OPEN LEARNING INITIATIVE

JENNY MAO, JINGHAO HUANG, SHIHUA PEI

WITH PROF. VALERIE VENTURA

Carnegie Mellon University

INTRODUCTION

- Scientifically-based online learning environments based on the integration of technology and the science of learning with teaching.
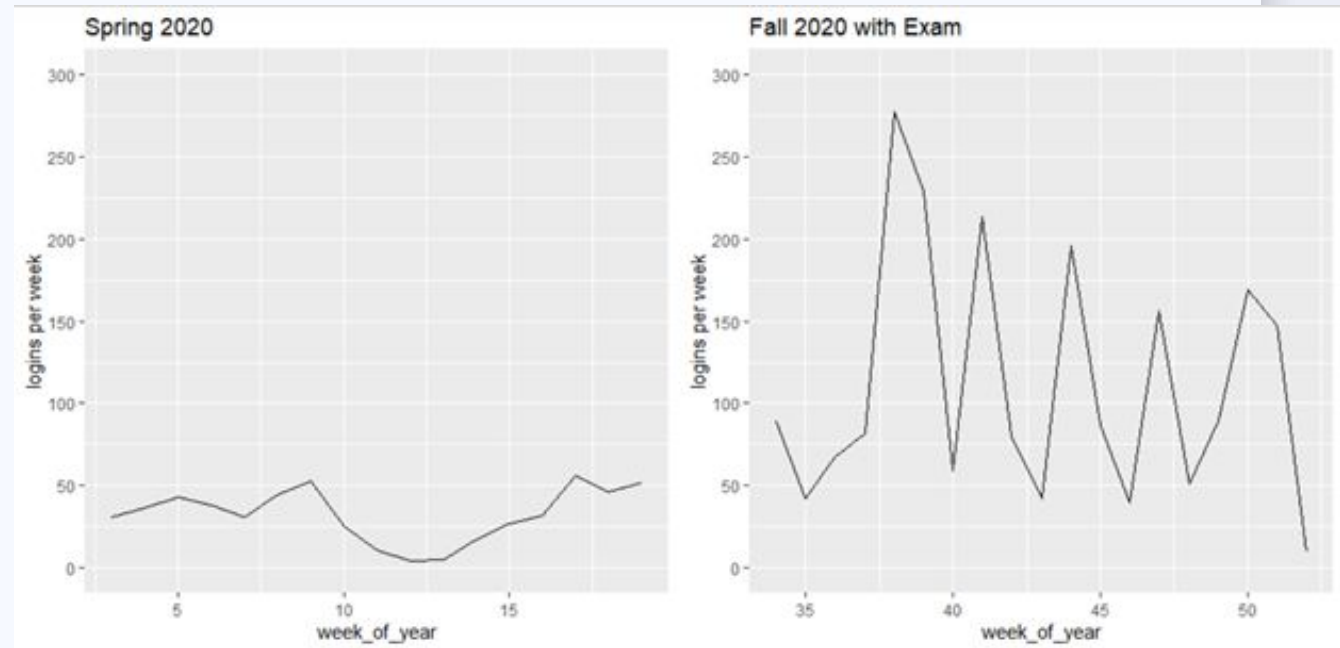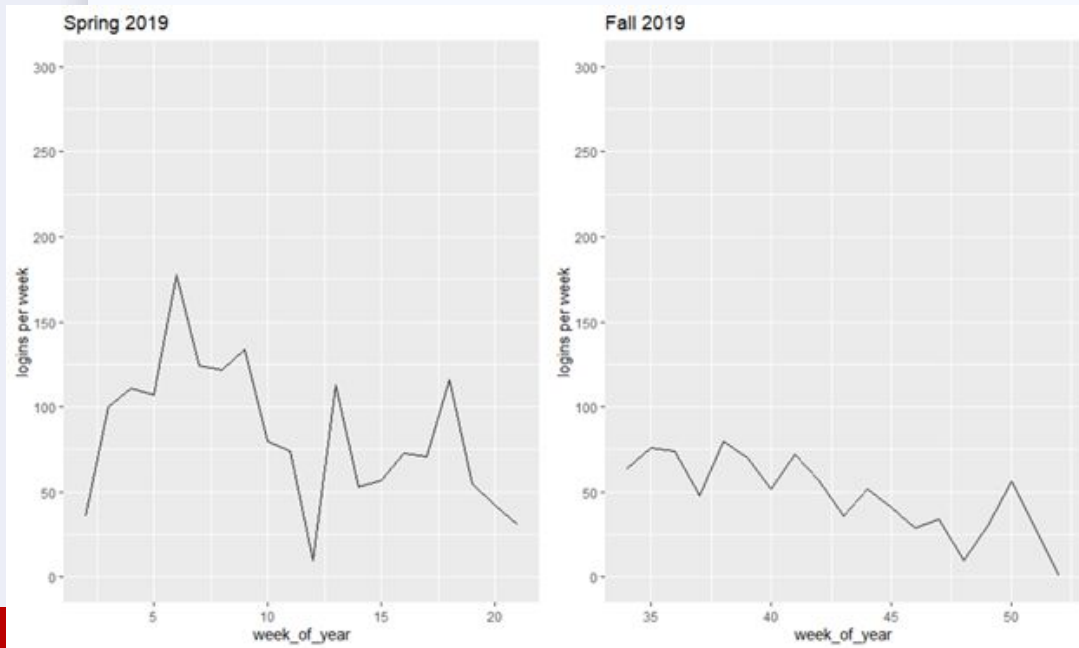

Objectives:
- Use pattern changes for instructors and students during pandemic
- Impact on Students' performance
- Future research recommendations

DATA

- 4 datasets
  - Roughly 39 tables each
  - Instructors/students activity records; courses information; 1st attempt correctness for high/low stake assessments
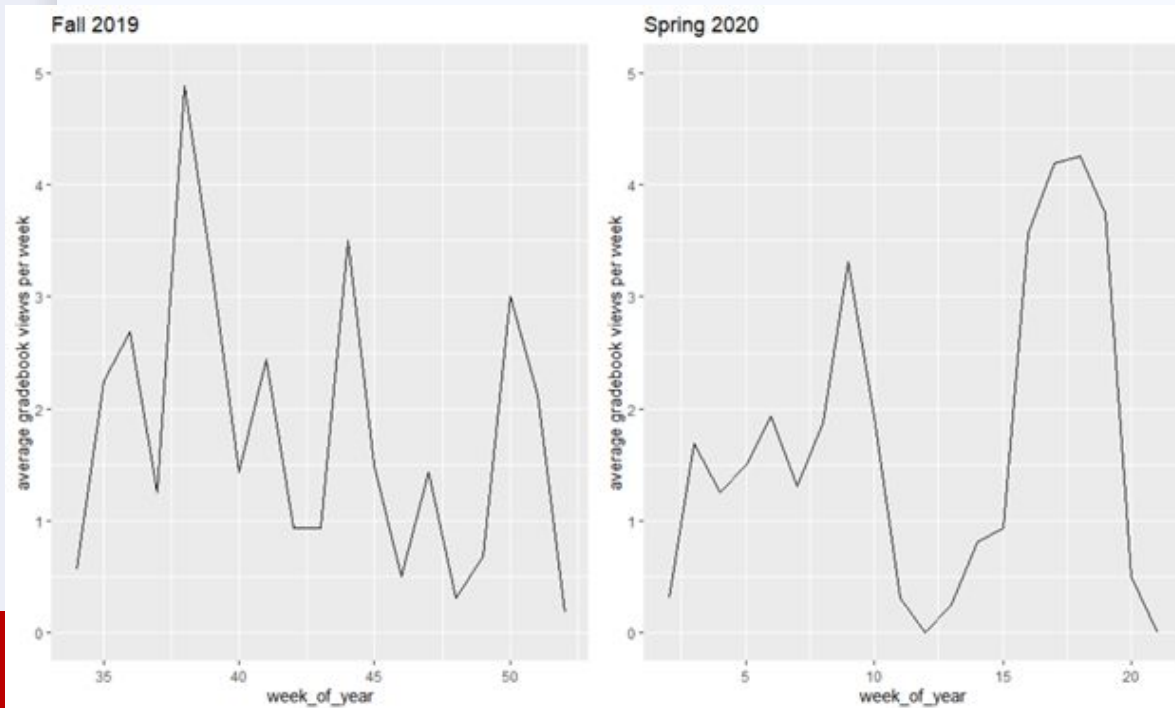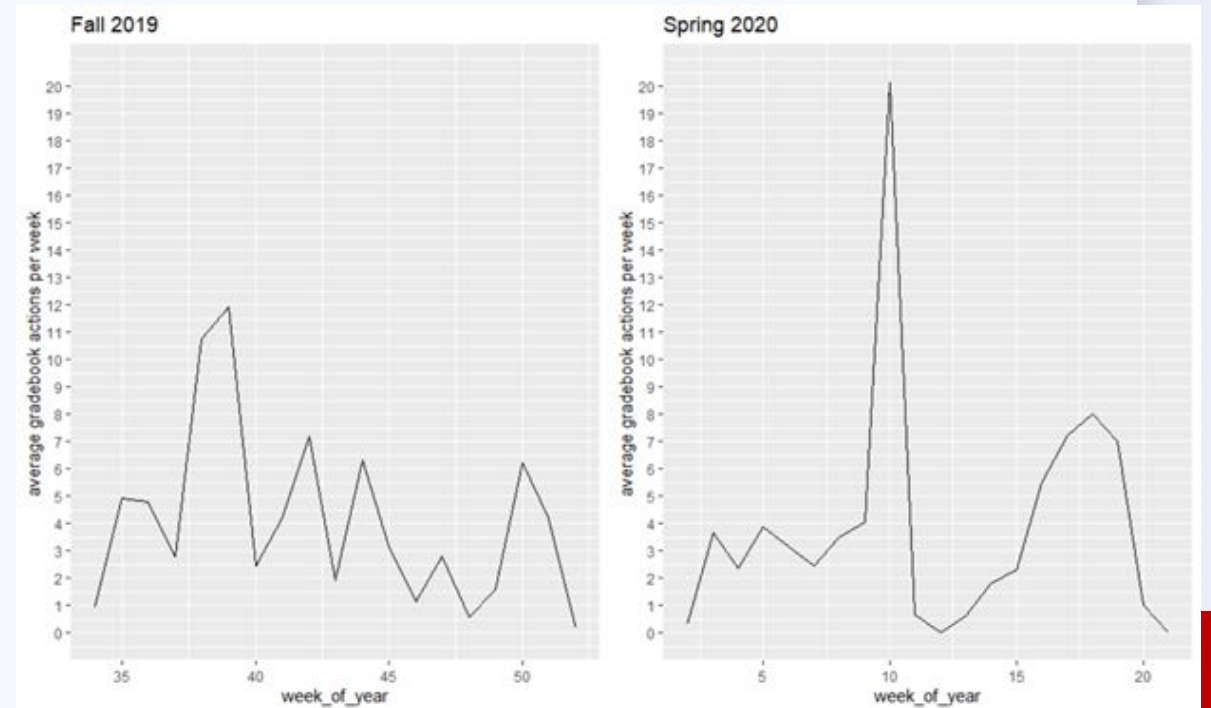
EDA

Instructor - Login per Week
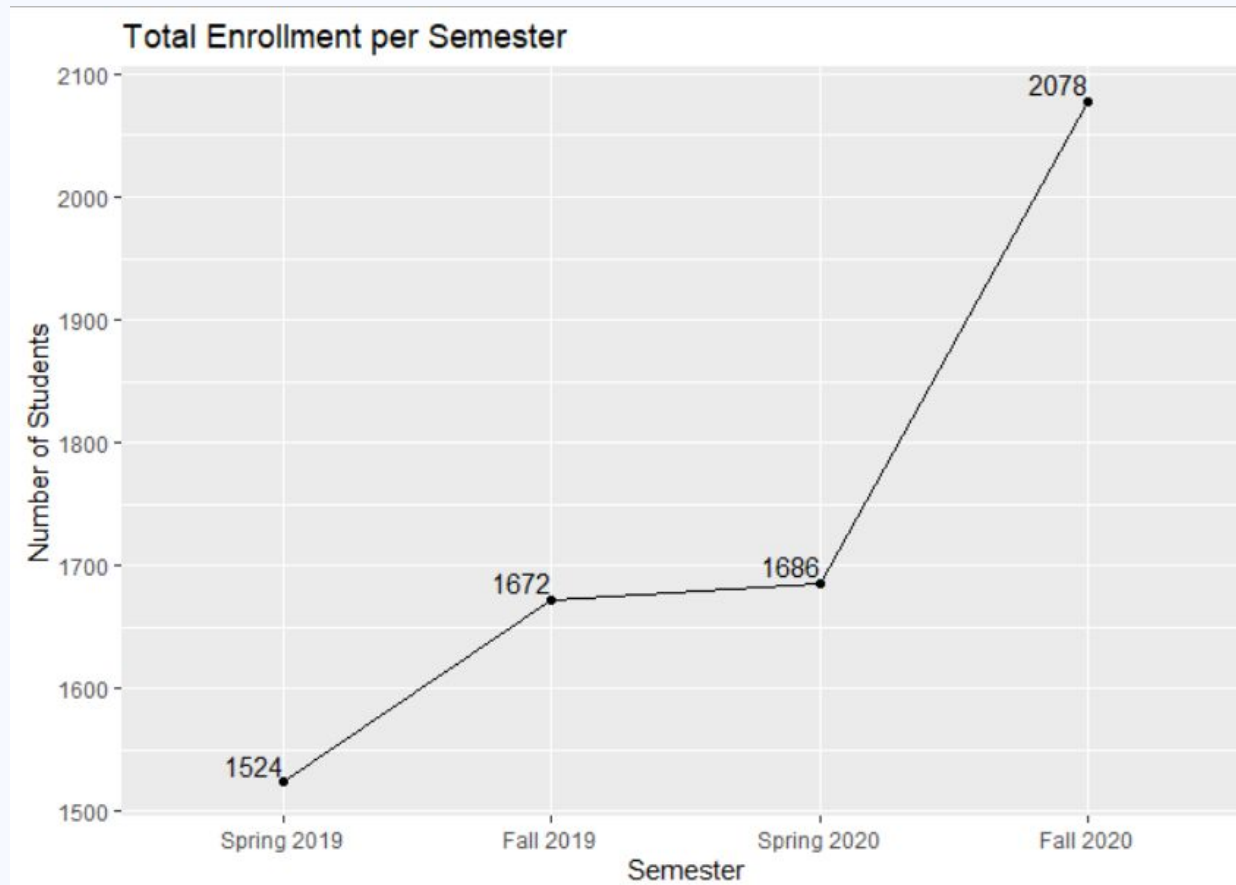
EDA

Instructor - Average Gradebook View per Week

Instructor - Average Gradebook Action per Week

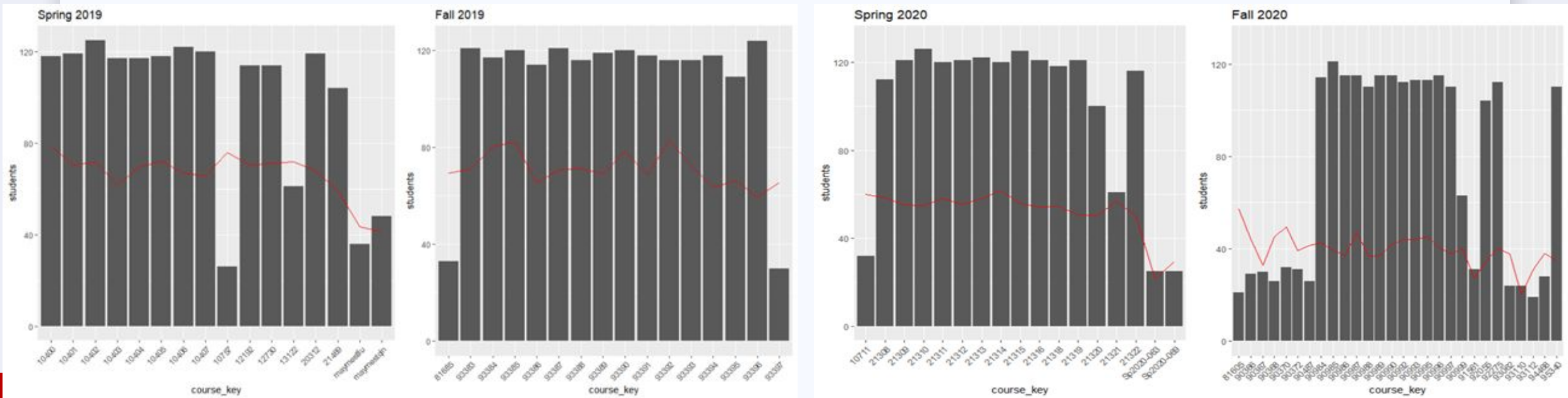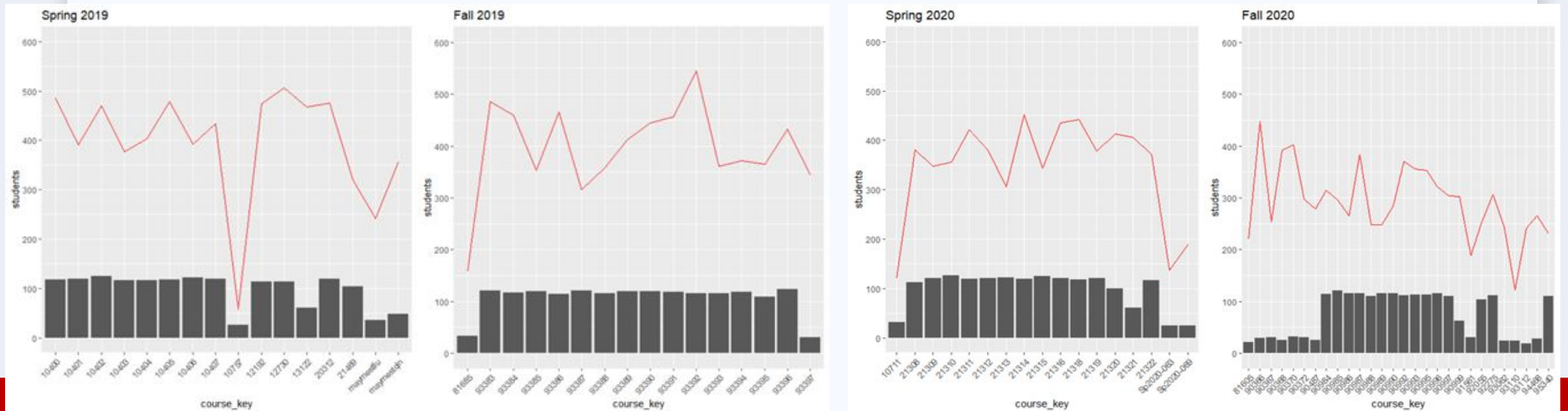# EDA

Student - Total Enrollment

EDA

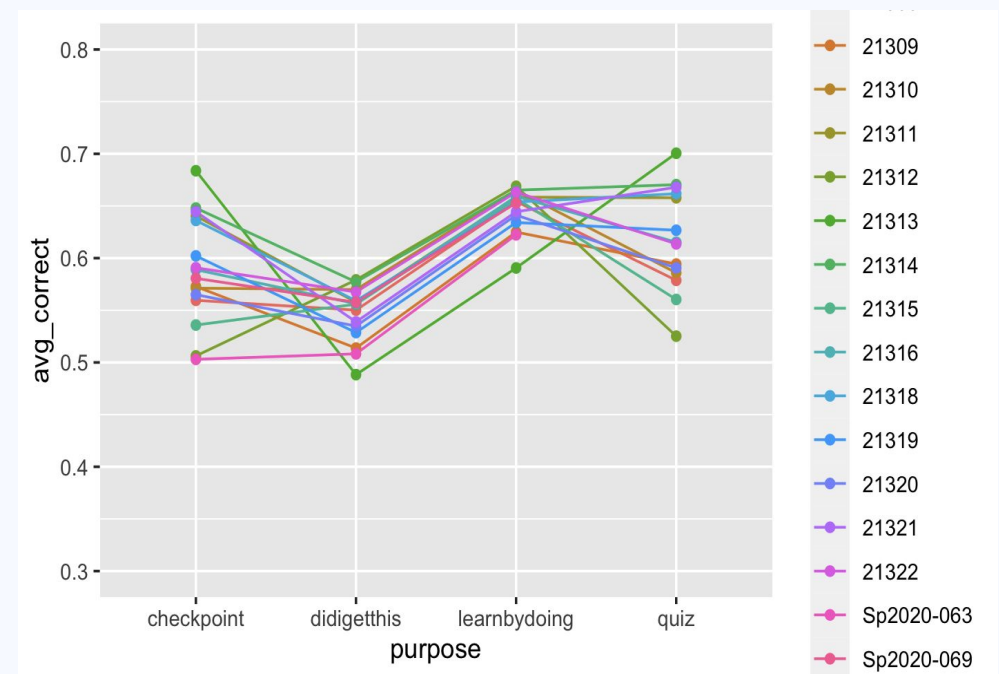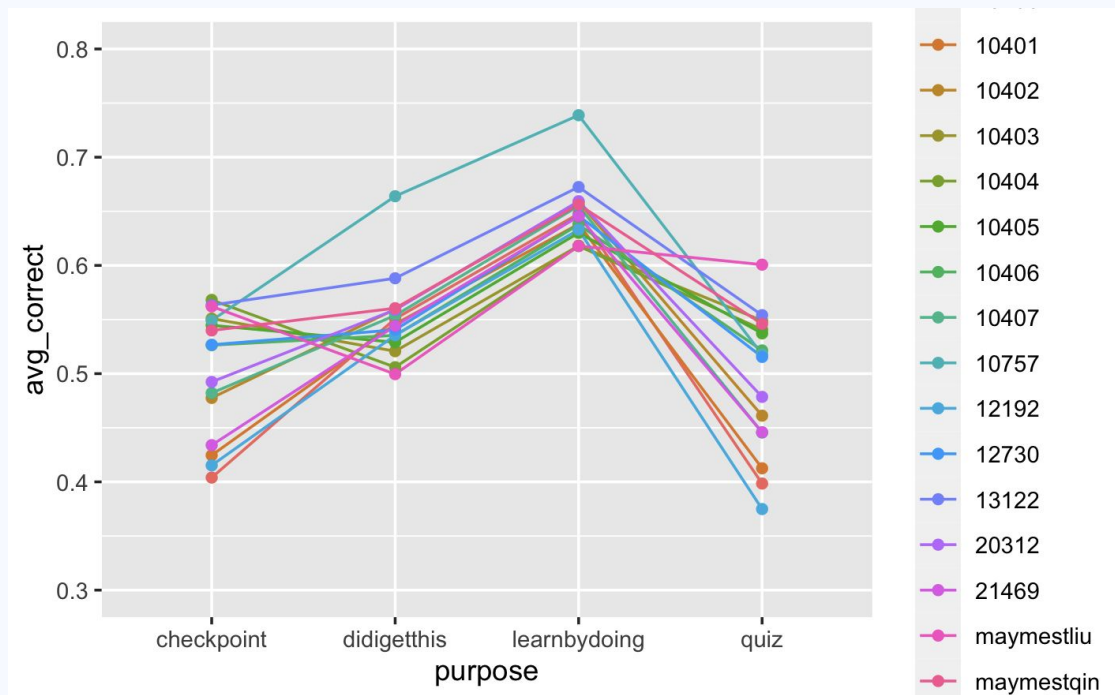**Student** - Average Login per Section

EDA

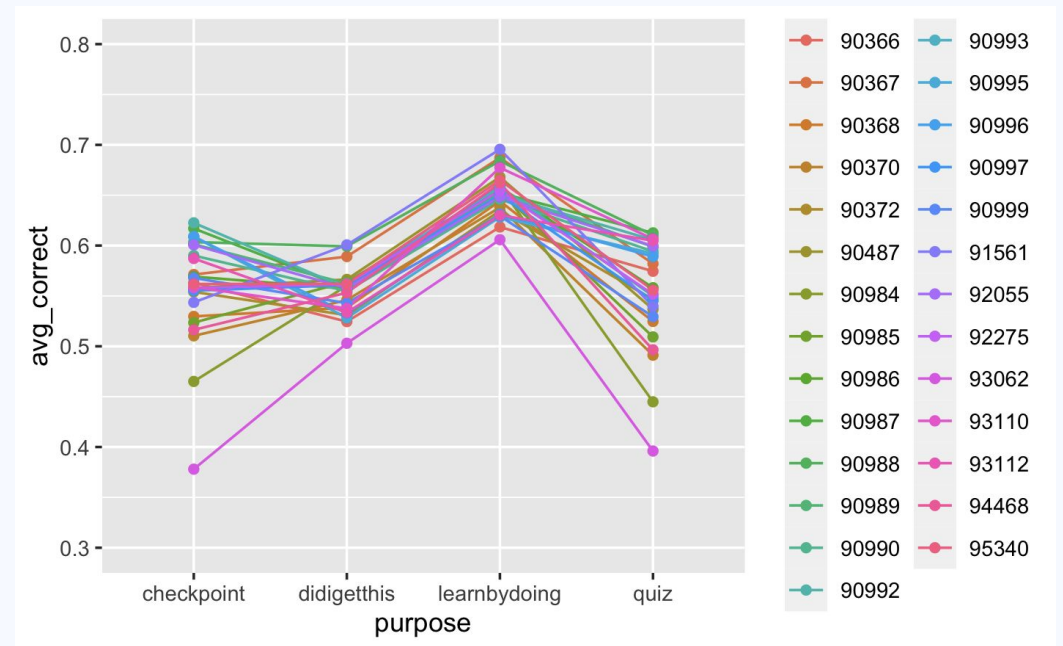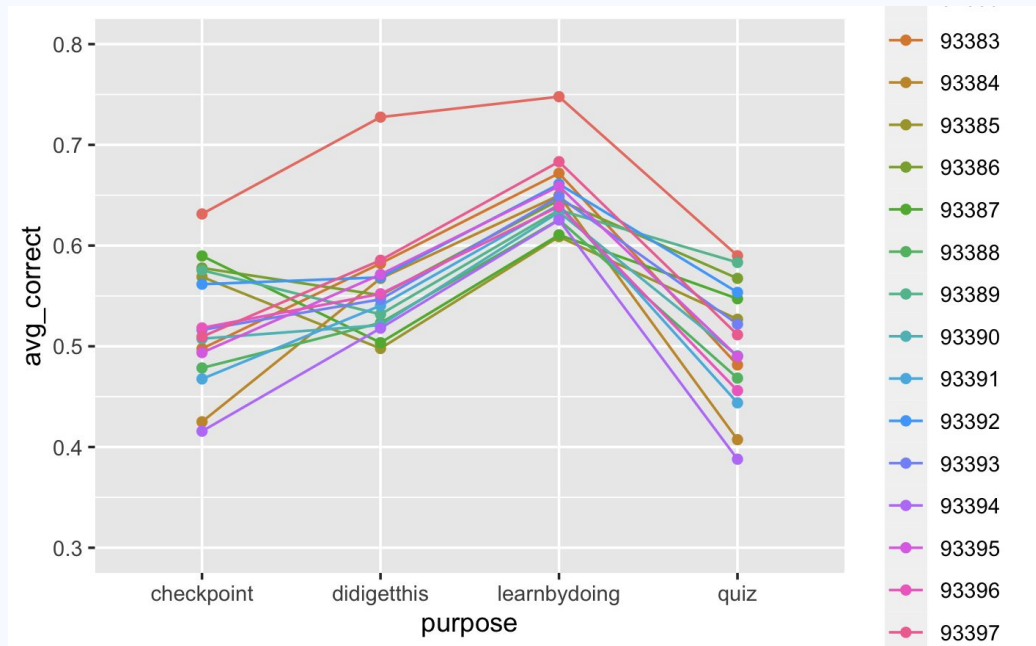**Student** - Average Page View per Section

EDA

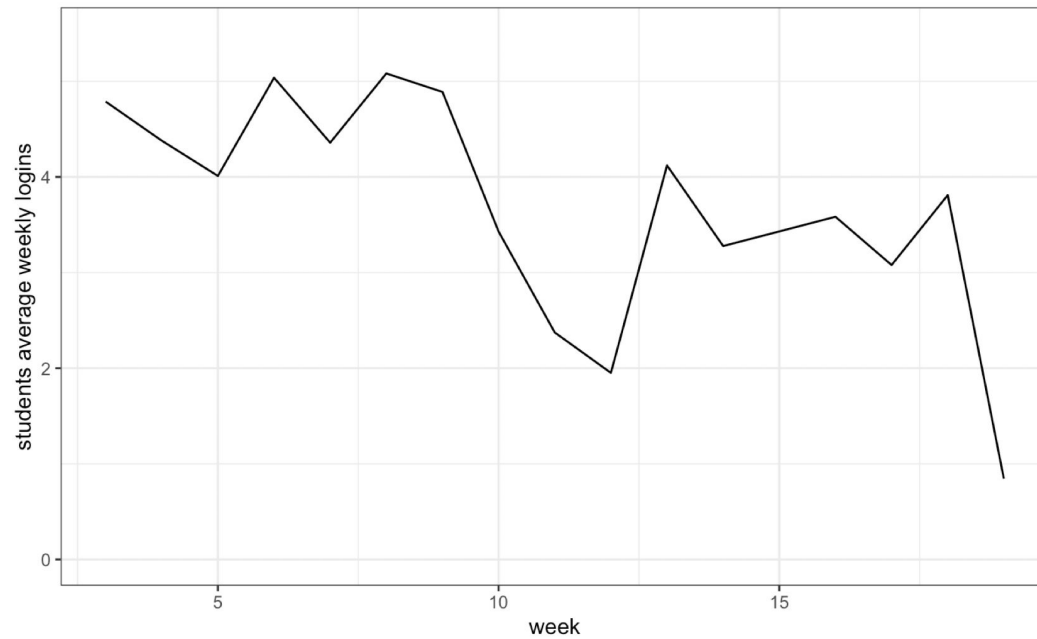2019 & 2020 Spring low/high assessment accuracy comparison

EDA

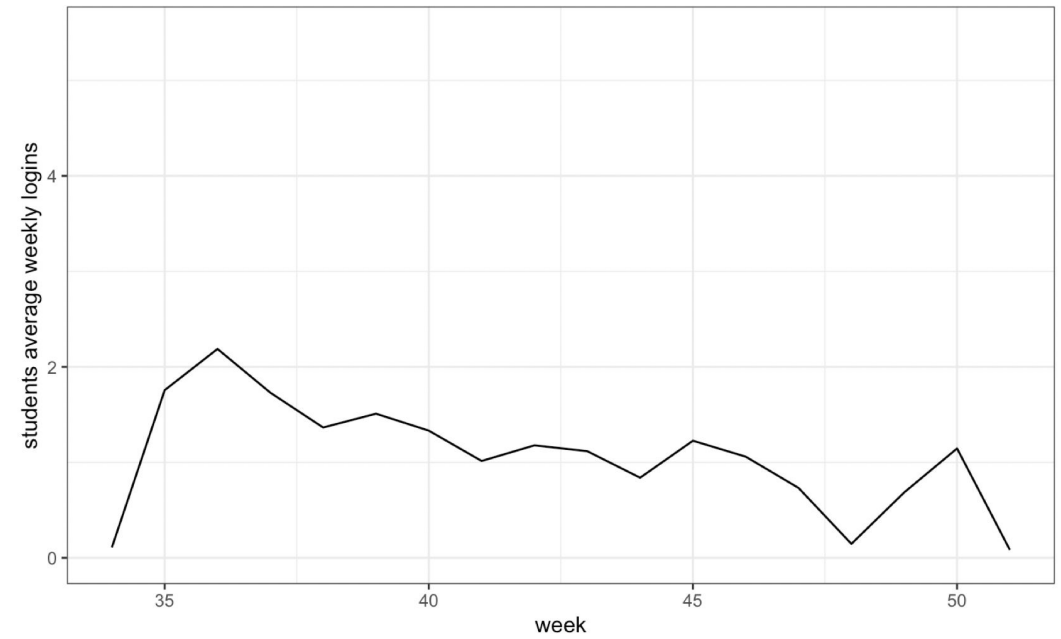2019 & 2020 Fall low/high assessment accuracy comparison
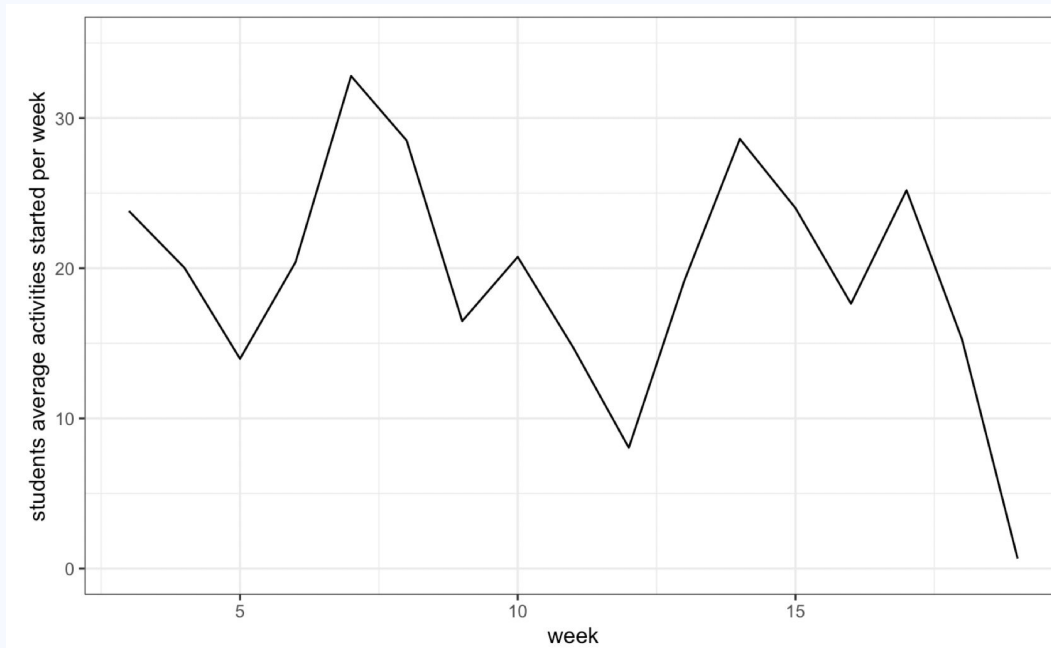
EDA

student average weekly logins s19

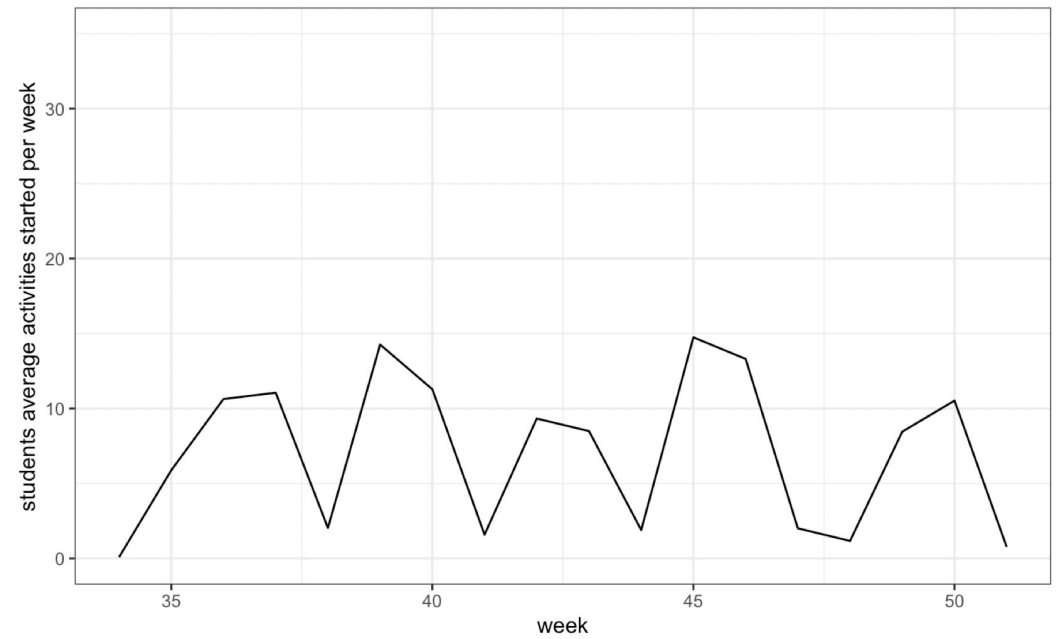student average weekly logins f20

EDA

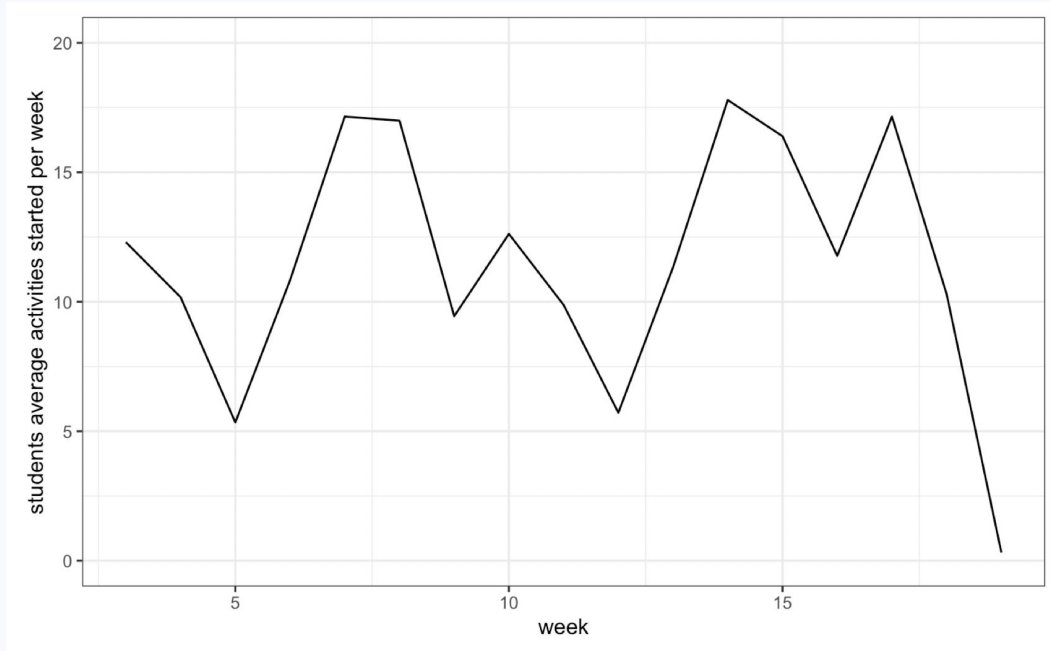student average activities started per week s19

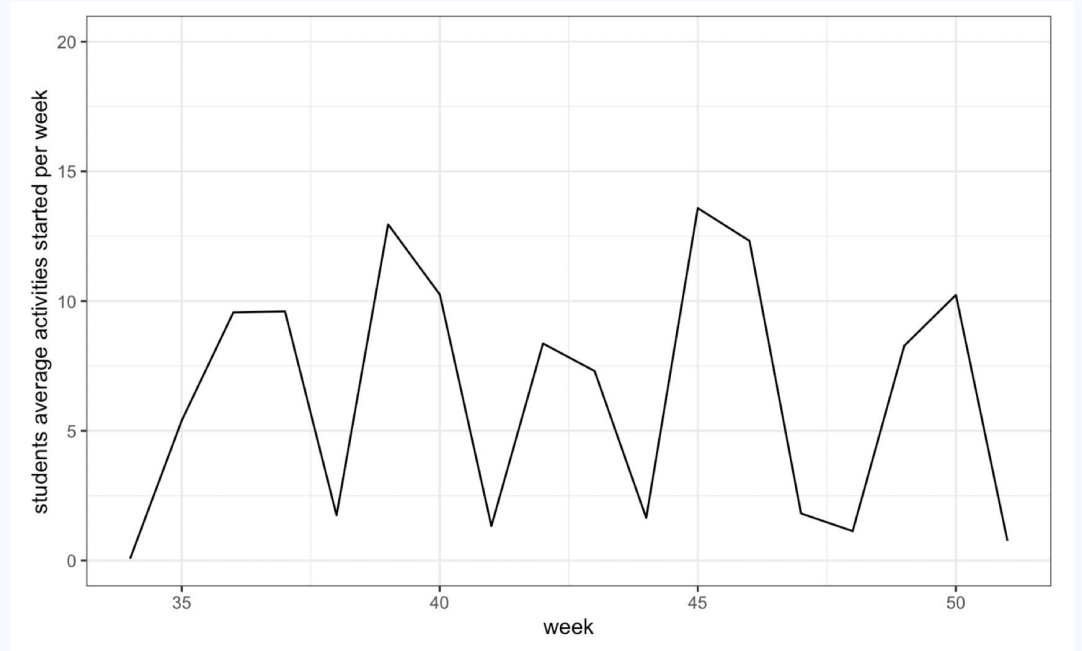student average activities started per week f20

EDA

student average learn by doing per week s19

student average learn by doing per week f20

METHODS

t-test

anova

time series

Compare use patterns & performances between:

- Modules
- Sections
- Semeters

NEXT STEPS

Confirm with client
- Low activities in low-enrolled sections
- More low enrolled sections in Fall 2020

Variable selection
- Students' use patterns
- Students' performances

Hypothesis testing
- Differences in variable values are significant among semesters

THANK YOU!