

Strategies in Course Delivery: Effects of a Significant Disruption on Instructors' Learning Management System Feature Use in Required Second- and Third-Year Courses

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Background

- Significant and sudden disruptions can bring normal university classroom activity to a halt and have many effects on instructor strategy.
- Disruptions cause instructors to utilize a greater array of Learning Management System (LMS) features.
- Most research about LMS use during the COVID time period is focused on K-12¹, 1st year², and Graduate education³.
- Sustainability of LMS feature use is not known

Research Question

How does the frequency of Second- and Third-year course instructors' usage of Learning Management System features change before, during, and after a sudden disruption to higher education?

Methods

- Setting: Midwest Research Intensive (R1) University, Mechanical Engineering
- Required course LMS feature use data
 - Mid-Spring (mS), Spring (S), Fall (F)
 - 2019-2022
- Descriptive statistics used to summarize frequency of LMS feature use

Results

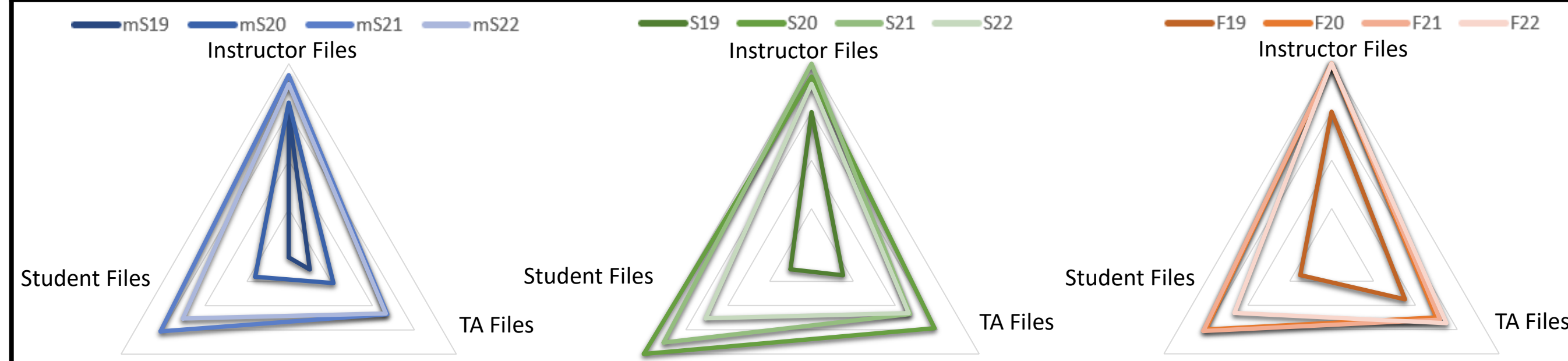


Figure 1: Percentage of courses using Files each semester (n_spring = 15-19, n_fall = 16-19)

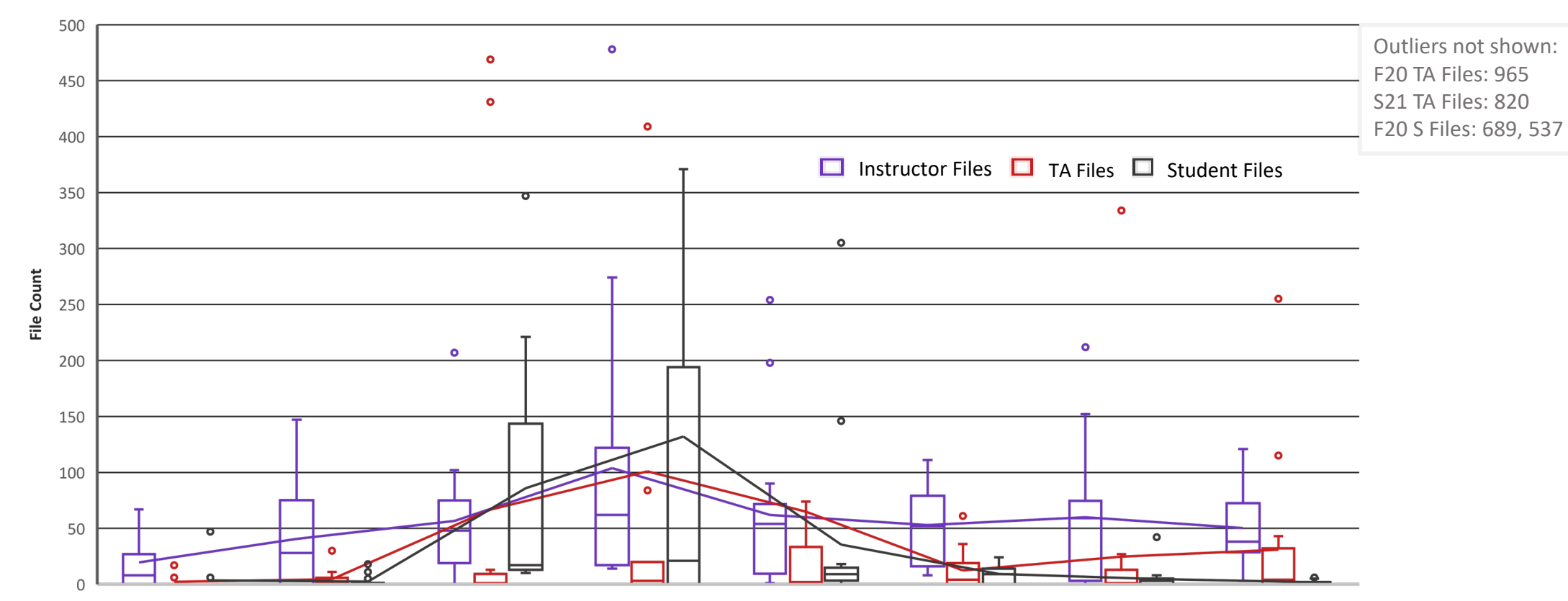


Figure 2: Total file count per semester (n_spring = 15-19, n_fall = 16-19)

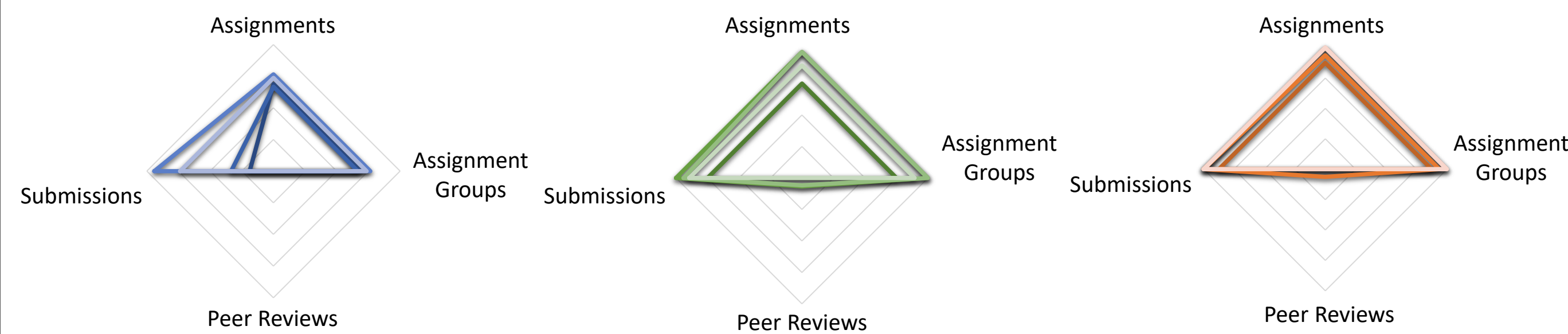


Figure 3: Percentage of Instructors using "Student Activity" features

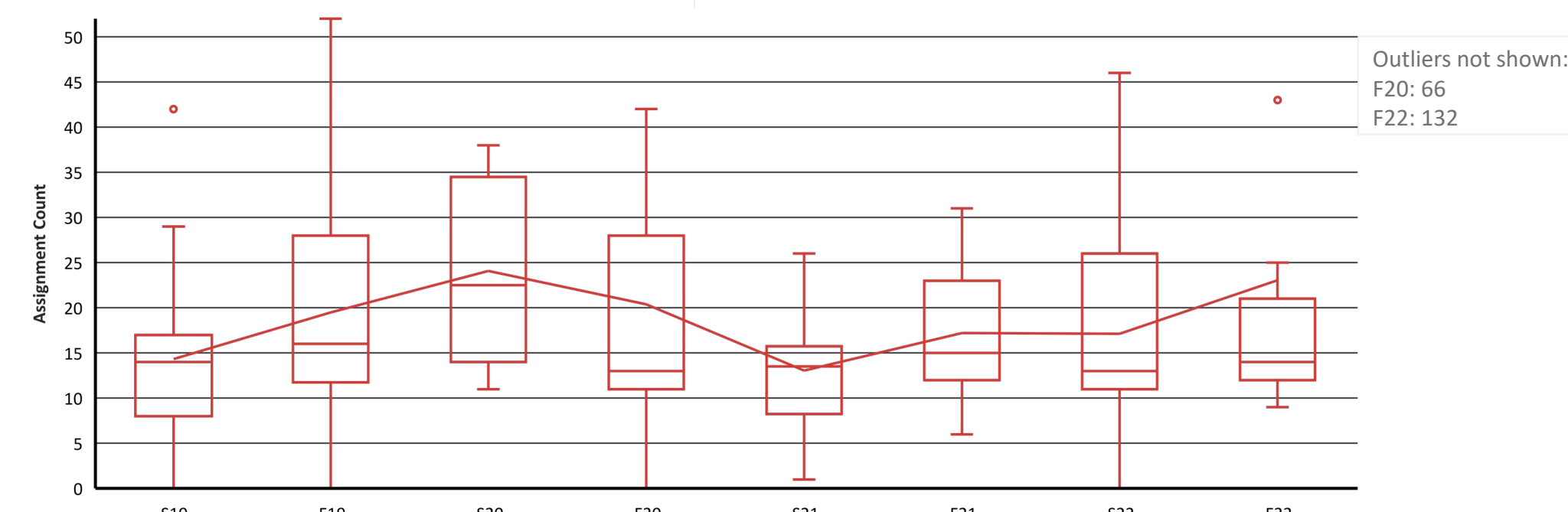


Figure 4: Total count of Assignments for each semester

Key Findings

- LMS feature use was greatest during the height of the COVID disruption in Fall 2020
- LMS feature use dropped during Spring 2021
- Some feature use continued to decrease to pre-pandemic levels

Conclusions

- LMS feature use can provide insight into how instructors sustain change after a disruption.
- It is anticipated that LMS data use is applicable for understanding the practices enacted by instructors in other STEM disciplines.
- Results can contribute to the design of new professional devolvement strategies to mitigate the impact of disruptions.
- Incentivizing LMS feature use would promote environmental sustainability.

References

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3. Husain. *Eds. Eng. & Sci. Teach. & Learn. Act.* **2022**, 381, 53.

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