

Shifts in Grade Weight of Assessments in Engineering Syllabi

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Background

- The pandemic disruption required professors to reassess their assessment strategies [1].
- Concerns included: student stress [2] and exam administration logistics (e.g., access issues, academic integrity issues).
- A shift away from the primary mode of assessment being exams would enable assessment of higher-order learning [3].

Research Question

How do instructors modify course grade weights attributed to exams and quizzes before, during, and after disruption?

Methods

Settings and Participants: Engineering faculty at R1 university in Midwest U.S.

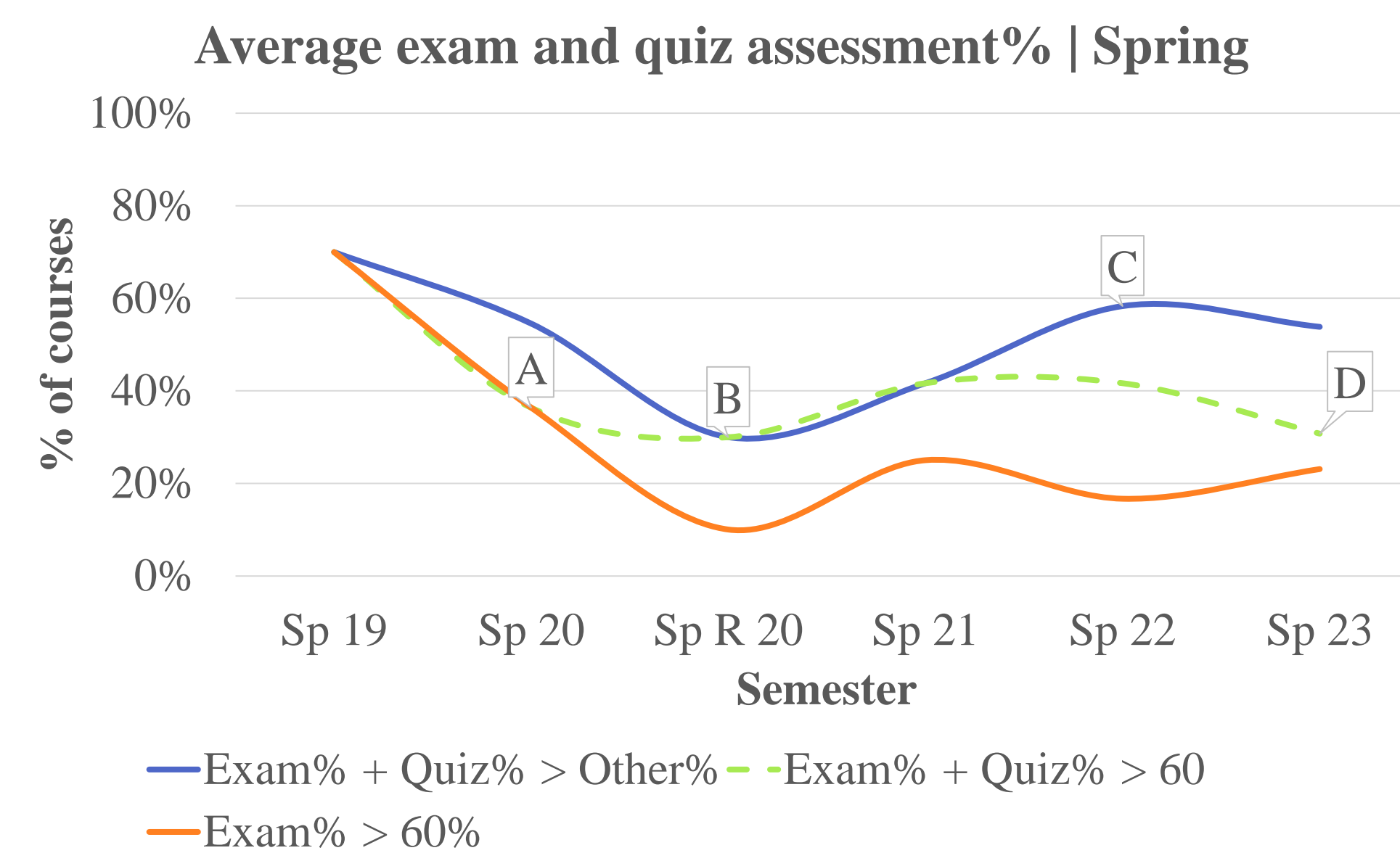
Data Collection: 120 syllabi collected from Fall 2019 – Spring 2023 semesters: 28 distinct courses, Course levels ranging from 100-400

Data Analysis: (1) Frequency of courses with particular exam or exam plus quiz grade weight.; (2) Percentage of instructors repeating across semesters.

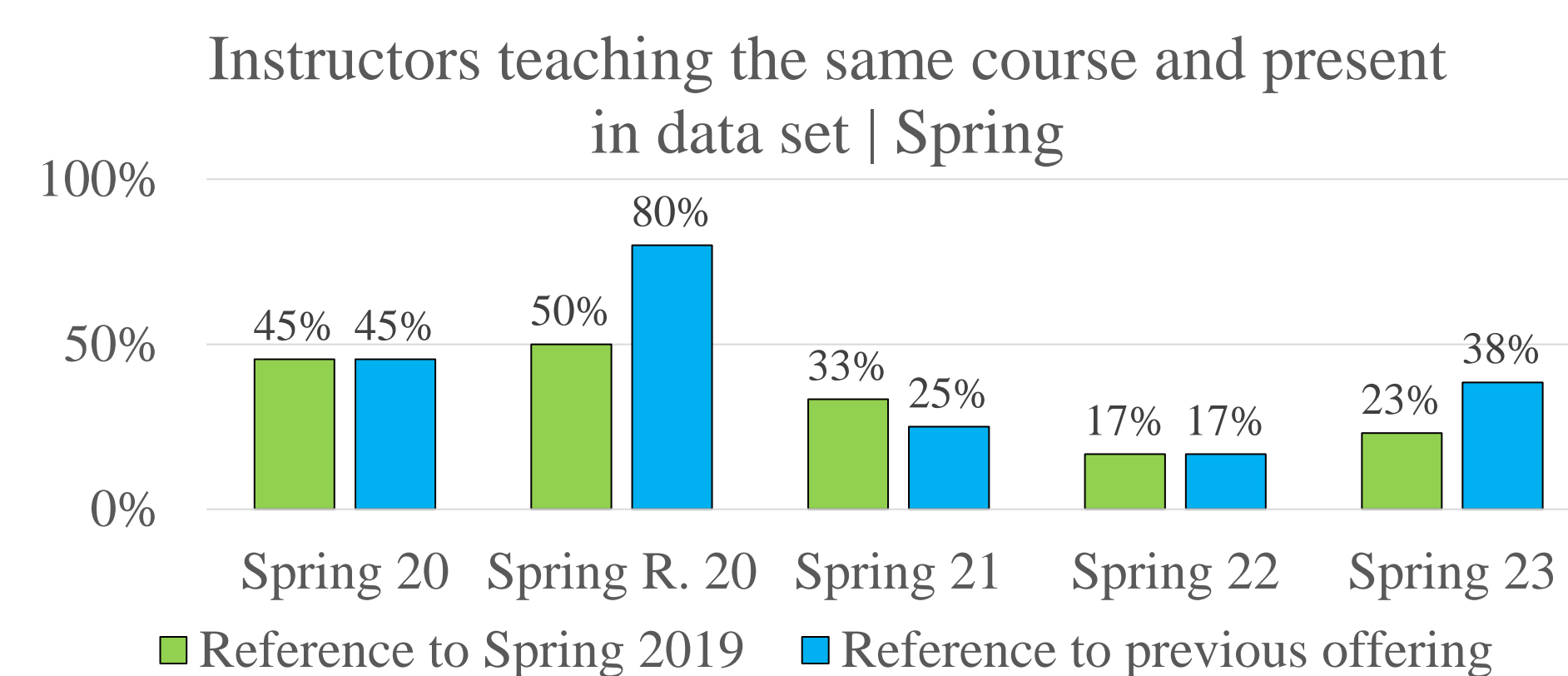
Syllabi and instructors included in study

Semester	Syllabus count	# of instructors
Spring 2019	10	9
Fall 2019	14	13
Spring 2020 (original)	11	10
Spring 2020 (COVID)	10	9
Fall 2020	13	12
Spring 2021	12	12
Fall 2021	13	9
Spring 2022	12	10
Fall 2022	12	10
Spring 2023	13	11

Results

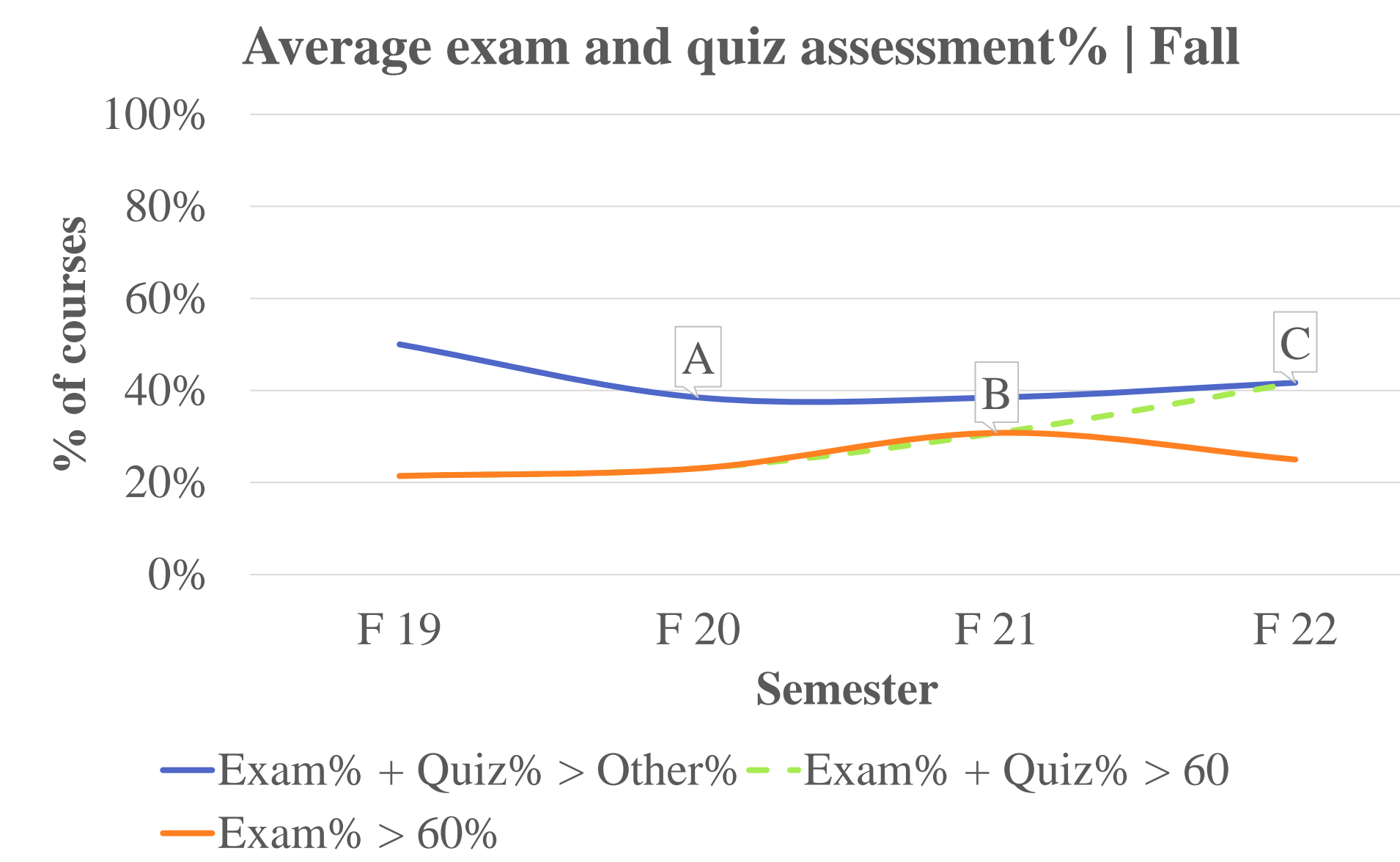


- A:** After the disruption, testing grade weight rapidly dropped.
- B:** After classes shift into online settings, average exam% is at an all-time low. As exam% kept falling, quiz% began to rise proportionally.
- C:** Percentage of courses where grade weight attributed to exams and quizzes was greater than other grading components.
- D:** Gradually average quiz% began to drop.

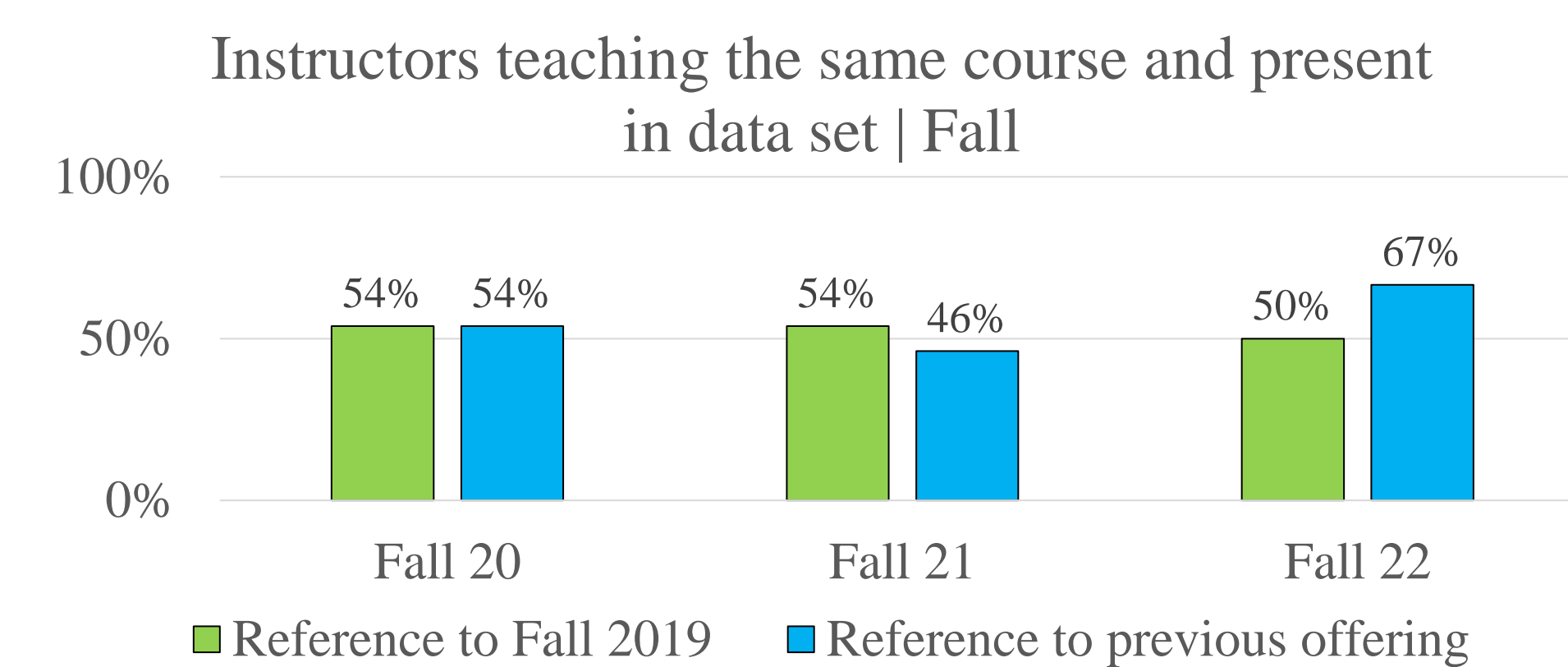


Courses with exam% + quiz% change from previous offering | Spring

Grade Weight Shift	Sp 20	Sp R. 20	Sp 21	Sp 22	Sp 23
Decreased	3	6	4	2	4
Increased	1	1	3	4	3
Same	2	2	4	4	4
Unknown	5	1	1	2	2



- A:** After the disruption, some instructors decreased their grade weight attributed to exams and quizzes, causing these to be equal to other components.
- B:** Shortly after, instructors gradually increased their exam%.
- C:** As instructors began to decrease their exam%, an increase in quiz% followed.



Courses with exam% + quiz% change from previous offering | Fall

Grade Weight Shift	F 20	F 21	F 22
Decreased	3	2	1
Increased	2	3	1
Same	7	7	7
Unknown	1	1	3

Limitations

- Missing syllabi and missing details in some syllabi
- Some changes in grade weight distribution occur due to a change in an instructor teaching a course

Conclusions

- The pandemic served as an external motivator for instructors to re-assess their syllabi. Instructors shifted their grade weight distribution to other assessments.
- Some instructors never made adjustments.
- Shortly after the pandemic, some instructors gradually returned to their previous grading methods.
- Instructors can shift their grade weight distribution away from exams to other assessment types, but this requires incentive/motivator. Internal incentives should be put in place by their dean/department to encourage instructors to sustain changes.

References

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