Learning How to Learn:
Teaching Study Skills in Introductory Economics

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The George Washington University
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The Problem

“I studied so hard. I can’t believe my score on the test”

“There’s no way I could have gotten such a low score”

“I was really confident that I had done well after taking the test”

“I knew the material, but I got test anxiety once the exam started”

“I knew the material, but I second-guessed myself.”
The Problem

Students don’t know *what* studying is or *how* to do it.
Doing a few problems, reading the text

Students don’t seem to know *how much* studying is too little or too much.
Measuring by some preset idea of how much to study, not by their lack of understanding or performance in class.

Students don’t seem to have a way of testing what they know and what they don’t know before taking a quiz or exam.
Starting too late, looking over an answer key
Stated learning outcome

What we teach
What our students learn
II. During the Semester – make the connections for students

The expert’s fluency conceals the very principles and strategies that the novice must learn in order to become more expert.

These are often invisible even to the expert because they are second nature.

And they’re invisible to the novice observing the expert because they’re implicit in the expert’s work.

(How Learning Works, Ambrose et al)

The novice vs. expert brain

Knowledge

Experience

How Learning Works
The Research

What study skills do students lack?

Generic skills – productive use of office hours, time-management

Subject-related skills – note-taking, math-related skills, how to use an answer key

Metacognitive skills - synthesis of notes, categorization of problems, tracking a concept across chapters

Allan and Clarke (2007)
The Research

Where should students learn these skills?

The “bolt-on” approach – academic or student success centers

vs

The “built-in” approach – study skills developed through the learning of the subject itself

The Research

The problem with the bolt-on approach:

- Study skills classes not taken by the students who need them the most (Durkin & Main 2002)

- Students do not recognize study skills as relevant to their subjects and fail to transfer them (Drummond et al 1998; Durkin & Main 2002)

- Study skills are divorced from subject content and knowledge (Nisbet & Shucksmith 1986; Gamache 2002)
I. At the Start of the Semester – Frame accessibility as for everyone, not just those with documented disabilities

Syllabus statement:

Everyone has different needs for learning. If you do not have a documented disability but feel you would benefit from learning support for other reasons, and/or if you have substantial nonacademic obligations or other concerns that make learning difficult, I invite you to contact me.

Verbalize this in class!
I. At the Start of the Semester – Begin teaching study skills

Where and when?

In the classroom – Didn’t work. It was a waste of time for students who didn’t need it.

During “office hours” – working pretty well. We have tripled the number of students who come to each session.
# I. At the Start of the Semester – Don’t Call Them “Office Hours”

## We will work hard alongside you

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<td><strong>STUDY SESSION TIMES</strong>&lt;br&gt;(1/10/2022-4/28/2022) <strong>Let’s do some economics together!</strong></td>
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<td><strong>9:30-10:30am</strong>&lt;br&gt;Francisca (ONLINE)</td>
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<td><strong>You can get help from any of us on any of these days!</strong>&lt;br&gt;All times are US Eastern Time.&lt;br&gt;Zoom link for ONLINE sessions only:&lt;br&gt;<a href="https://gwu-edu.zoom.us/j/96239892102?pwd=51Vmdk56cGo3NVFMWtBOUZvd2pudz09">https://gwu-edu.zoom.us/j/96239892102?pwd=51Vmdk56cGo3NVFMWtBOUZvd2pudz09</a></td>
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<td>6-8pm Wanxin (GELMAN 301)</td>
<td>6-8pm Francisca (GELMAN 301)</td>
<td>6-8pm Pedro (ONLINE)</td>
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I. At the Start of the Semester – Don’t Make Them Look Like “Office Hours”

Make “office hours” informal, fun, communal and valuable.

Talk about what you are doing in ”office hours” in the classroom!

Teach students (novices) how you (an expert) would study for that week’s quiz or a comprehensive exam.
II. During the Semester – Who should teach study skills?

- We should! during “office hours” – how would you study your own material to prepare for a quiz or exam?; tell them what you were like as a student; talk about how making mistakes helped you learn; talk about how learning involves struggle.

- A diverse set of peers (not the ones who got the easy A’s in your class); pick students who want to “pay it back”; they could be tutors or learning assistants.
II. During the Semester – What study skills should we teach?

Just-in-Time Study Skills videos

OK, You’ve Made it to Class. Now What? – Note-Taking Strategies for Economics

Time Management: Building a Schedule Using GW Coursicle.

Office Hours? What’s That? And Should You Go?

Preparing for a Low-Stakes Economics Quiz

What to do After You Bomb Your First Econ Test.

Preparing for a Comprehensive Final Exam
II. During the Semester – Teach for Mastery and Recall

Retrieval Practice – forcing students to go back and retrieve knowledge learned earlier in the semester.
II. During the Semester – Teach for Mastery and Recall

Spaced Practice – spread out retrieval opportunities over time.
III. At the End of the Semester – Teach for Mastery and Recall

Interleaving – Study Guides (!) and Top Hat question jumble

**Problem Set 1:** AAAA BBBB CCCC DDDD

**Problem Set 2:** ABCD ABCD ABCD ABCD

**Problem Set 3:** ABCD BADC DCBA CDAB
III. At the End of the Semester – Prepare Students for Exams

“But I studied so hard for this test, I don’t understand how I could get a 52% on it!”

Feedback-driven Metacognition - helping students understand what they know and what they don’t know.
III. At the End of the Semester – Prepare Students for Exams

Feedback-driven Metacognition - helping students with strategies to understand what they know and what they don’t know.
- What did I just read? Writing a chapter outline from memory.
- Preparing one-page exam guides for each chapter.
- Solving a problem without copying from an example (copying, not solving; doing, not learning)
- Types of problems and how they are different from each other (categorization).
- Not working backwards from answer keys.
- Leaving enough time to ask questions at office hours (signal when it is time to begin preparing for an exam)
- Comparing your work with the feedback provided on homework and tests.
III. At the End of the Semester – Use course evaluations to improve your course

I wish you’d given me that advice before the midterm

....... and while Im not a big quiz person the weekly quizzes did help me study for major assessments.

I really appreciated that some scores are dropped from each category, it really helped me to stay motivated even if I messed up once.

The strength of the course is the flexibility and ability to understand the material after repeated practice.

I am using the study skills I’ve learned in this course in other classes.