructions

This project produced a computationally reproducible assessment report (this document). Anyone wishing to recreate this report from the source document will need to install the following on their computer:

1. An installation of the R programming language
2. An installation of the RStudio IDE
3. An installation of LaTeX

The necessary source files include the de-identified data set (BIOL200Data.csv), Rmarkdown code files (index.Rmd, 01-Introduction.Rmd, 02-Methods.Rmd, 03-Results.Rmd, 04-Discussion.Rmd, and 05-References.Rmd), bibtex reference file (references.bib), and custom art file in the /art folder.

To process the files, you must first open the project in RStudio. Click on the "Build Book" button in the Build menu. Bookdown allows you to build this project as git_book (html site), pdf_book (via LaTeX), or epub_book (compatible with iBooks and other e-book readers).

Citation of this work

All of the de-identified data, analysis code, and documentation that constitute this report project may be freely used, modified, and shared. The de-identified data set, BIOL200Data.csv, is released under the Creative Commons CC0 license. All documentation, including README.md, Codebook.md, and this report, are released under the Creative Commons CC-BY licence. Any questions, comments, or suggestions may be sent to Dr. Franklund.

Retrieving the registration data

Data collection

All registration records for the fall of 2017 were collated and de-identified. The data file, 'registrations.csv', contains only the course name (e.g. BIOL 101), the core competency (e.g. Natural Sciences), and the standardized measure (e.g. Selected Response Exam). The datafile is available here.

Results and Discussion

A total of 281 registrations were submitted for the Fall 2017 semester. This represented the efforts of 123 different faculty members and included a total of 138 different courses. The distribution of the registrations between the eight core competencies is shown in figure 1. As can be seen, at least 16 registrations were made for each of the competencies. Culture and Diversity had the most registrations, while Collaboration and Problem Solving had the fewest.

> Do you think that this represents a sufficient number of registrations for the semester? How can we improve the participation in Collaboration and Problem Solving?

The registrations were further broken down by the types of measures being employed by the faculty. Using our fourteen standard measures…

- A total of 153 exams were registered (54.4%).

- A total of 97 student products were registered (34.5%).

- A total of 31 student performances were registered (11%).

> Do you think that there are too many exams in this mix? What is the desired balance between exams, products, and performances for General Education?

Now that our first round of registrations has been completed, I would appreciate some feedback.
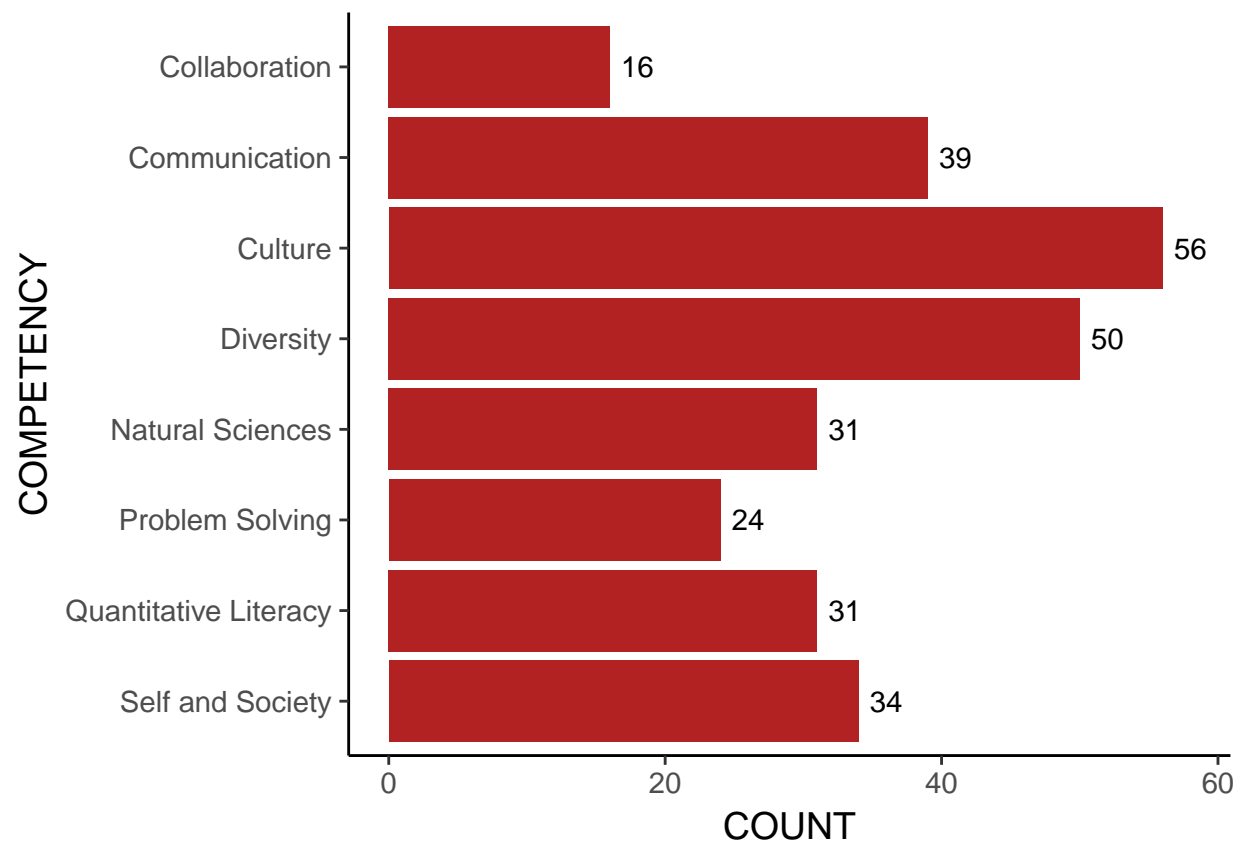
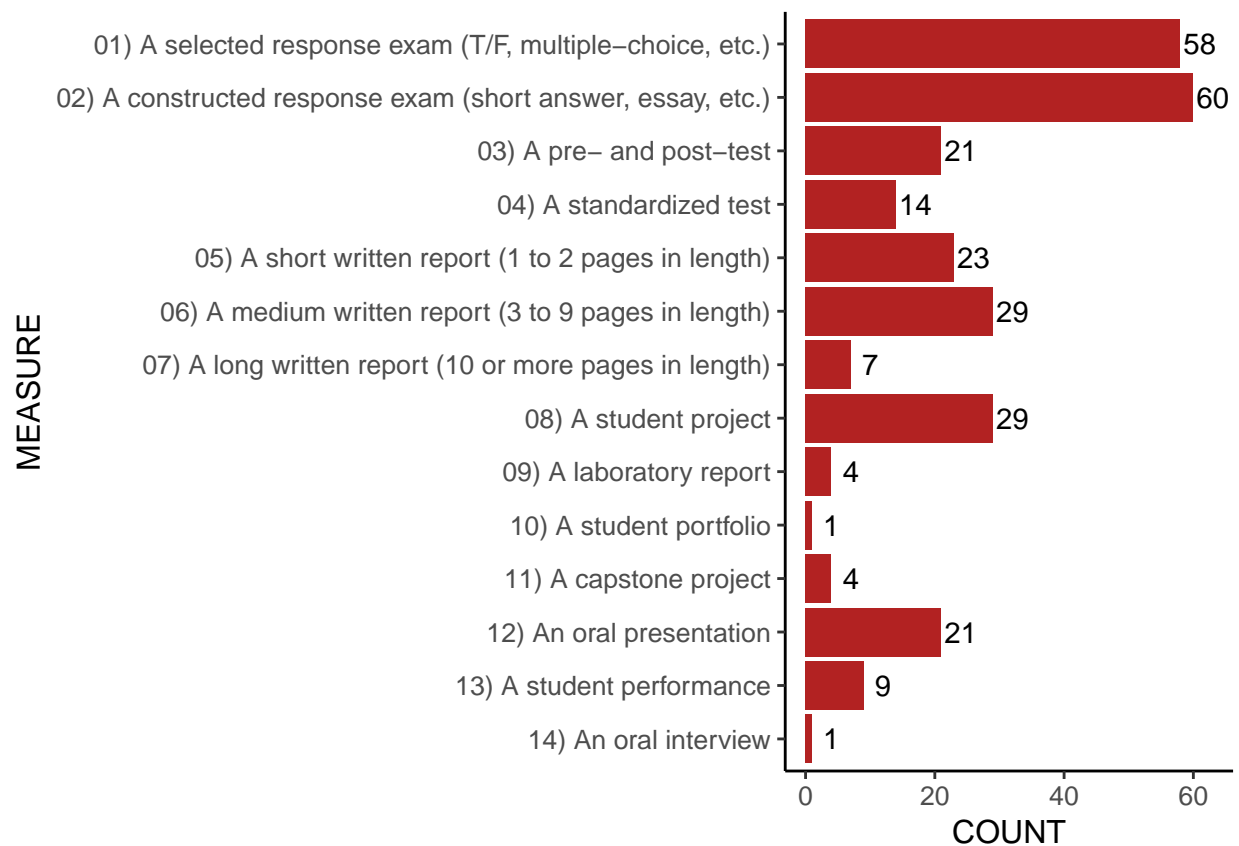Figure 1: Distribution of course registrations by core competency.

Figure 2: Distribution of course registrations by standardized measure.

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Was this overly difficult or confusing?
How can the process be improved for future semesters?

References

Buneman, P., Khanna, S., and Wang-Chiew, T. (2001). Why and Where: A Characterization of Data Provenance, pages 316–330. Springer Berlin Heidelberg, Berlin, Heidelberg.

Nosek, B. (2012). An Open, Large-Scale, Collaborative Effort to Estimate the Reproducibility of Psychological Science. Perspect. Psychol. Sci., 7(6):657–660.

R Core Team (2013). R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria.

RStudio Team (2015). RStudio: Integrated Development Environment for R. RStudio, Inc., Boston, MA.