

Determining Best Practices for an Academic Alert System to Encourage Student Success

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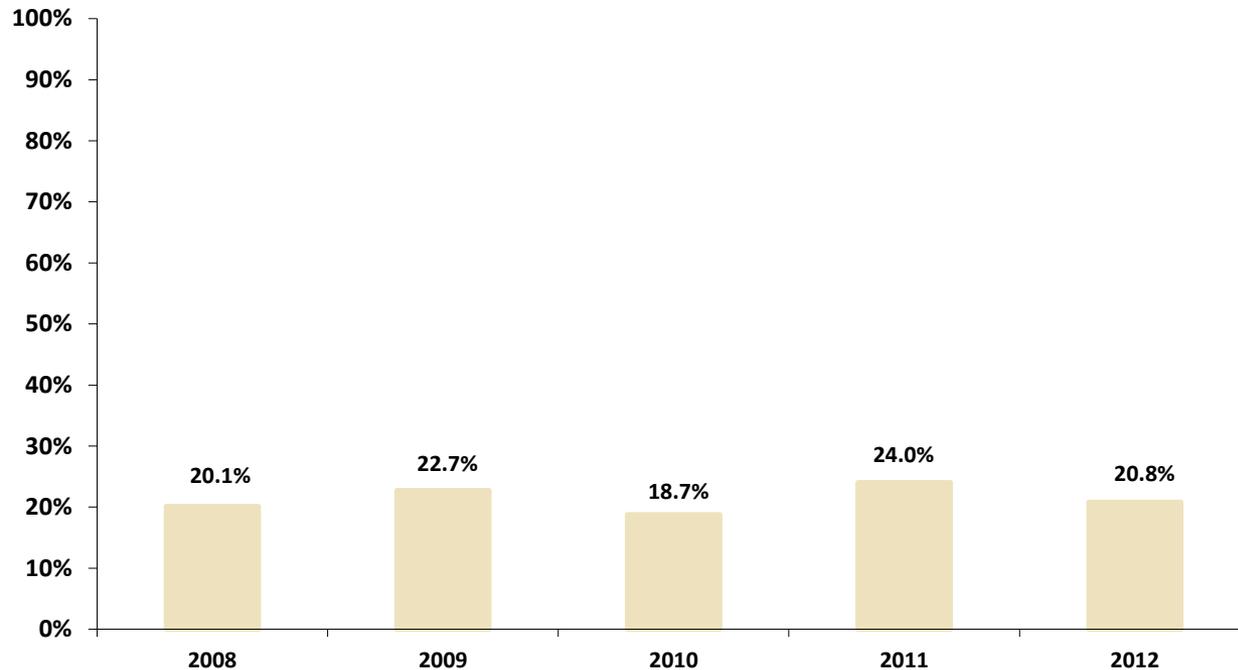


Background

- NWC has had an early alert/academic alert system in place for a number of years
- Prior to 2006, it was entirely paper-based
- In 2006, an online form and delivery system was implemented
- This has made it easier to track data, but it hasn't necessarily told us much

I don't know if this is good or bad...

**% of Student Body Receiving
Academic Alerts - Fall Semester**



Rethinking Our Goals

- We want to do more than make a simple bar chart that shows a “meaningless” number
- We want our efforts to drive participation in the academic alert process
- To convince faculty to do that, we need to demonstrate that sending academic alerts makes a difference

Accepted Best Practices

- The existing literature (from Pascarella, Terenzini, Kuh, Levitz, etc.) generally agrees that:
 - Earlier is better (usually in the first 2-6 weeks)
 - Most effective and important for first-year students
 - Tied to better academic performance and retention
- We looked for evidence of these claims on NWC's campus
- Desired outcome: encouraging our faculty to make more consistent use of the system

The Available Data

- 6,922 academic alerts, Fall 2006 – Spring 2013
- The database table stores the following fields:
 - Student ID number
 - Course number and section number
 - Faculty ID number
 - Term and year
 - Alert data and time
 - Current course grade
 - Recommendations or referrals
 - Comments from professor

Exploratory Analysis: Faculty

- 164 different faculty members sent alerts
 - Represents 60% of all FT and PT faculty employed during this time period
- Some faculty are quite active
 - 13% sent over 100 (with a high of 564!)
- Most are moderate users
 - 27% sent between 25 and 100
 - 19% sent at least 10 but fewer than 25
- But, a sizable percentage are very rare users
 - 29% sent between 2 and 10
 - 12% sent only one

Exploratory Analysis: Students

- 1,689 different students received alerts
 - 3,928 students enrolled during the time period
 - 43% of all students received at least 1 alert!
- A few students were alerted.... often
 - Top one received 43 (16 for the same class!)
- Most students received a small number
 - 41% of those receiving alerts received 3-9
 - 49% received either 1 or 2

Exploratory Analysis: Student Outcomes

- 4,820 different course/student combinations
- 4,147 (86%) finished the course
 - 4% of those received some form of an A
 - 21% received a B
 - 39% received a C
 - 24% received a D
 - 12% received an F
- All told, nearly 24% of the time, the student did not receive credit for the class
- But 76% of the time, they did!

Exploratory Analysis: Conclusions and Next Steps

- Encouraged to see a sizable number of faculty making good use of the system
 - But discouraged that many use it rarely
- Encouraged by the percentage of students that received an academic alert
 - But concerned about retention prospects
- This data didn't tell us enough: Did sending the academic alert make a difference?

Measuring Improvement

- Compared the grade reported in the academic alert with the final grade achieved in the course
- The academic alert's grade field is free-response, so it was necessary to standardize the grades

Grouping Alerts by Department

- Considering the data this way accounts for:
 - Differences in a department's alert policy
 - Differences in general course set up
 - Differences in characteristics of students that self-select into a particular department or course

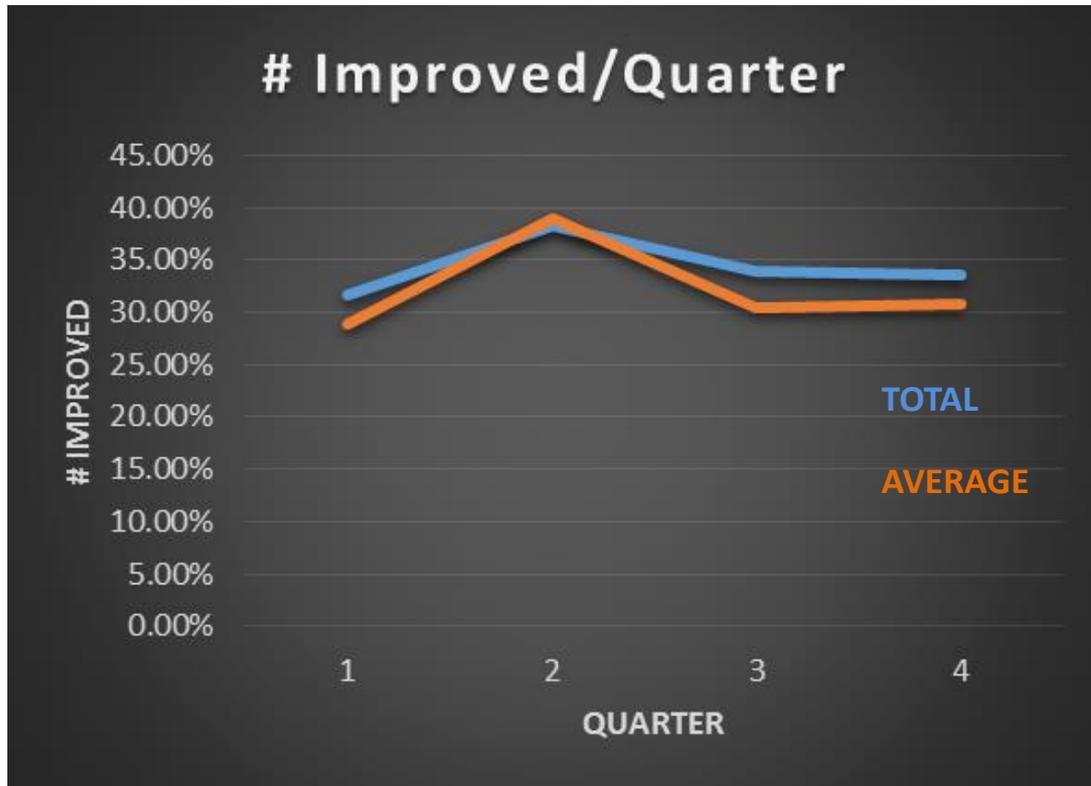
Grouping Alerts by Date

- Wanted to see if **when** the alert was sent influenced the number of improvements
- Filtered data by quarter

Improvement by Quarter: Methodology

- Sorted data by department and by date
- Determined if the grade improved after the initial alert was sent
- Counted how many students improved out of the total per department per quarter
- Also calculated the overall percentage that improved per quarter

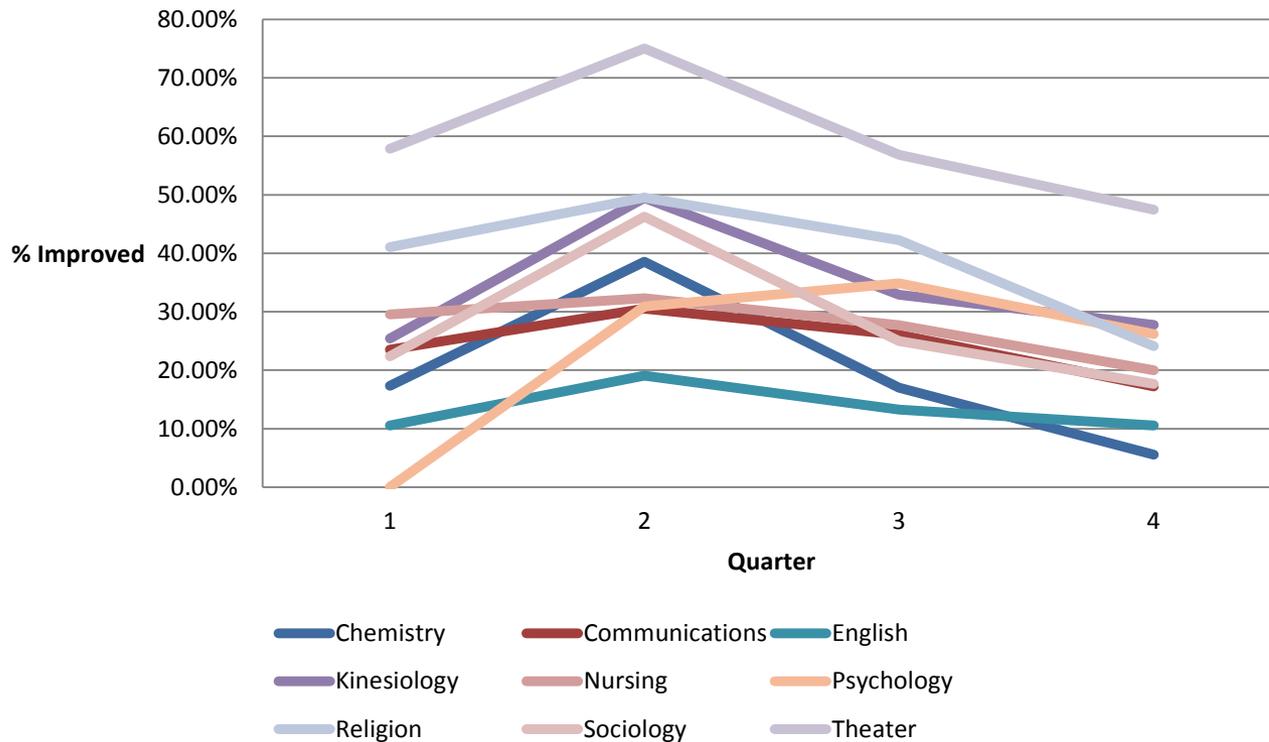
Improvement by Quarter: Overall Results



- Expected a downward sloping graph
- More students improved when the alert was sent in the 2nd quarter
- But the difference wasn't as sharp as intuitively expected

Improvement by Quarter: Departmental Results

Percent of Alerted Students Improving

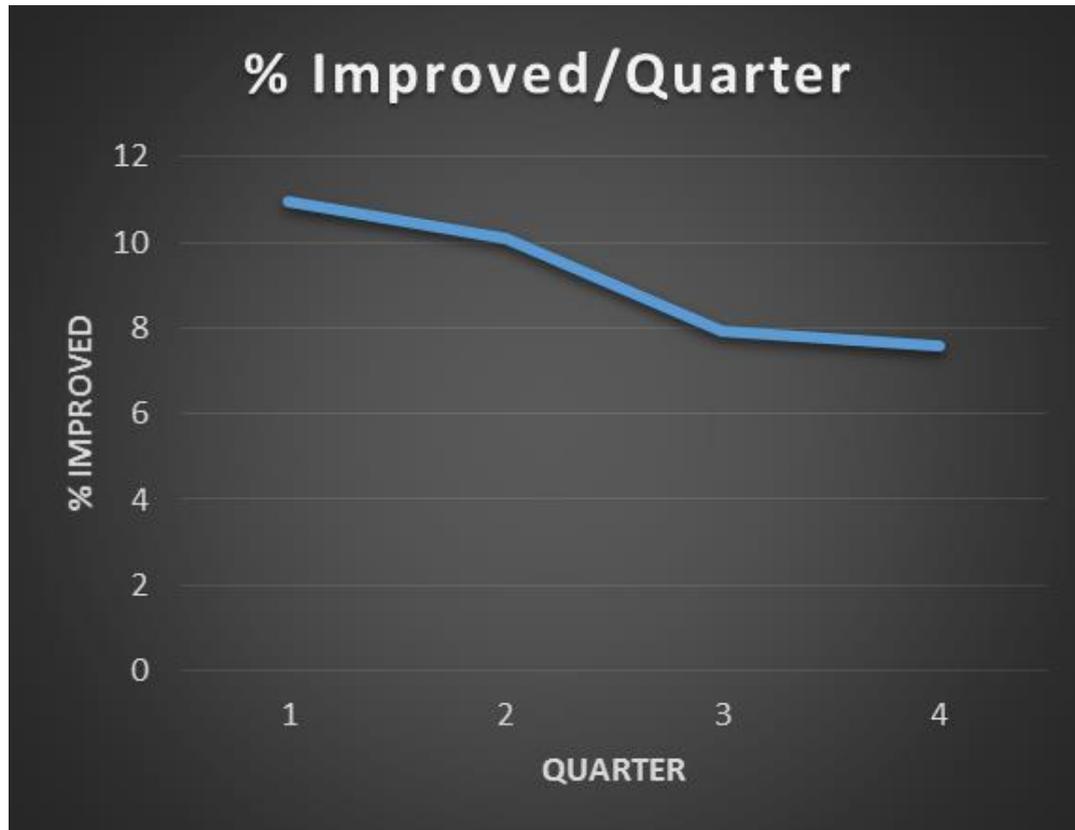


- Most departments followed the same trend that was observed overall
- Second quarter continued to be the sweet spot, but it was more drastic for some than others

Amount of Improvement by Quarter: Methodology

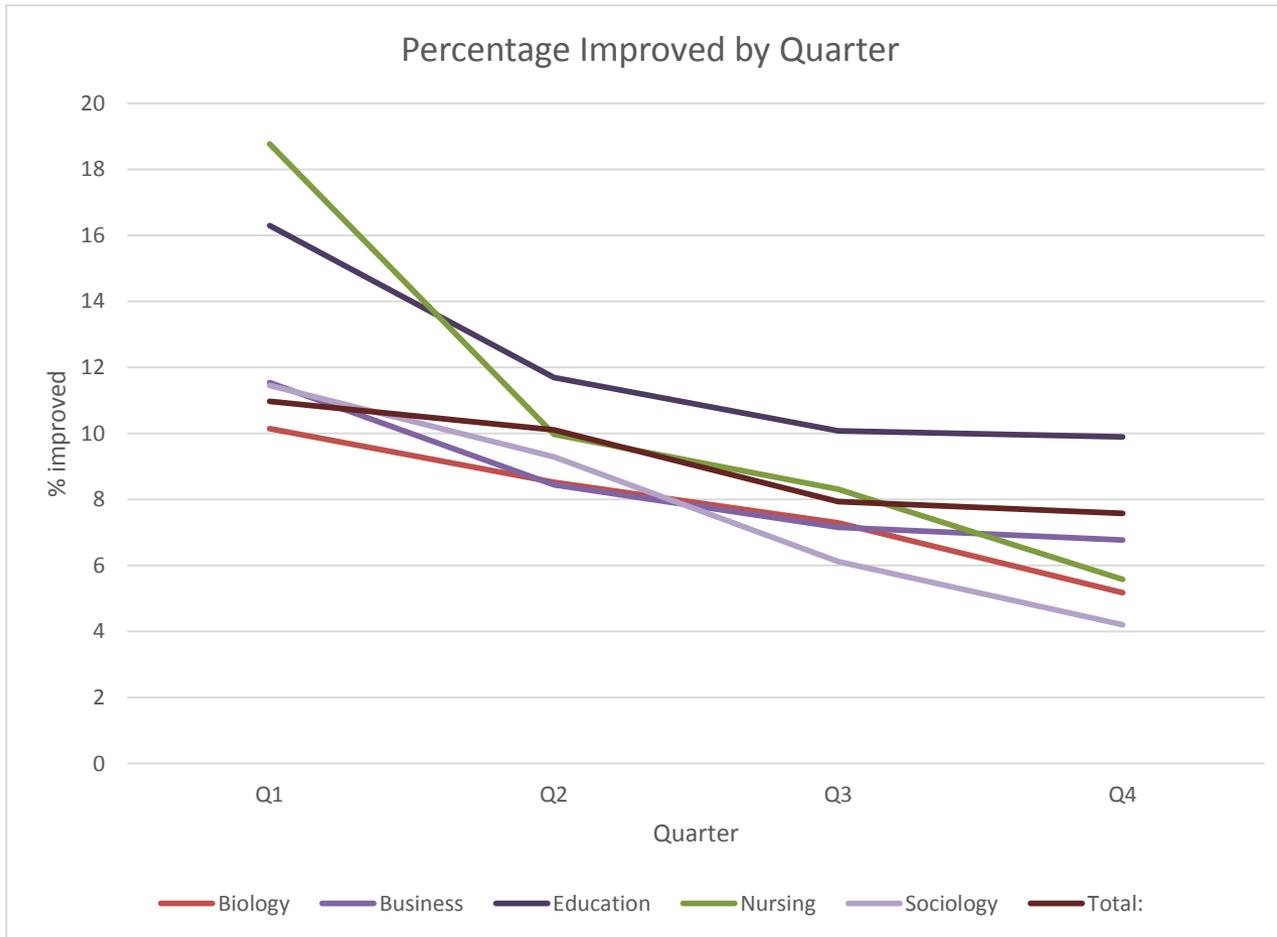
- Looked instead at **how much** they improved
- Used same grade standardization as before
- Filtered out non-improvements
- Subtracted alerted grade from the final grade to determine amount of improvement
- Found the average improvement per department per quarter
- Also found the total average per quarter

Amount of Improvement by Quarter: Overall Results



- Results were as expected
- Downward slope indicates 1st quarter alerts lead to the most improvement
- Conclusion: If the student is going to improve, they can improve more the earlier they receive the alert.

Amount of Improvement by Quarter: Departmental Results



- Once again, the same general trend was observed, to varying degrees

Does Alerting Encourage Tutoring?

- Now we know a little more about the degree of improvement among alerted students
- But we still don't know very much about why or how that improvement occurs
- A primary recommendation from faculty is to seek tutoring from our academic support center
- How many students heed that advice?

Encouraging Tutoring: Methodology

- Cross referencing our academic alert records with our tutoring records
 - Same student, same semester, same class
- Sorted by date, and compared how many students sought out tutoring prior to receiving an academic alert and after receiving the alert

Encouraging Tutoring: Results

- 61% of those that received an academic alert had a tutoring session on record for the alerted class
 - 15% of those saw a tutor prior to receiving the alert, but not after
 - 53% of them saw a tutor both before and after receiving the alert
 - 32% of them sought out tutoring for the first time after receiving the alert
 - That's 20% of all students that received an alert!

Conclusions

- Overall, our results are consistent with the findings in the literature
- Overall, the differences from quarter to quarter were not as dramatic as expected in binary terms (improved/not improved)
- But, alerting students earlier in the semester provided students with an opportunity to improve their grade more dramatically
- Even late alerts led to improvement 30% of the time
 - “It’s not too late to make a difference”

Conclusions

- Many students utilized the tutoring center even before they were alerted
- But, receiving an alert encouraged a large population of students to seek out tutoring for the first time
- Our goal was to encourage regular participation in the academic alert process, especially early in the semester, and we believe the data supports that

Going Forward

- There are many more angles that could be considered
 - Tutoring by quarter, repeated tutoring, length of time between alert and tutor session, grade improvement
 - Filter by student-athletes, conditional/provisional admits, first-year students, etc.
 - Does the number of alerts received impact improvement?
 - Retention of students receiving academic alerts (especially those with multiple alerts in the same class, alerts in multiple classes, etc.)

Going Forward

- Our Campus Retention committee has been reviewing the academic alert process and making recommendations for changes
 - Now that we've established a baseline, a comparative study in 1-2 years will be possible