Motivating Study Group Attendance with the Growth Mindset

Tanya Rosenblat – School of Information, University of Michigan
Carrie Xu – School of Information and Department of Economics, University of Michigan

Summary

- We utilize an information intervention to motivate attendance in study groups, a program organized by the Science Learning Center at the University of Michigan.

- Our goal is to reduce absenteeism because a lack of attendance in course activities can be an indicator of larger disengagement and poor academic outcomes (1,2,3,4).

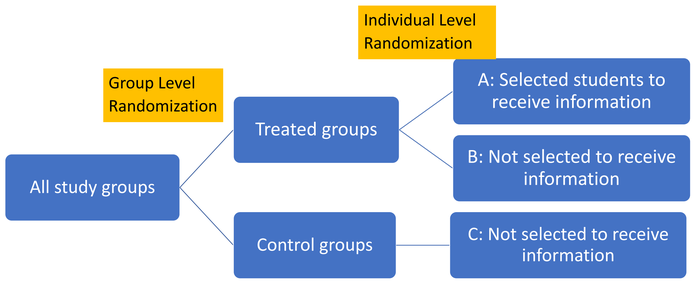
- The information intervention is based on the Growth Mindset Theory (GMT) developed by Prof. Carol Dweck. We plan to use the information to teach students the benefits of having a growth mindset and ways to develop it.

- Although treated students are more likely to know about the GMT, we do not find treated students attend the study groups more or have a higher course grade.

- Survey evidence shows that the intervention might fail because treated students have not yet actually developed attitudes aligned with the Growth Mindset.

Design - Randomization

The figure below visually represents our design.



First all study groups (12 students/group on average) are randomized into two groups, treated and control. Then within the treated groups, we randomly selected half of the group members to receive intervention messages.

The difference between B and C is the effect of having group members receiving the messages. The difference between A and C is the combined effect of having group members receiving the messages and receiving the mssages oneself.

Design – The Intervention Messages

A total of four messages were sent out during Fall 2015:

MSG1 sent after the 1st exam:

Control students saw:

As a student in Chem 210, you are encouraged to make use of the Science Learning Center's facilities, programs, and resources, which are all designed to empower you to reach your academic, personal and career goals. Remember that drop-in tutoring is available in the Help Room inside the SLC Main Branch in 1720 Chemistry, Monday through Thursday 4–7 PM and Sunday 4–8 PM. You can also get help from a graduate student instructor (GSI) weekdays between 9 AM and 4 PM. Click here for the current GSI schedule.

Treated students saw:

As a student in CHEM 210, are you worried about your grade? Do you want to achieve your highest potential? Did you know that changing your mindset can actually lead to improved learning and better grades? The key is understanding whether you have a fixed or growth mindset.

A growth mindset emphasizes hard work and embraces failure as a critical part of the learning process. Both of these are critical components of the SLC Study Group Program, where students are challenged each week with difficult problems and concepts, learning from mistakes through peer instruction, and collaborative learning.

Make sure to attend your SLC Study Group this week and each week for the rest of the term. Your hard work and growth mindset will be worth it!

Take a moment to look at the diagram and learn more about some features of a growth mindset.

We also encourage you to make use of the SLC's other facilities, programs, and resources, which are all designed to empower you to reach your academic, personal and career goals. Remember that drop-in tutoring is available in the Help Room inside the SLC Main Branch in 1720 Chemistry, Monday through Thursday 4–7 PM and Sunday 4–8 PM. You can also get help from a graduate student instructor (GSI) weekdays between 9 AM and 4 PM. Click here for the current GSI schedule.

MSG2 sent on 10/23:

Control students saw:

You're halfway through CHEM 210, but you can still supplement your regular study group attendance with other SLC academic resources. Chem. 210 drop-in tutoring is available in the Help Room inside the SLC Main Branch in 1720 Chemistry, Monday through Thursday 4–7 PM and Sunday 4–8 PM. You can also get help from a graduate student instructor (GSI) weekdays between 9 AM and 4 PM. Click here for the current GSI schedule.

Treated students saw:

You're halfway through CHEM 210, but it's challenging. A couple weeks ago, we shared information about a growth mindset and its positive impact on your learning.

You might wonder how to change to a growth mindset. **Attending weekly study group sessions** can help you do this by:

- Teaching you more effective problem-solving strategies
- Providing worksheets and practice exams to challenge you
- Helping you learn from your mistakes in a safe, supportive environment

Persist and you will achieve! Check out the graphic below for more tips on how you can develop a growth mindset.

You can supplement your regular study group attendance with other SLC academic resources. CHEM 210 drop-in tutoring is available in the Help Room inside the SLC Main Branch in 1720 Chemistry, Monday through Thursday 4–7 PM and Sunday 4–8 PM. You can also get help from a graduate student instructor (GSI) weekdays between 9 AM and 4 PM. Click here for the current GSI schedule.

MSG3 sent after the 2nd exam

Control students saw:

Ahead you have two more exams. Remember that it's never too late to take advantage of the other academic resources available to all CHEM 210 students. Trained SLC Tutors who've earned at least an A- in CHEM 210 can provide you with the tools you need to succeed in the course. Drop-in tutoring is available Sundays 4-8 PM and Monday through Thursday 4-7 PM in the SLC Help Room 1720 Chemistry. CHEM 210 GSIs also hold their office hours at the SLC and the schedule shows they are often available weekdays between 9 AM and 4 PM.

Treated students saw:

Ahead you have two more exams. How will you meet these challenges?

Remember, study groups are the perfect place to prepare your for the challenges and apply the growth mindset. Perhaps sometimes you miss the SLC Study Group meetings because you encounter time conflicts, or just feel like you don't have enough time to attend. **Attend your study group regularly and you will**:

- Practice challenging concepts and problems in a low risk environment;
- Learn new perspectives and strategies from your peers;
- Master what you don't know YET.

Keep on trying to attend and you will reach your full potential! Try saying:

Also remember that it's never too late to take advantage of the other academic resources available to all CHEM 210 students. Trained SLC Tutors who've earned at least an A- in CHEM 210 can provide you with the tools you need to succeed in the course. Drop-in tutoring is available Sundays 4-8 PM and Monday through Thursday 4-7 PM in the SLC Help Room 1720 Chemistry. CHEM 210 GSIs also hold their office hours at the SLC and the schedule shows they are often available weekdays between 9 AM and 4 PM.

MSG4 sent on 11/20: before the 3rd exam (12/8) and final (12/18)

Control students saw:

CHEM 210 has a reputation as one of the most difficult courses at UM. Besides study groups, SLC also offers CHEM 210 drop-in tutoring on Sundays 4-8 PM and Monday through Thursday 4-7 PM in the SLC Help Room 1720 Chemistry. We'll be expanding the number of tutors and the number of drop-in hours in the days leading up to the third exam. You can also still find CHEM 210 GSIs holding their office hours at the SLC and the schedule shows when they are available weekdays between 9 AM and 4 PM.

Treated students saw:

CHEM 210 has a reputation as one of the most difficult courses at UM. Exam Three will be the biggest challenge yet and it's up to you to decide how you'll meet it.

There is still time to **attend 3-4 more SLC study group sessions.** That's 3-4 more **opportunities** to:

- strengthen your understanding and problem solving skills;
- summarize and master key concepts;
- teach others what you're learning;
- study efficiently;

Attending study groups is one of the best ways to say to yourself, "I am not giving up." It demonstrates a **growth mindset** and the belief that anyone can learn anything as long as they keep trying. You might just surprise yourself with the success you build for yourself.

Besides study groups, the SLC also offers CHEM 210 drop-in tutoring on Sundays 4-8 PM and Monday through Thursday 4-7 PM in the SLC Help Room 1720 Chemistry. We'll be expanding the number of tutors and the number of drop-in hours in the days leading up to the third exam. You can also still find CHEM 210 GSIs holding their office hours at the SLC and the schedule

Results

- Treated students are far more likely to report that they have heard about the GMT. Our intervention passes the manipulation check.

- However, we do not find that treated students attend the study groups more or have a higher course grade. We also do not find that having treated group members affects these outcomes.

- Using a mindset test (5), we find that treated students are no more likely to hold attitudes aligned with the Growth Mindset.

- Our results suggest that future interventions based on the GMT need to focus more on cultivating mindsets, in order for the intervention messages to affect the outcomes significantly. Just sending out messages is not enough.

References

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