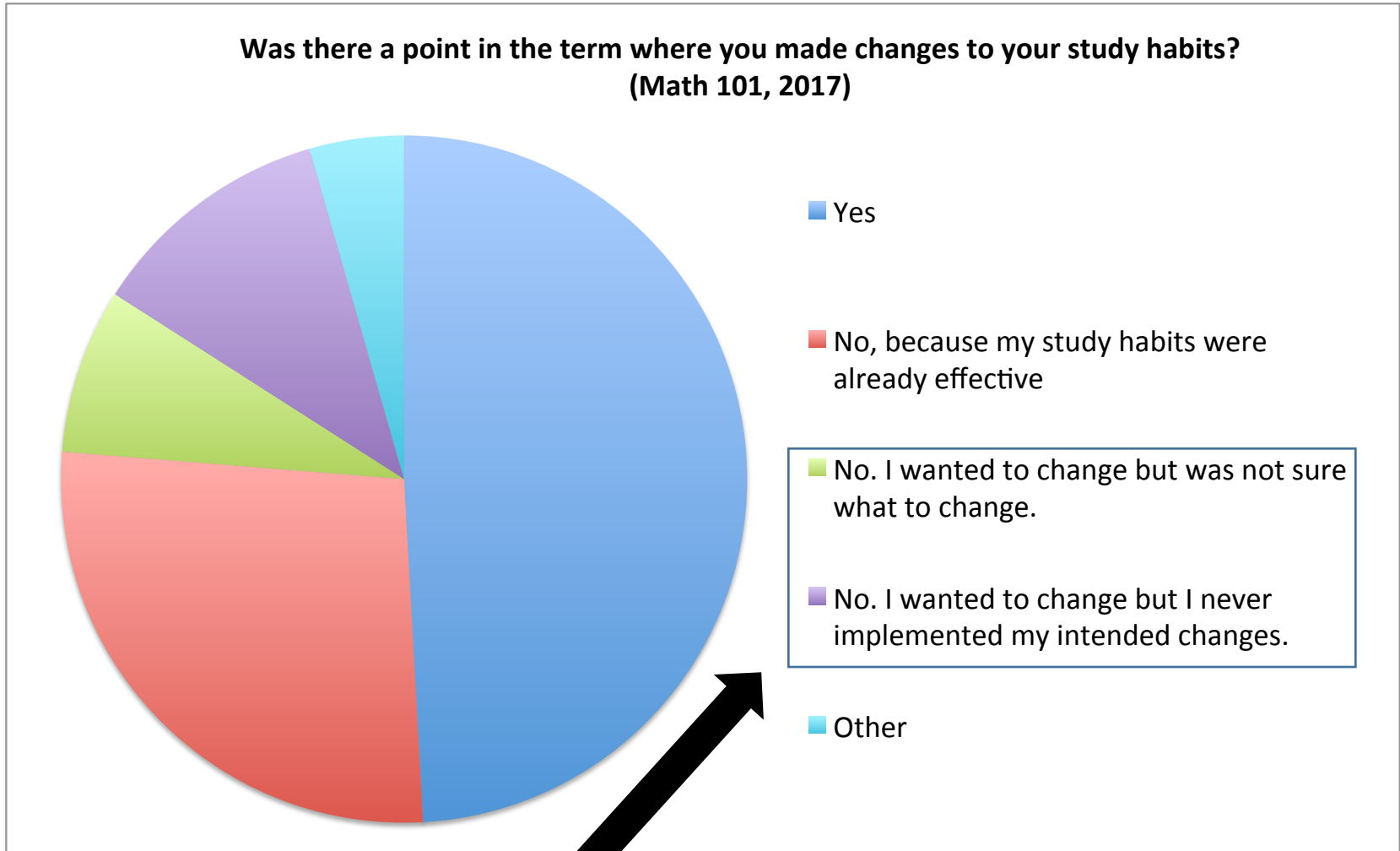


Investigating the study habits of Math 101 students

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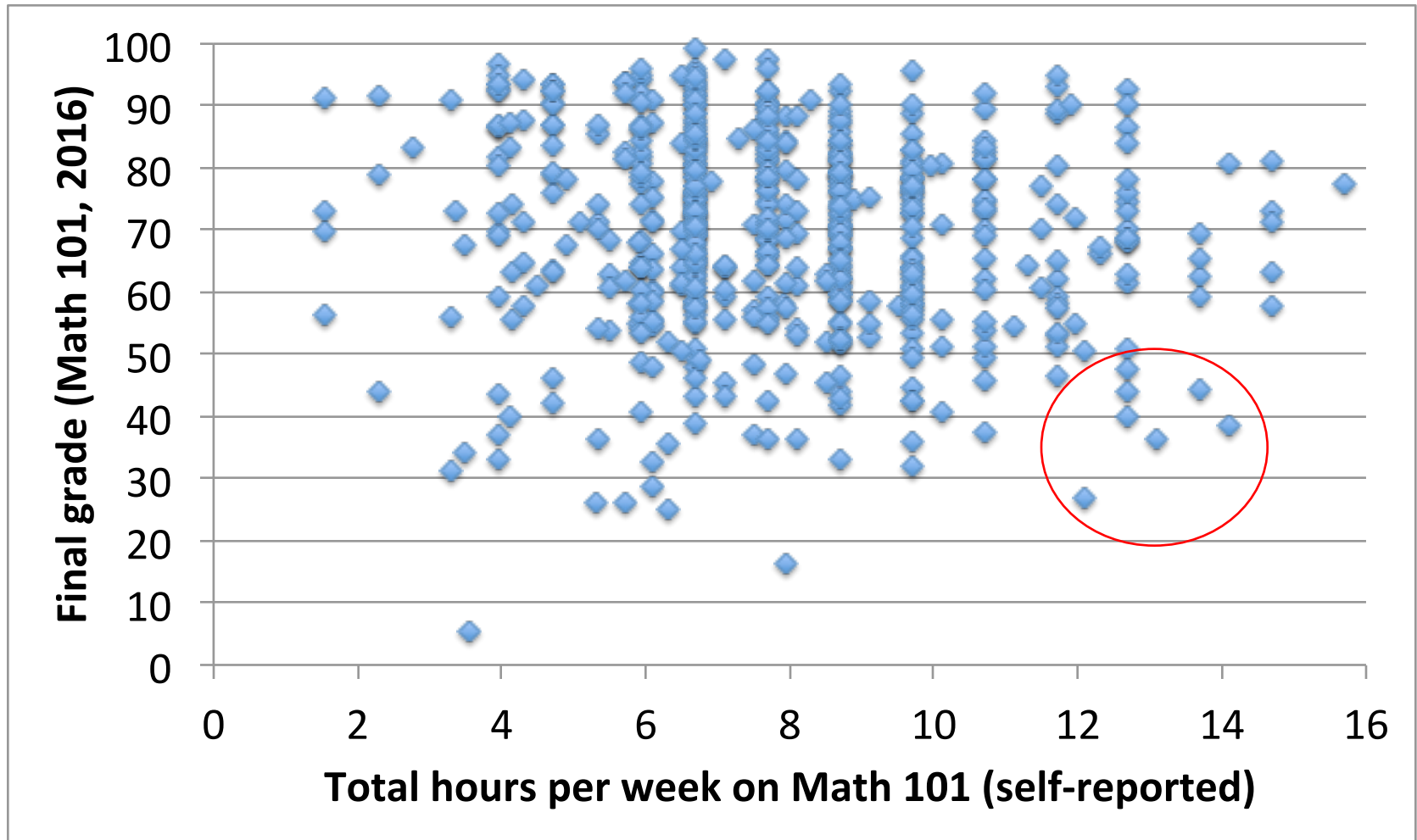
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Motivation



Many students would like to change their study habits.
How can we advise these students?

Motivation



Some students spend a higher than average time studying but still fail. How can we advise these students?

Method

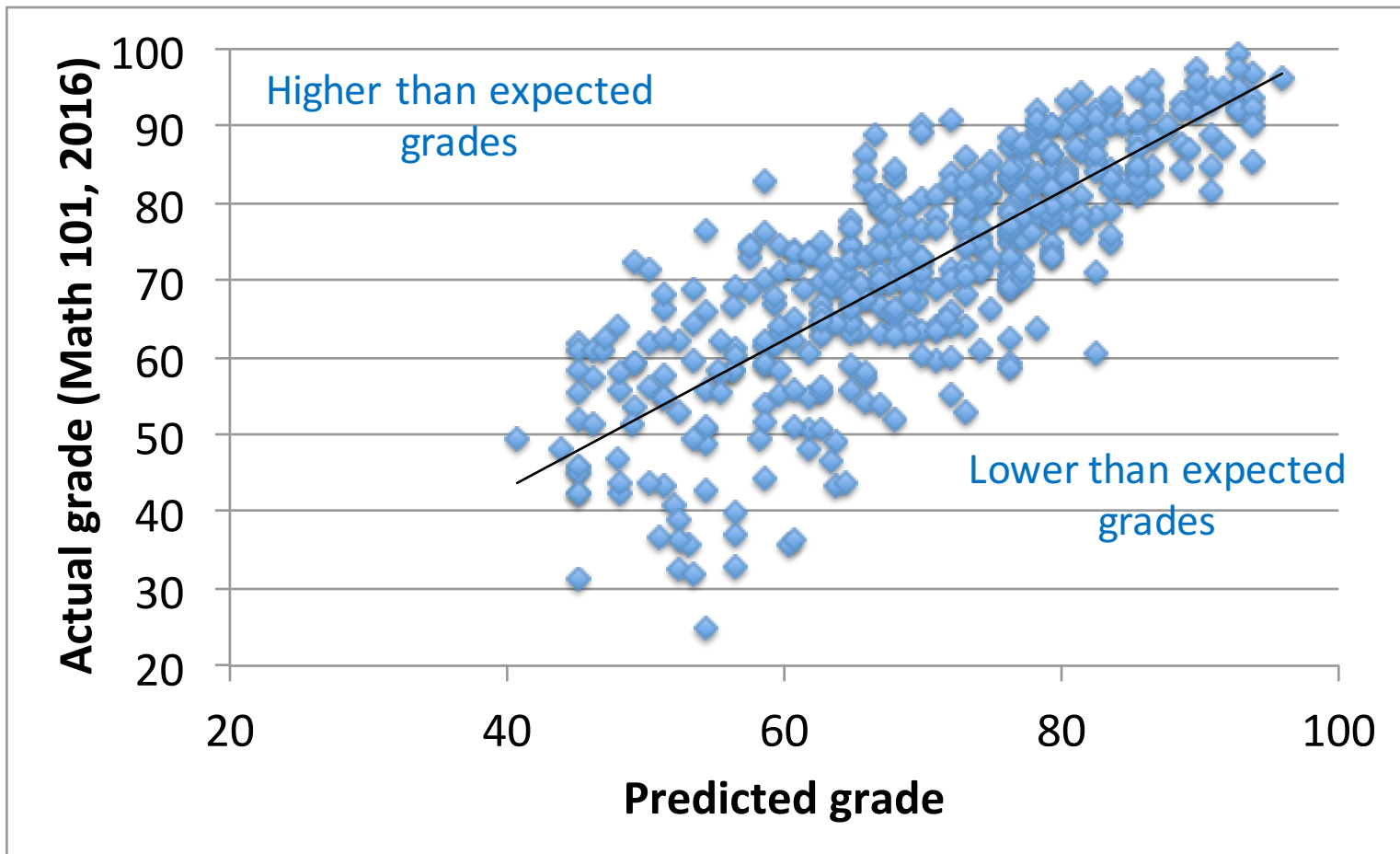
- Study habit survey administered to Math 101 in 2016 and 2017 (approximately 1000 students in Math 101).
- 589 students responded to the survey (2016).

Students asked about habits when:

- Attending lectures
- Doing assigned homework
- Studying for quizzes
- Choosing practice problems

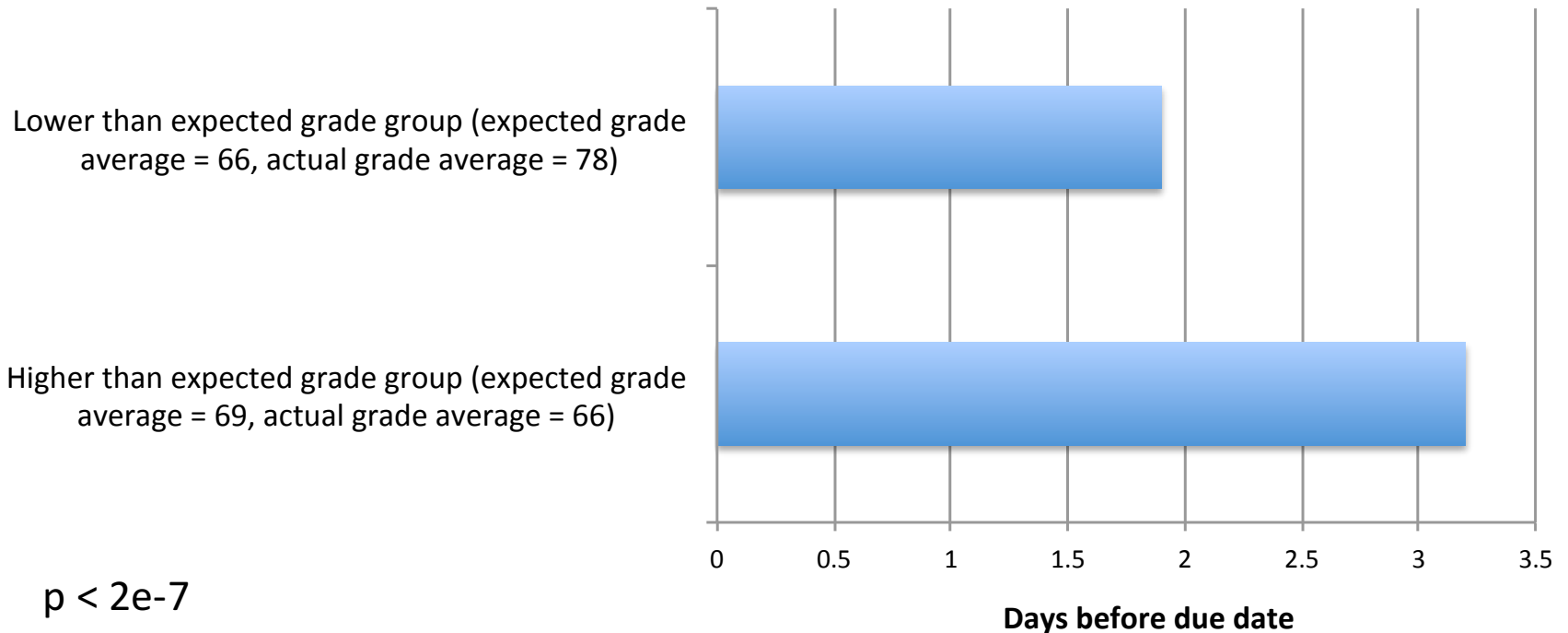
Method

- Trying to correlate study habits with grades is problematic because study habits are affected by a student's background.
- Instead, can split the class into “higher than expected grades” and “lower than expected grades” (based on previous math courses).



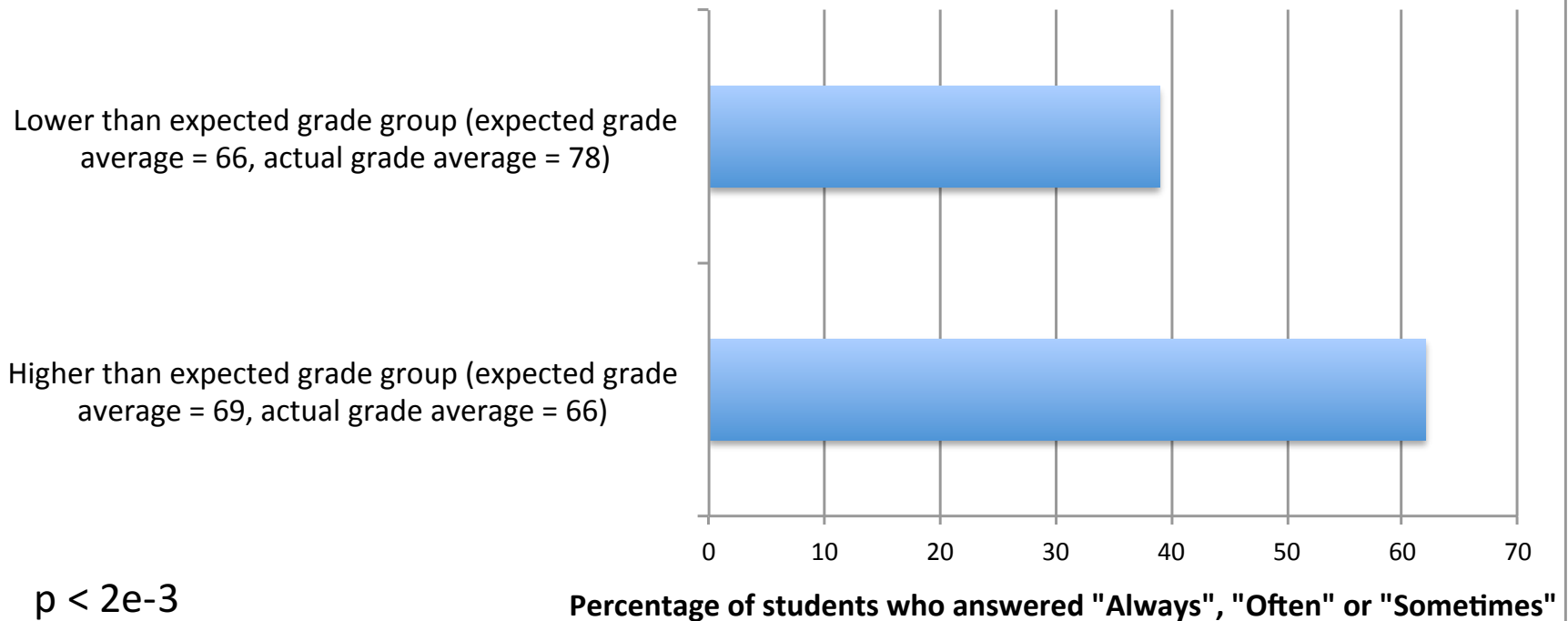
Homework start times

How many days before the due date do you start your homework?



Problem selection

How often do you choose practice problems that specifically target your weaknesses?



Changes in study habits

Reported change in study habits	Example of response	Percentage of students
Spent more time studying	"I started to study a lot harder, and studied a lot more"	42
Started webwork earlier	"I used to start webwork one day before it was due. I learned to give myself more time to do it."	7.8
Studied with more focus	"I would give up early on and just get on social media and browse the internet. I had to change this by getting help as soon as I could, and removing all distractions from the room."	5.3
Started studying for quizzes earlier	"I felt I needed to spend several days prior to the quiz to review the material that was going to be assessed in the upcoming quiz."	5
More effort to understand the concepts/content	"I was struggling with the material and needed to go back to the basics and solidify my reasoning before doing practice problems."	5
Studied under exam like conditions	"I realized that I perform horribly on the quizzes partially because I never practice the problems in an exam-like atmosphere."	3.2

Why did you change your study habits?

Reason for change	Example of response	Percentage of students
Low quiz grade	"Upon poor quiz performance, preparing more before a quiz by reviewing the previous two WebWork weeks."	69
Save time	"I felt like my study technique took a lot of time, time that I didn't have to spend on math. So I had to adjust my schedule to not take as long when studying for math."	12
Understand more	"In the beginning of the semester, I felt that I needed to understand the general concepts before trying to apply them, and thus, I began studying lecture material before trying the practice problems in suggested texts."	8
Stress	"Always starting WeBWork earlier because it often takes longer than estimated. Trying to cram things in Tuesday night wasn't pleasant at all."	5
Falling behind	"When i was falling behind in material, i powered through and used my lecture notes and khan academy to catch up."	2.5
Low webwork grades	"I changed to not doing the assignment at the last minute because that makes me go to bed late and feel myself useless when I couldn't finish."	1.6

Conclusions

- “Higher than expected grade” students tend to start homework earlier.
- “Higher than expected grade” students tend to target their weaknesses more when choosing problems.
- Approximately half of students will change their study habits at least once during the semester.
- A poor grade on a high stakes assessment is the most common reason for changing study habits.
- Interventions should involve activities that encourage students to reflect on their study habits, as well as coaching on how to manage the homework and choose better additional practice problems.