



Early Alerts:
Grades in LMS
as a Superior /
Effortless Signal

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Agenda

Early Alert
System

Current
Implementation

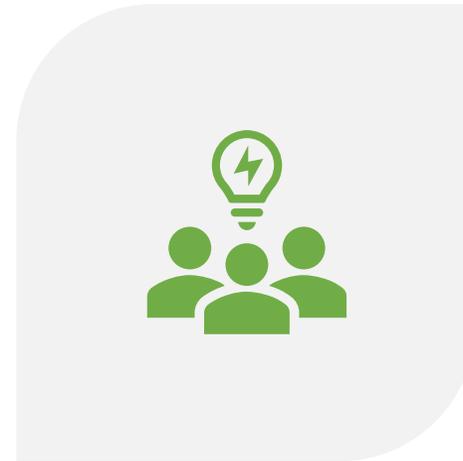
LMS Grades as a
Signal

Re-design

Early Alert System



SIGNAL: STUDENTS ARE AT
RISK OF NON-SUCCESS

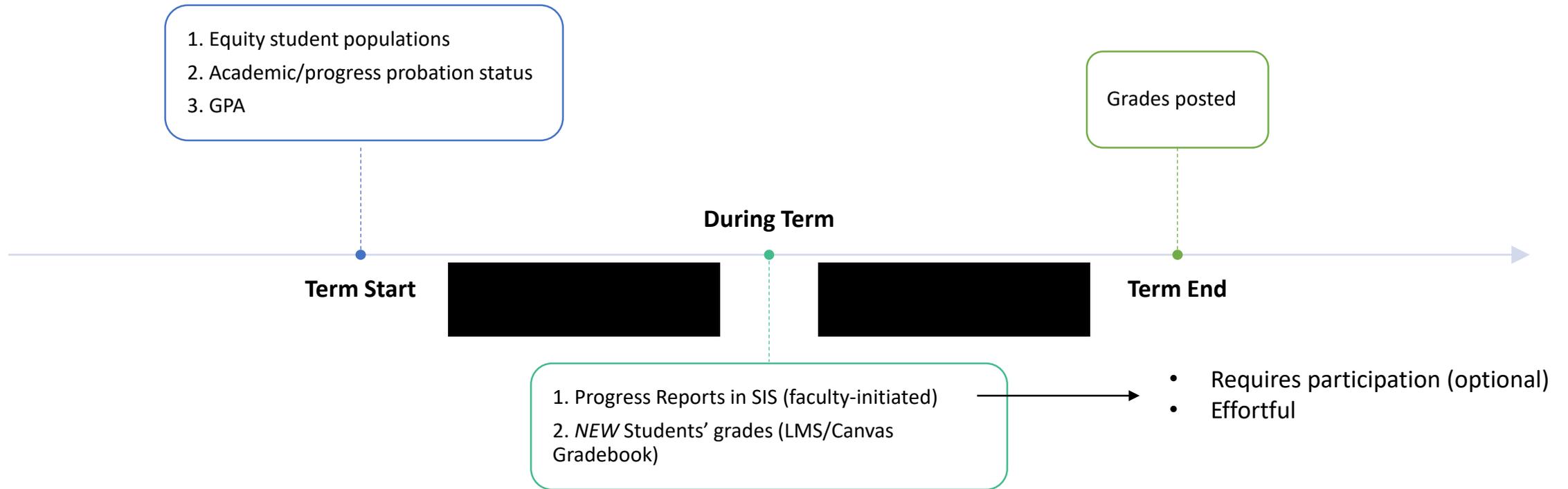


COORDINATED
INTERVENTION(S)

[Article](#): *3 reasons why your early-alert program is falling short (from EAB)*

[Article](#): *Early-Alert Systems Seen as Mixed Bag*

Signals



Current Implementation



Early Alerts at IVC: Progress Reports

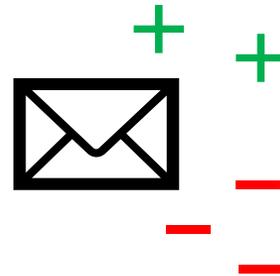
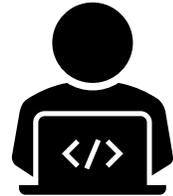
Progress Reports: module within Student Info Sys

Implemented in Spring 2016

Intent

- Inform students of progress so they could continue / alter student behaviors (positive / negative)
- Inform counselors and student services staff of feedback from instructors

Early Alerts Process (Progress Reports)



Students in class:
exhibit positive and
negative behaviors

Instructor: logs into
student information
system, and logs PR

Feedbacks recorded /
sent to students, with
recommendations

Feedbacks logged;
visible by students,
instructors, counselors

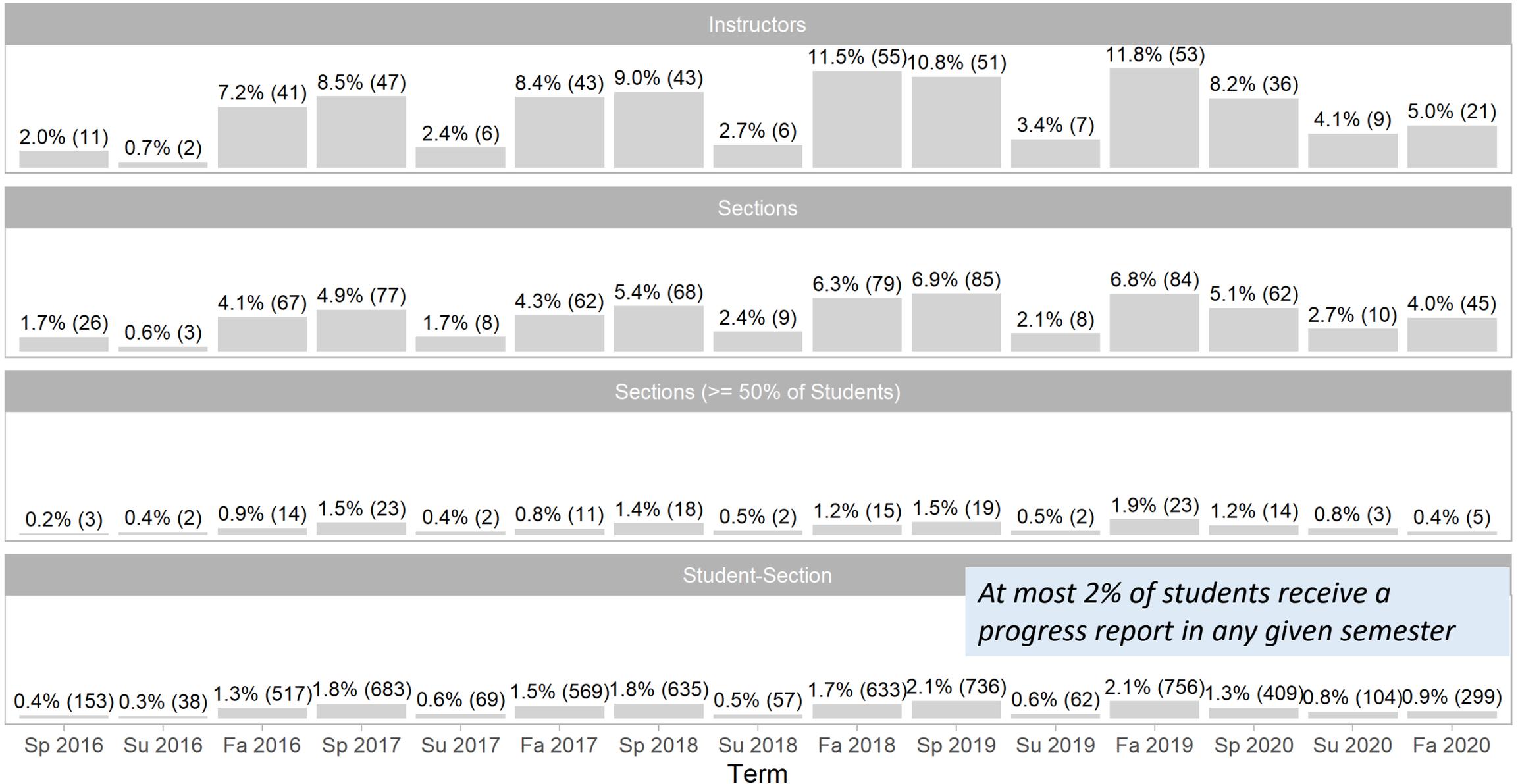
What happens next?

Nudge is intervention

Feedback Given

InstructorFeedbackTypeName	InstructorFeedbackDesc	InstructorRecommendedActionDescription	N
Negative	Absences	Contact Instructor - Absences	1,526
Negative	Absences	No Action Required - Tracking Only (no nudge sent)	980
Negative	Absences	Other - Customized Message	831
Negative	Low Test/Quiz Scores	Contact Instructor - Low Test/Quiz Scores	338
Negative	Low Test/Quiz Scores	No Action Required - Tracking Only (no nudge sent)	661
Negative	Low Test/Quiz Scores	Other - Customized Message	256
Negative	Missing Assignments	Contact Instructor - Missing Assignments	1,000
Negative	Missing Assignments	No Action Required - Tracking Only (no nudge sent)	963
Negative	Missing Assignments	Other - Customized Message	455
Negative	Tardiness	Contact Instructor - Tardiness	79
Negative	Tardiness	No Action Required - Tracking Only (no nudge sent)	134
Negative	Tardiness	Other - Customized Message	15
Positive	100% completion of assignments	Great Job - 100% completion of assignments	1,186
Positive	100% completion of assignments	No Action Required - Tracking Only (no nudge sent)	3
Positive	100% completion of assignments	Other - Customized Message	50
Positive	Good attendance	Great Job - Good Attendance	1,619
Positive	Good attendance	No Action Required - Tracking Only (no nudge sent)	5
Positive	Good attendance	Other - Customized Message	8
Positive	High Test/Quiz Scores	Great Job - High Test and Quiz Scores	979
Positive	High Test/Quiz Scores	No Action Required - Tracking Only (no nudge sent)	1
Positive	High Test/Quiz Scores	Other - Customized Message	4
Positive	Making good progress	Great Job - Making good progress	2,392
Positive	Making good progress	No Action Required - Tracking Only (no nudge sent)	4
Positive	Making good progress	Other - Customized Message	34

Utilization of Progress Reports

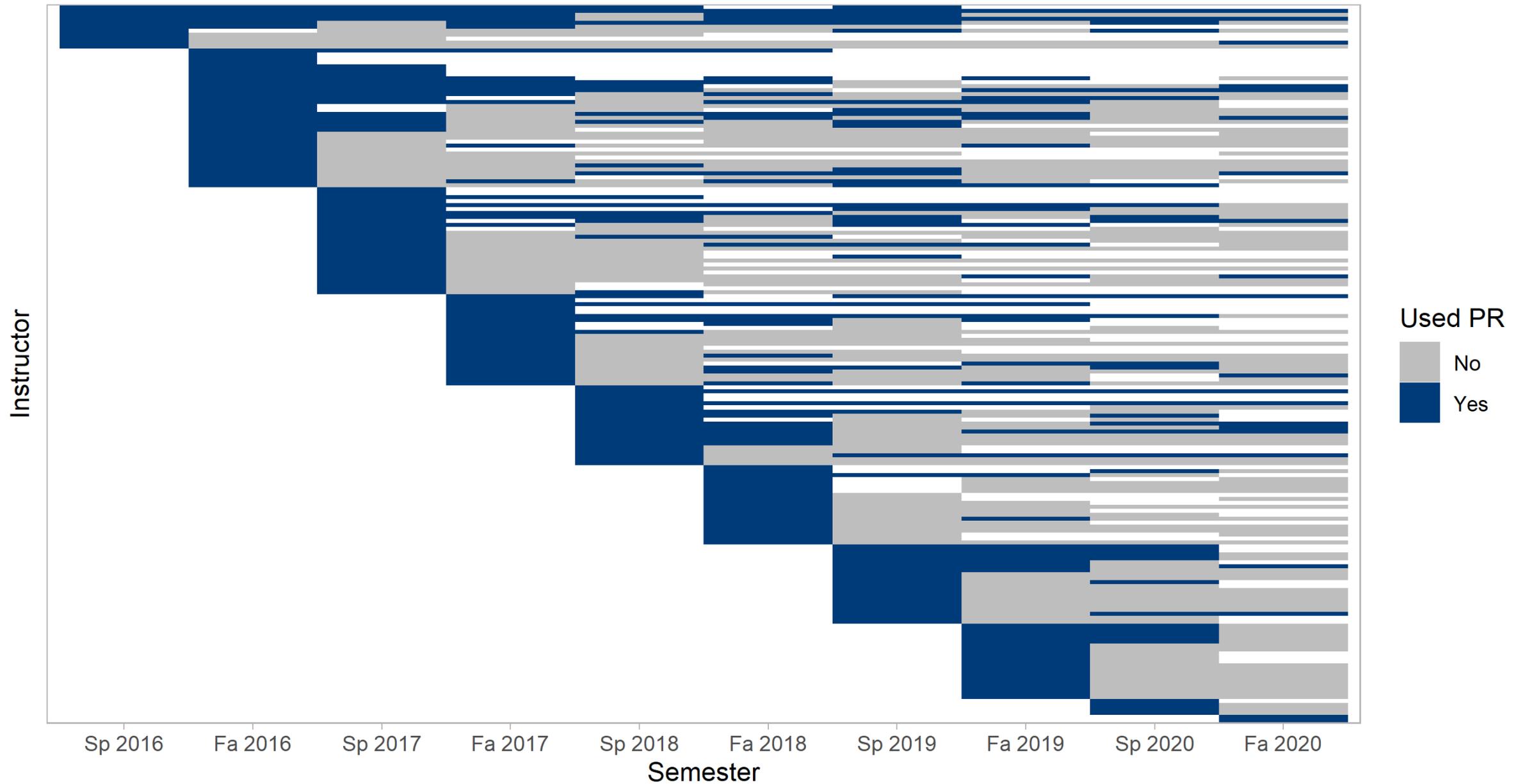


At most 2% of students receive a progress report in any given semester

Progress Reports are underutilized.

Utilization is low.

Instructors' Pattern of Usage of Progress Reports by Term



Very few instructors use Progress Reports consistently term over term.

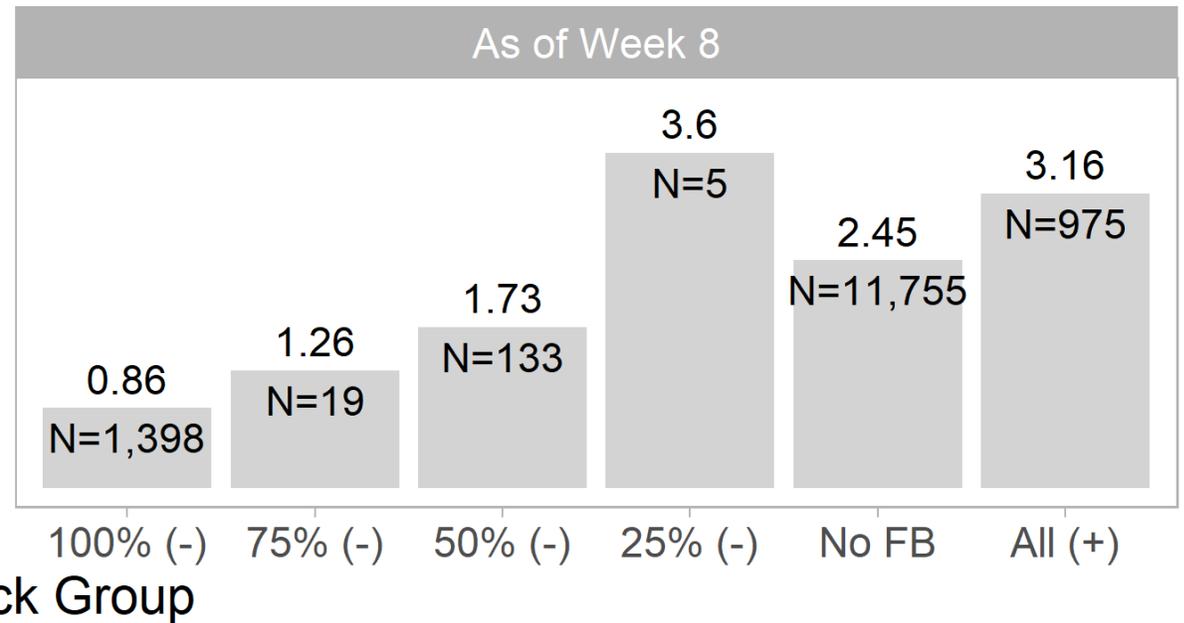
Most instructors stop usage.

Effective?



Grade Points and Feedback (FB)

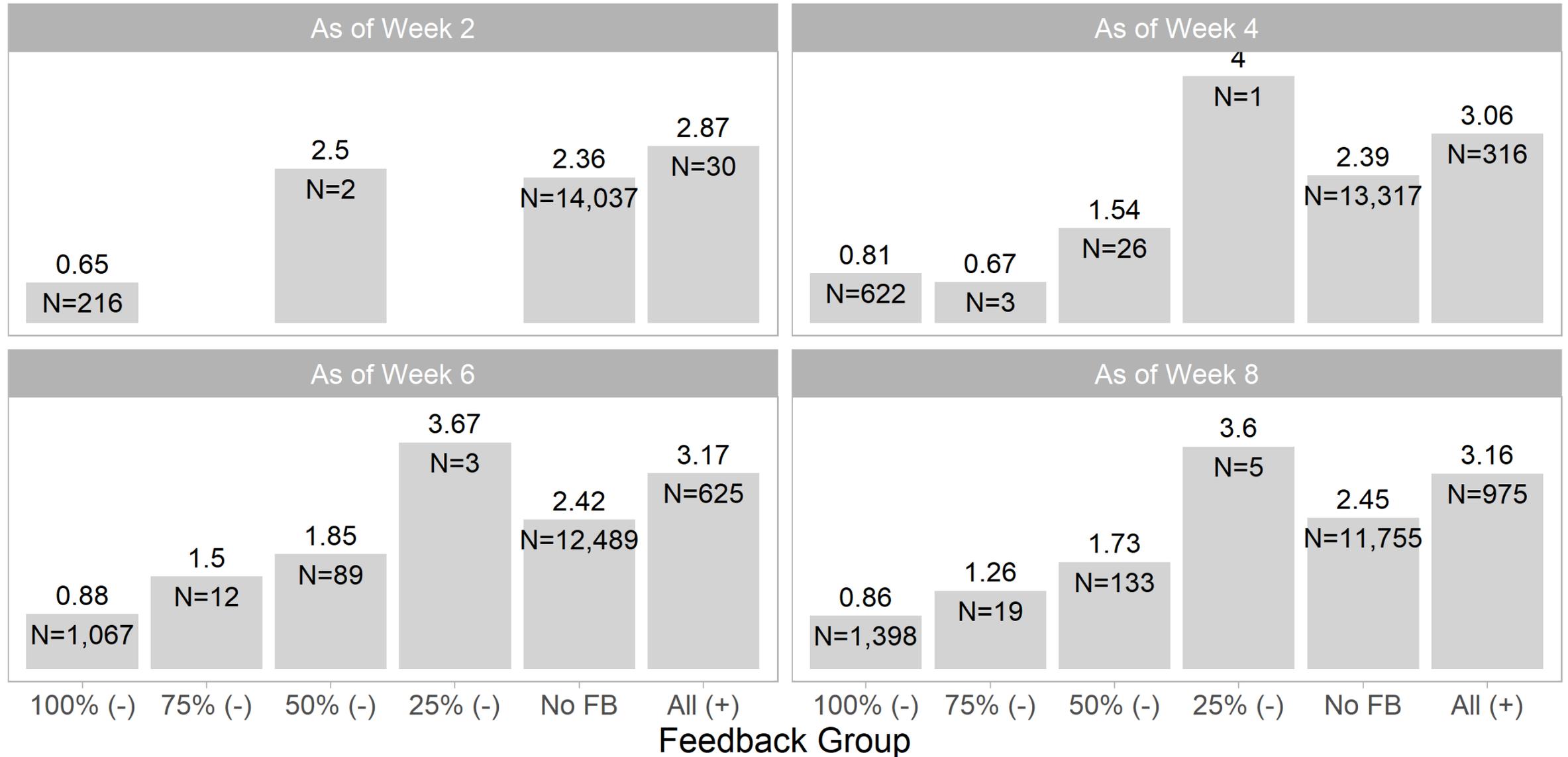
Among sections (Spring 2016 - Summer 2019) that used Progress Reports (>1)



Negative feedback provides a strong non-success signal.

Grade Points and Feedback (FB)

Among sections (Spring 2016 - Summer 2019) that used Progress Reports (>1)

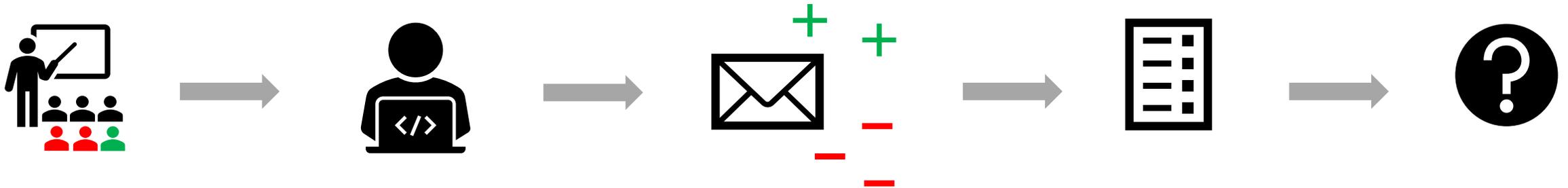


Negative feedback provides a *strong* non-success signal.

Nudges are not intervention.

Negative feedbacks are a strong signal.

1. Can we simplify Early Alerts?



2. What can we do to support students?

Canvas (LMS) Gradebook as a Signal



Pros

Effortless on the instructors' part
(Progress Reports require extra effort)



Cons

Not all instructors use Canvas
Not all instructors use Canvas Gradebook

Idea: Current Grade in Canvas

Old Signal: Progress Report	New Signal: Current Grade in Course
Negative feedback logged by instructor	Grade < 70%
Positive feedback logged by instructor	Grade >= 70%

Signal / Model Assessment

- Rank order students based on risk
- Are more successes concentrated towards those labeled “low risk”?
- Are more non-successes concentrated towards those labeled “high risk”?

Metric: Gini Coefficient

- Compares how well a predictor segments outcome
- Gini: 0 – 1
- Gini = 0: model is not useful (equivalent to random labeling)
- Gini = 1: perfect model (all non-successful students are placed in the high risk group)
- Baseline Reference: GPA at start of semester

Risk Score (Ex: Grade at Week X)

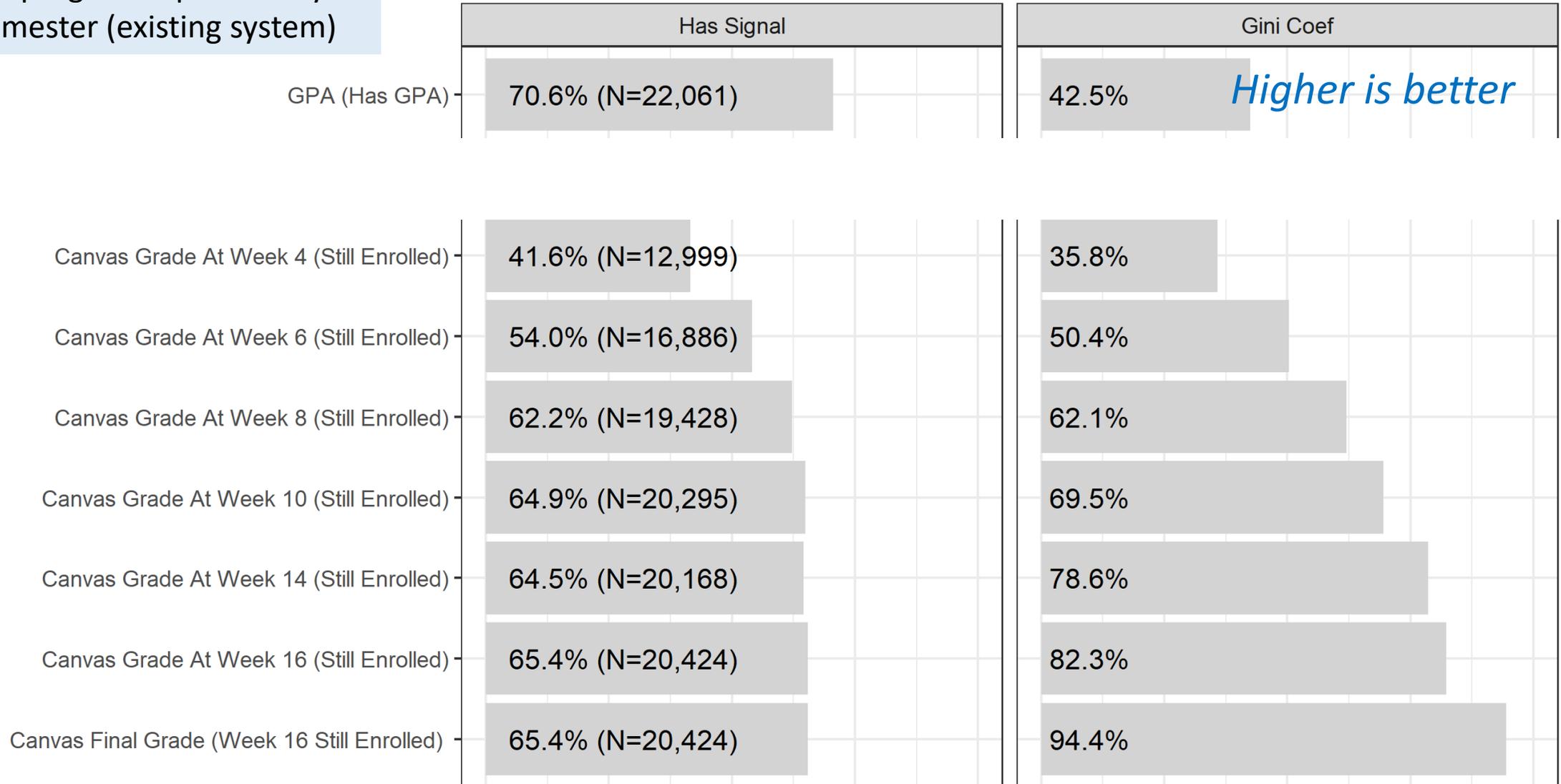
Course Success

95%	0
90%	1
...	...
10%	1
5%	0

Recall: At most 2% of students receive a progress report in any given semester (existing system)

Signal Availability and Association with Success

Data: IVC Fall 2019 Credit Enrollments (Term Length \geq 14 Weeks)



Signal from Canvas Gradebook is stronger than GPA starting in week 6...



Retrospective Look: Fall 2019 Student Lists

Idea: Use Grade < 70% As Early Alert

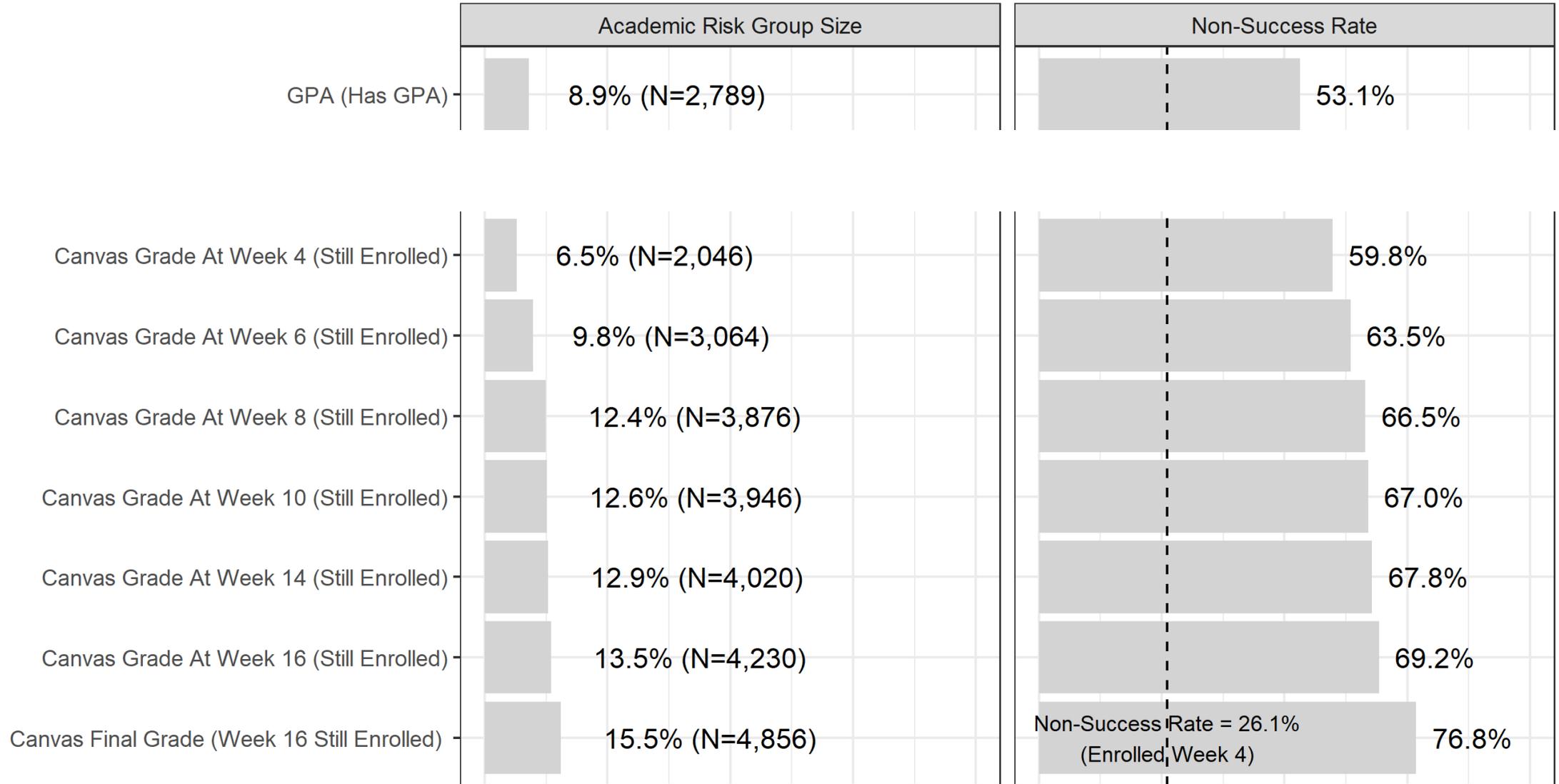
How many students are at academic risk?

At different time point in semester?

What is the actual non-success rate?

Apply Cutoff: GPA \leq 2.0 or Score in Canvas \leq 70%

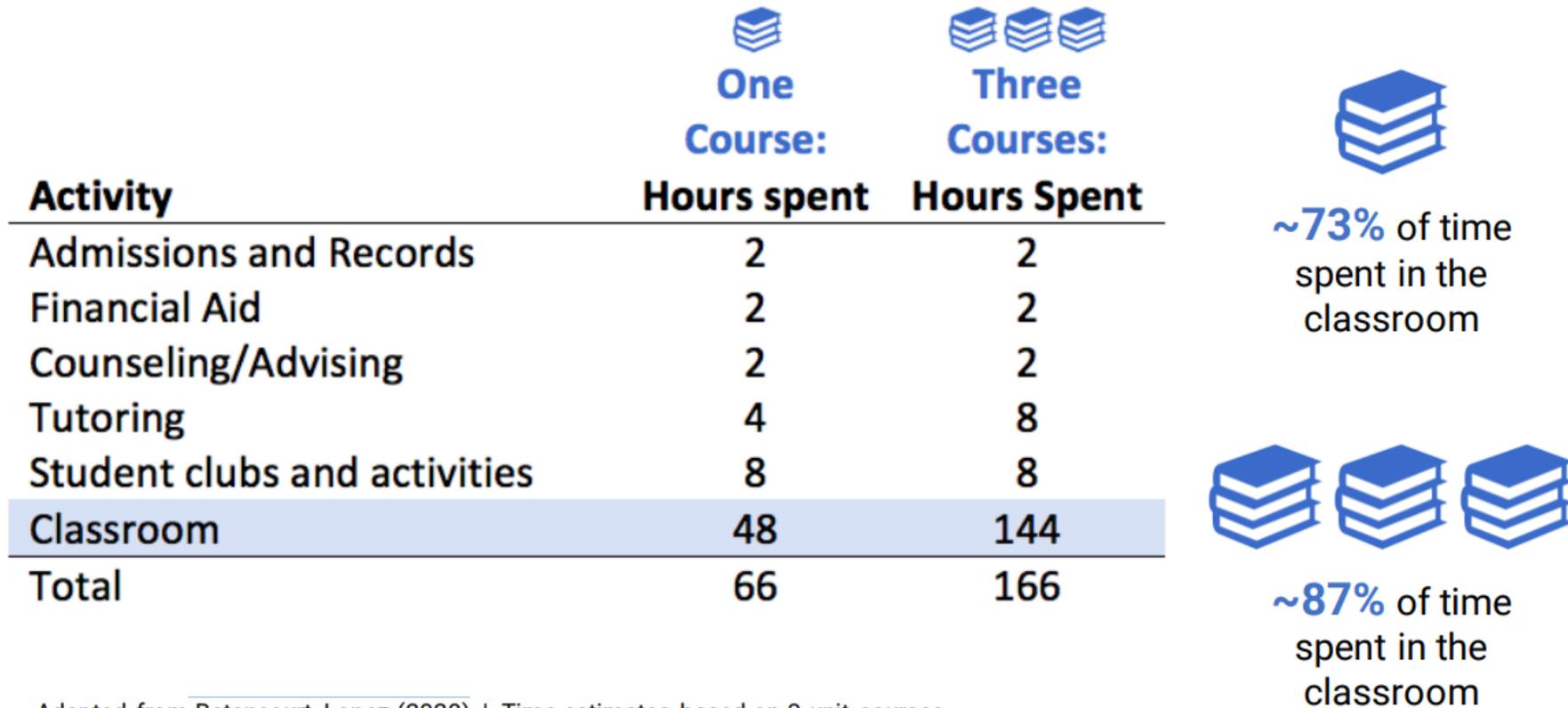
Data: IVC Fall 2019 Credit Enrollments (Term Length \geq 14 Weeks)



Week 8: 7 out of 10 students with Canvas grade \leq 70% will not succeed.

Call to Action: Instructional Faculty

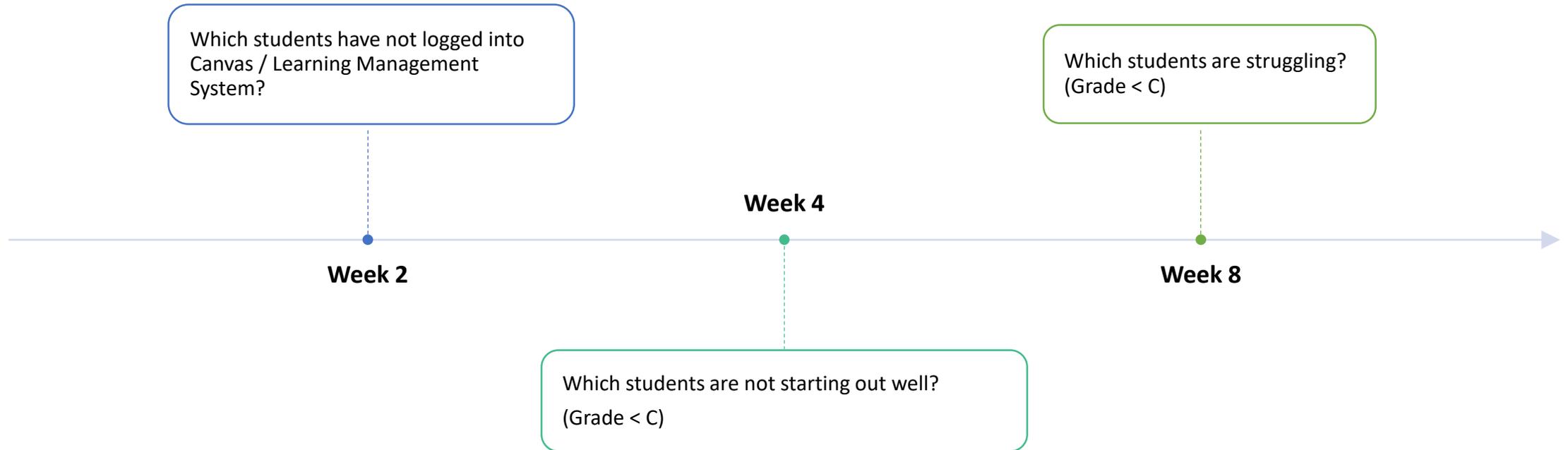
How much time does a student spend in the classroom each semester?



Adapted from Betancourt Lopez (2020) | Time estimates based on 3-unit courses

Slide taken from "We Need to Make Changes in Our Classrooms Now" [presentation](#) by Cuyamaca College at SSSC 2020

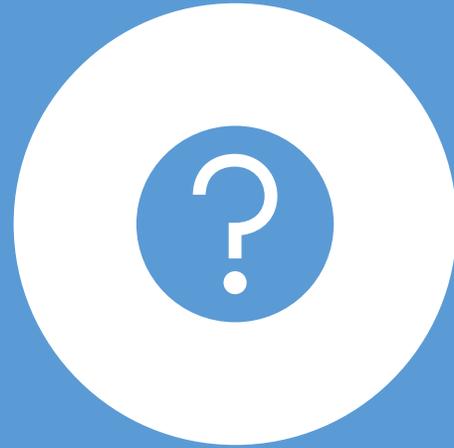
Proposal: Early Alerts Re-design



- Instructional faculty involvement: fall 2020 (delayed due to Covid-19)
- Student services / completion teams: pilot in spring 2021

Thank You

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Questions and Answer Session