

Beyond Retention - An Integrated Student Success Model

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Charge:

Engage students in assessment process

Timeline:

Academic year - Fall 2023 through Spring 2024

Role:

Support creation of reports from early alert data. Use best practices to analyze large data sets.

Goals

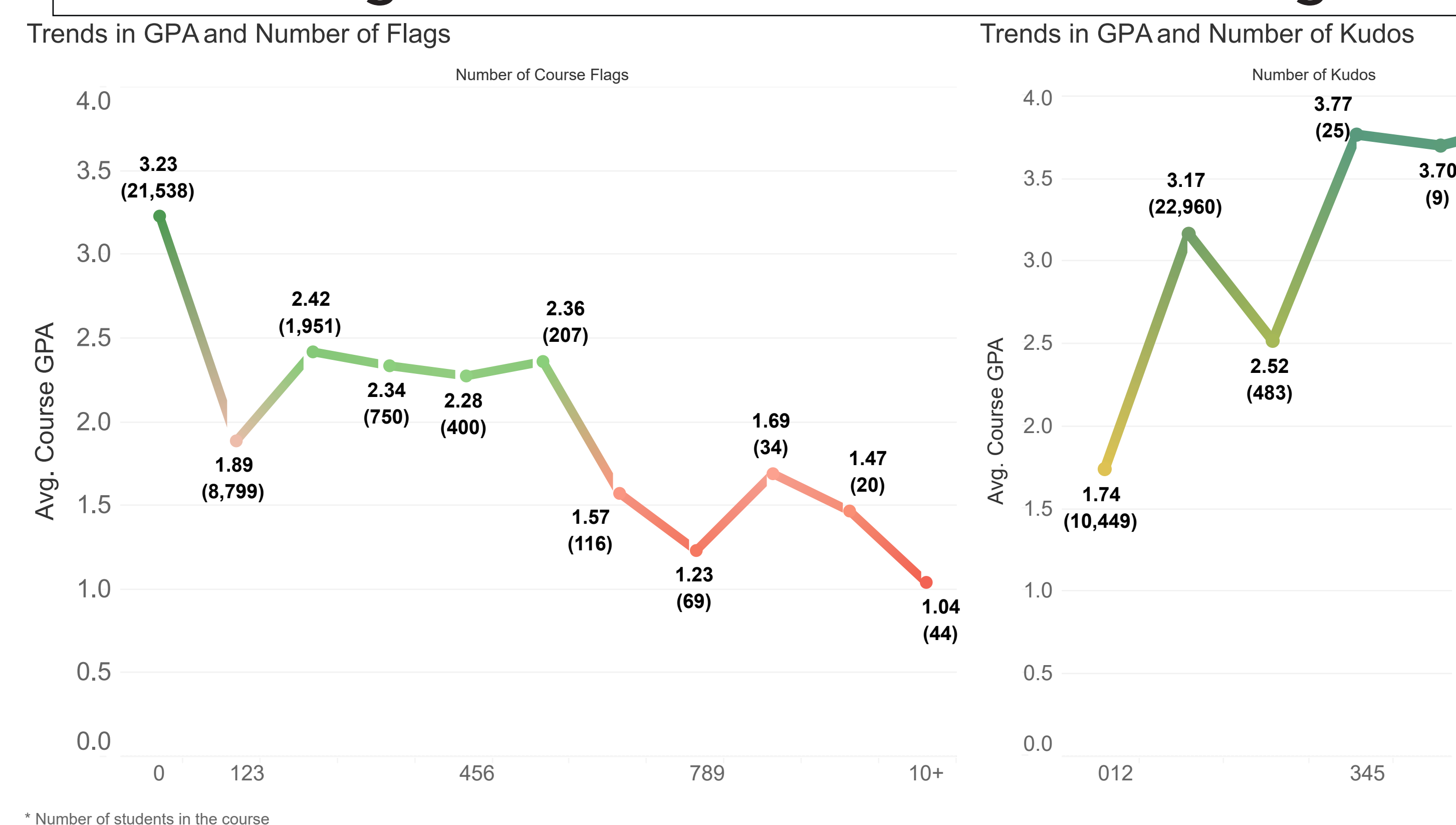
Enhance the assessment and use of the early alert system (EAS) and related outcomes

- Better understand the relation between the selected flags and grade outcome
- Qualitative analysis of notes data from flags and kudos

Questions

- Do flags raised impact student course outcomes?
- What is the correlation between raised flags/kudos and earned course grades?

Average course GPA and number of flags



Assessment of Current Practice

Scope and Tools

Timeline: late Fall 2023 to Spring 2024

Scope of data

- Early alert data (flags/kudos) [Fall '22 to Spring '23]
- Grades and enrollment data [Fall '22 to Spring '23]

Tools used:

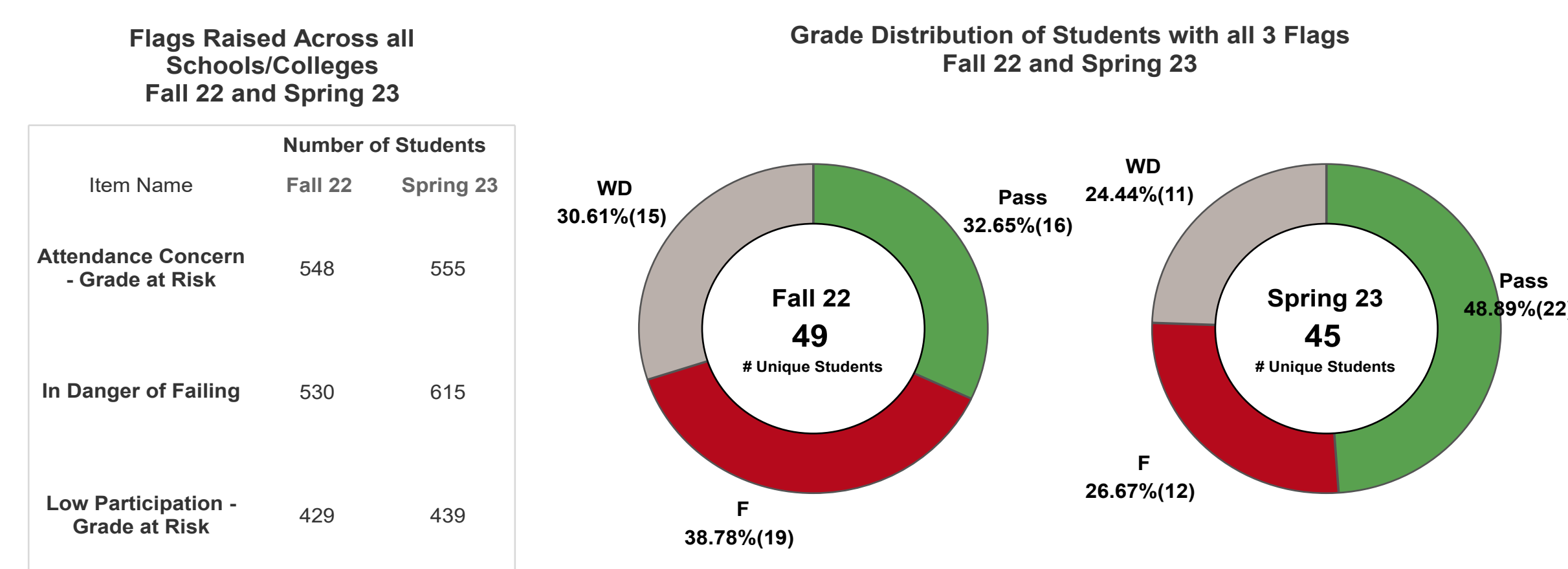
- Python: data processing, data modeling
- R: data modeling
- Tableau: visualization, data exploration
- Models: distilbert-base-multilingual-cased-sentiments-student, association rule mining

Early Alert Data Summary

Content: "Tracking" data including flags/kudos

- Number of records (N) = 131,000 rows
- The EAS system features 178 flags
 - Flags: academic/behavioral concerns
 - Kudos: academic/behavioral compliments
- Filtered scope: 25 select flags/kudos for Fall '22 and Spring '23, reducing N to 63,000 records
- Data integration: flag data is merged with grades data at student X course X term level

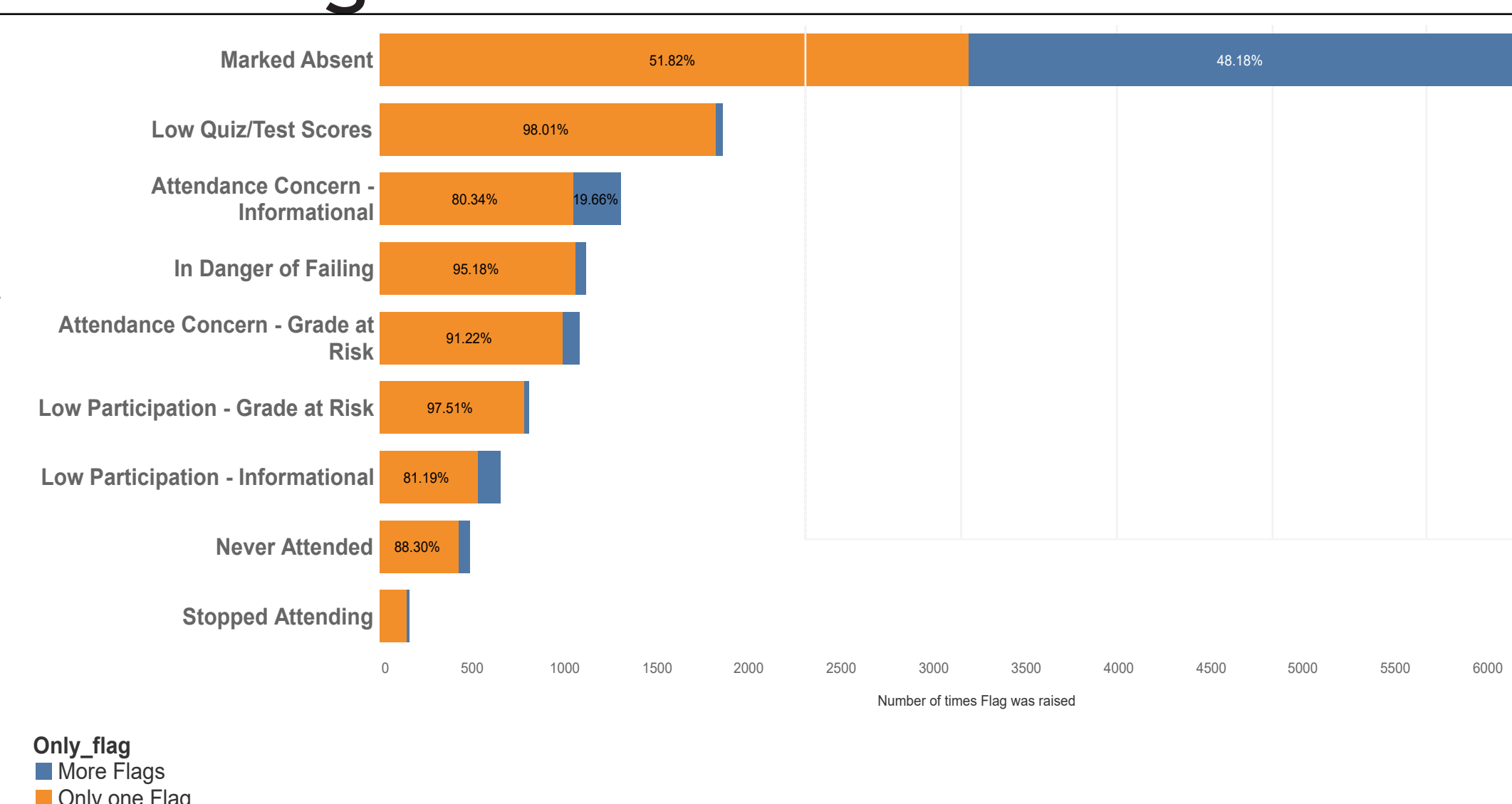
Outcomes of students with all three flags



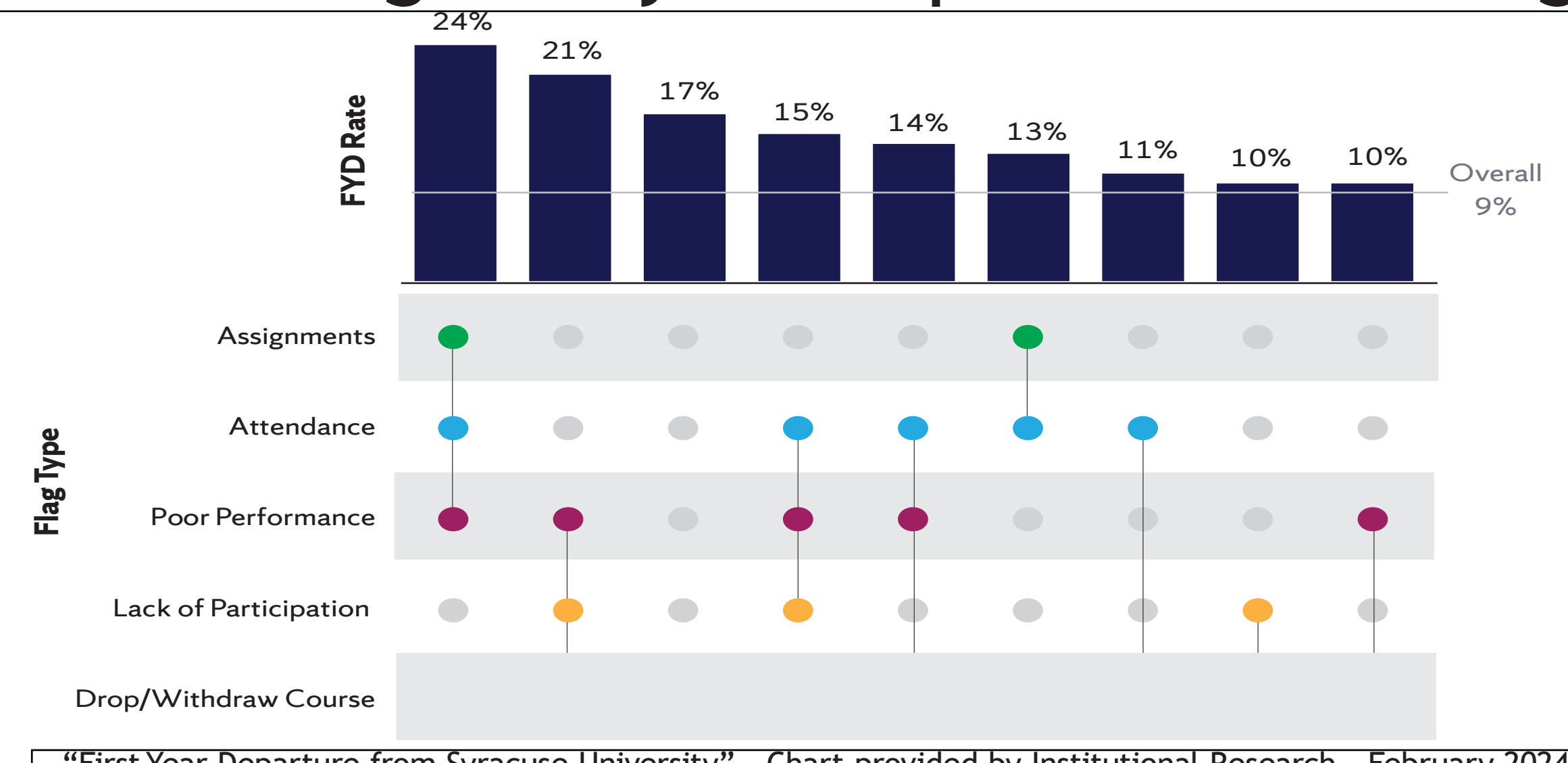
Initial flag - "Marked Absent"

Trends

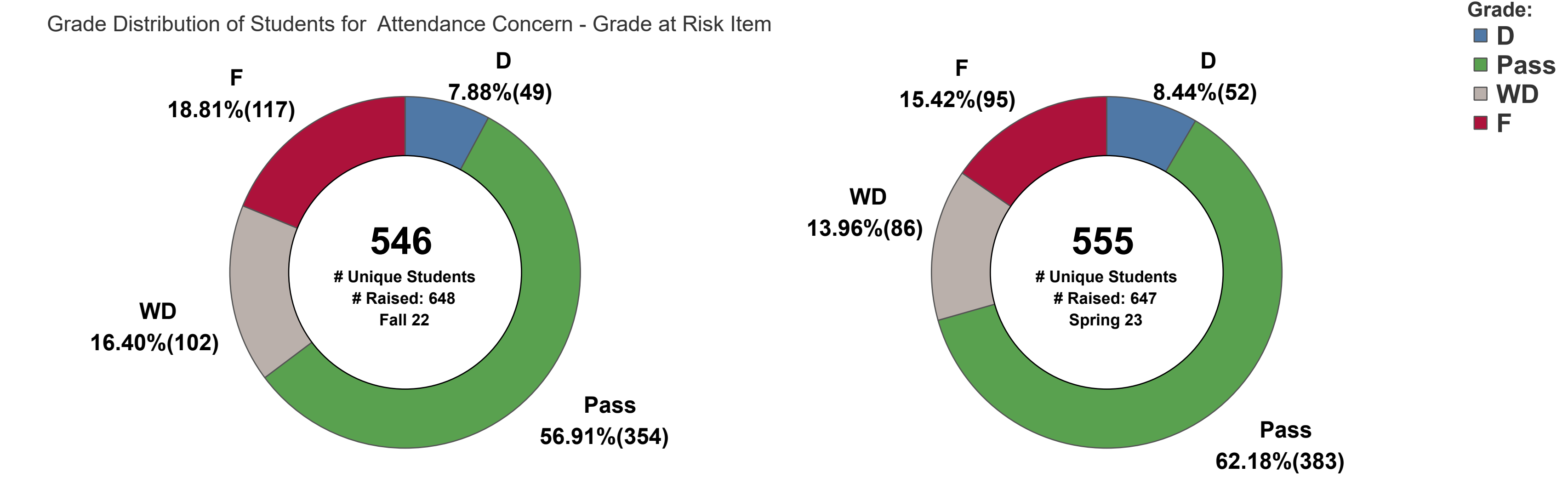
- The automated "marked absent" nudge is the most common initial flag
- ~47% of "marked absent" flags are followed by another flag



Predicting first-year departure with flags



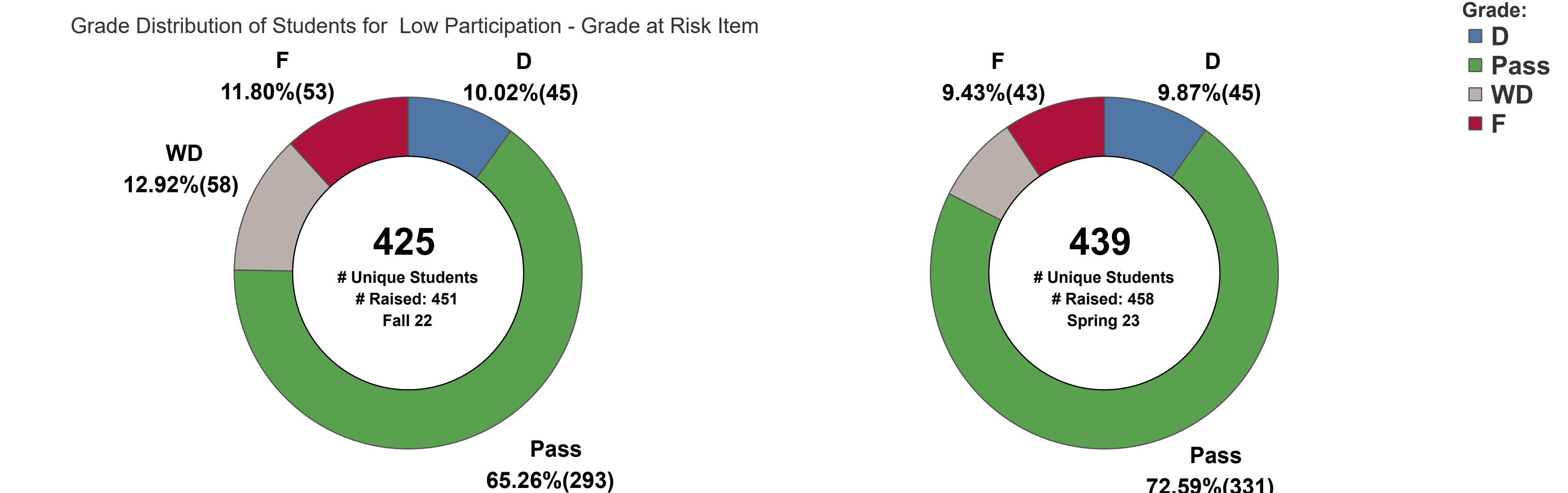
Flag detail: "Attendance Concern - Grade at Risk"



Attendance Concern - Grade at Risk Item by School

Term	A&S	ARCH	ECS	EDUC	ISTM	MAX	MGMT	PC	SHD	VPA
Fall 22	270 (49.45%)	10 (1.83%)	31 (5.68%)	15 (2.75%)	25 (4.58%)	38 (6.96%)	71 (13.00%)	20 (3.66%)	20 (3.66%)	74 (13.55%)
Spring 23	259 (46.67%)	9 (1.62%)	34 (6.13%)	6 (1.08%)	37 (6.67%)	53 (9.55%)	47 (8.47%)	27 (4.86%)	46 (8.29%)	70 (12.61%)

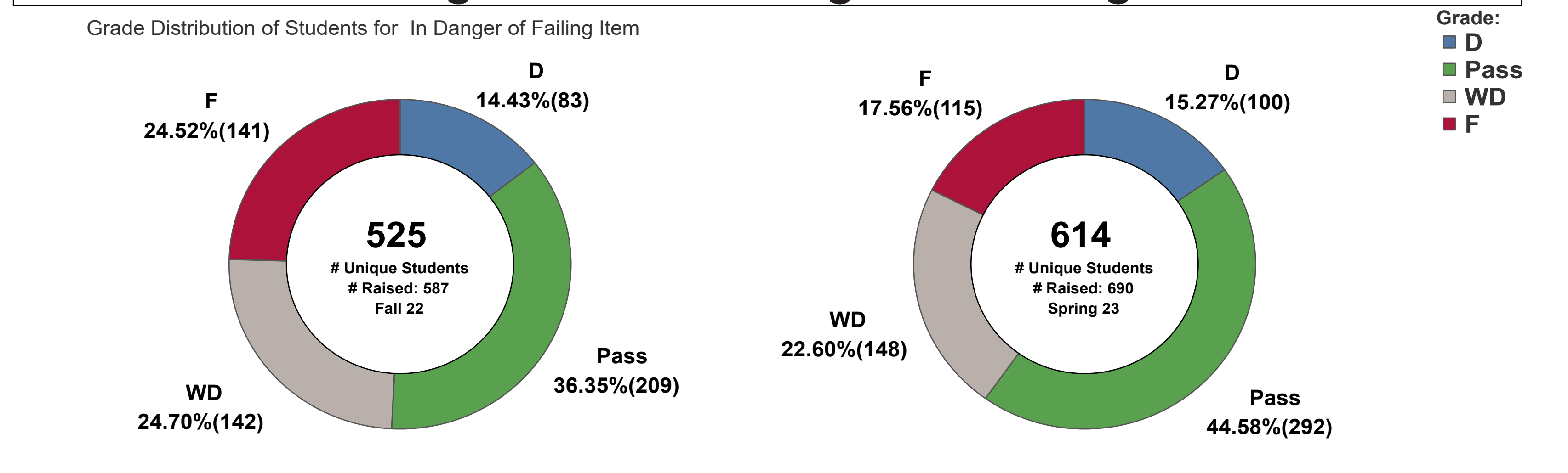
Flag detail: "Low Participation - Grade at Risk"



Low Participation - Grade at Risk Item by School

Term	A&S	ARCH	ECS	EDUC	ISTM	MAX	MGMT	PC	SHD	VPA
Fall 22	141 (33.18%)	14 (3.29%)	28 (6.59%)	8 (1.88%)	38 (8.94%)	52 (12.24%)	54 (12.71%)	12 (2.82%)	45 (10.59%)	44 (10.35%)
Spring 23	188 (42.82%)	17 (3.87%)	43 (9.79%)	4 (0.91%)	10 (2.28%)	45 (10.25%)	25 (5.69%)	20 (4.56%)	72 (16.40%)	26 (5.92%)

Flag detail: "In Danger of Failing"



In Danger of Failing Item by School

Term	A&S	ARCH	ECS	EDUC	ISTM	MAX	MGMT	PC	SHD	VPA
Fall 22	329 (62.67%)	11 (2.10%)	18 (3.43%)	7 (1.33%)	17 (3.24%)	25 (4.76%)	18 (3.43%)	17 (3.24%)	51 (9.71%)	48 (9.14%)
Spring 23	346 (56.35%)	36 (5.86%)	50 (8.14%)	5 (0.81%)	36 (5.86%)	33 (5.37%)	22 (3.58%)	20 (3.26%)	43 (7.00%)	43 (7.00%)