The Blitz Card System

A "Learning how to learn" learning and teaching aid.

Liam McGregor
Liam.mcgregor1b@gmail.com

What is the Blitz "Learning how to learn" learning and teaching aid.

It's a card based learning and teaching aid that can be used as a teaching and learning aid, whereby potential students who feel they don't have the time can be introduced to the Learning How to Learn course and the related benefits without the 4 week commitment. The Blitzed course will take 15 min per day for 5 Days. After 5 Days the student would have been introduced to some of the themes and tools in the learning how to learn course like Spaced Recall, Reward, Routine and Testing to mention a few.

The reason I chose this project.

I work with a small team of colleagues and I had mentioned that I was doing the Learning How to Learn course and that I thought that it would be beneficial for everyone in the team to do. The team of four were not motivated enough to do a 4-week MOOC, I did however convince them to do a condensed version of the course which hopefully will spur them on to do the full course. I believe my assignment will help not only my colleagues but anyone who might be afraid of the commitment. The teacher by presenting BLITZ will also cement the information that has already been learnt, and in turn will apply the principles in the next course (which I plan to do). The only prerequisite is that the Teacher have done the full Learning how to learn course.

How it works

Day 1

1. *Each Participant will get issued the full deck of 7 cards (see below).*
2. *The content (each bullet point) of card 1 will be elaborated on by the "teacher".*
3. *The students can then ask any questions they might have covered in the material.*
4. *Cards are turned over and students are asked what they recall.*

Day 2

1. *Students will be tested what they recall from day 1 (without looking at the cards).*
2. *The student that has the best recall gets a chocolate/Reward.*
3. *The content (each bullet point) of card 2 will be elaborated by the "teacher".*
4. *The students can then ask any questions they might have covered in the material.*
5. *Cards are turned over and students are asked what they recall.*

Day 3

1. *Students will be tested what they recall from day 2 (without looking at the cards).*
2. *The student that has the best recall gets a chocolate/Reward.*
3. *The content (each bullet point) of card 3 will be elaborated by the "teacher".*
4. *The students can then ask any questions they might have covered in the material.*
5. *Cards are turned over and students are asked what they recall.*

Day 4

1. *Students will be tested what they recall from day 3 (without looking at the cards).*
2. *The student that has the best recall gets a chocolate/Reward.*
3. *The content (each bullet point) of card 4 will be elaborated by the "teacher".*
4. *The students can then ask any questions they might have covered in the material.*
5. *Cards are turned over and students are asked what they recall.*

Day 5

1. *Students will be tested what they recall from day 4 (without looking at the cards).*
2. *The student that has the best recall gets a chocolate/Reward.*
3. *The content (each bullet point) of card 4 will be elaborated by the "teacher".*
4. *The students can then ask any questions they might have covered in the material.*
5. *Cards are turned over and students are asked what they recall.*
6. *Cards 6 and 7 will be handed out, students can use these as reference when next they study.*

Citations

A Mind for Numbers how to Excel at Math and Science by Barbara Oakley PHD

Focused and Diffuse thinking

Card 1

- Our brains use two different and separate ways for thinking **Focus** and **Diffuse** modes.
- In the **Focused** mode, we use active or deep **concentration** to study.
- In the **Diffuse** mode is a **relaxed** / restful state requiring no concentration.

Switching between modes

- Initially use focused mode to concentrate on the material, try to **understand the new concepts** and ideas
- If you having trouble grasping the new ideas **switch to your diffuse mode**. Perform one of the below activities for example:
    - **Walk**
    - **Bath**
    - **Gym**
    - **Sleep**
    - **Vary your study location** (new environment)
- You may find when you relook at the idea the concept may be easier to grasp or even jump out at you.

What can you recall?

Memory

Card 2

There are two main memory systems:

Long term memory

- Is like a **storage warehouse**.
- You need to **practice and repeat** in order to help store items in long term memory so you can retrieve them more easily.

Working memory

- Is used to understand or grapple with new ideas but **quickly fades**.
- You can only hold about **four items** in your working memory.
- When you **master a technique** or concept in some sense, it compacts the ideas so they can occupy less space in your working memory when you do bring them to mind i.e. **chunking**
- This **frees** your mental thinking **space** i.e. increases the amount of working memory you can draw on so that you can more easily grapple with ideas.

Chunking

Chunks are best built with:

- Focused attention.
- Understanding the basic idea.
- Chunking means integrating a concept into one **smoothly connected neural thought pattern**.
- Building a **chunked library** of concepts and solutions helps build **intuition in problem solving.**
- When you are building a chunked library, it's important to keep deliberate **focus** on some of the **toughest concepts** and aspects of problem solving.

Transfer

- Using **diffuse** mode thinking can help you **link chunks** to resolve problems.

What can you recall?

Procrastination

Card 3

- We procrastinate about things that make us feel **uncomfortable**. What makes us feel good temporarily isn't good for us in the long run.
- A little bit of **work** on something that feels painful can ultimately be very **beneficial**.
- Habits such as procrastination have four parts:
    - The **cue** - Change/initiate a habit by responding differently to a cue, be aware of negative cues.
    - The **routine**- Commit to routines as they require less energy and hence easily maintained
    - The **reward** - Reward yourself after each successful period of focused attention.
    - The **belief** – Believe that you can do it
- Use the twenty-five-minute **Pomodoro** to stay focused and productive for brief periods.
- Focus on the **process** (the way you spend your time) instead of the product (what you want to accomplish).
- Be sure to schedule free time to **nurture** your **diffuse** mode.
- **Mental contrasting** is a powerful motivating technique—think about the worst aspects of your present or past experiences and contrast these with the upbeat vision of your future.
- **Don't multitask** as it hinders the establishment of strong neuro pathways.
- Keep a **planner-journal** to track your goals and to see what does and doesn't work for you.
- Write your planned tasks out the **night before**, so your brain has time to dwell on your goals.
- Obstacles arise, but **take responsibility** and resolve your obstacles.
- Plan ahead. Make sure you have more than enough time to cover the material, **don't cram**
- Have **backup plans** for when you still procrastinate.
- Get the **hard tasks** out the way **first**.

What can you recall?

Visuospatial Memory

Card 4

- The **memory palace technique**—placing memorable nudges in a scene (e.g. forget your mobile phone frequently? Imagine your front door as a giant phone) that is familiar to you, allows you to dip into the strength of your visual memory system.
- Learning to use your **memory** in a more **disciplined, yet creative** manner helps you learn to focus your attention, even as you create wild, diffuse connections that build stronger memories.
- By **memorizing** material, you **understand**, you can internalize the material and you are reinforcing the mental library you need, to become a genuine master of the material.
- **Metaphors** can help you learn difficult ideas more quickly.
- **Meaningful groups** and abbreviations can allow you to simplify and chunk what you are trying to learn so you can store it more easily in memory.
- **Stories**—even if they are just used as silly memory tricks—can allow you to more easily retain what you are trying to learn.
- **Writing and saying** what you are trying to learn enhances retention.
- Equations are just ways of abstracting and simplifying concepts. This means that **equations** contain **deeper meaning**, similar to the depth of meaning found in poetry.
- Your "**mind's eye**" is important because it can help you stage plays and personalize what you are learning about.
- **Transfer** is the ability to take what you learn in one context and apply it to something else.
- Metaphors and physical **analogies form chunks** that can allow ideas from very **different areas** to **influence** one another.

What can you recall?

You can do it!!

Card 5

- Brains mature at **different speeds**. Many people do not develop maturity until their mid-twenties. You may be a better learner now than at school!
- Regardless of your current or intended career path, **keep your mind open** and ensure that math and science are in your learning repertoire. This gives you a rich reserve of chunks to help you be smarter about your approach to all sorts of life and career challenges i.e. to transfer.
- In learning, **persistence** is often far more important than intelligence.
- Train yourself to occasionally reach out to people you admire. You can gain wise new **mentors** who, with a simple sentence, can change the course of your future. But use your teachers' and mentors' time sparingly.
- If you aren't very fast at grasping the essentials of whatever you are studying, **don't despair**. Surprisingly often, "slower" students are grappling with fundamentally important issues that quicker students miss. When you finally get what's going on, you can get it at a deeper level.
- People are competitive as well as **cooperative**. There will always be those who criticize or attempt to undermine any effort or achievement you make. Learn to deal dispassionately with these issues.
- Always have a positive attitude.

What can you recall?

Card 6

Ten rules of good studying.

1. **Use recall.** After you read a page, look away and recall the main ideas. Highlight very little, and never highlight anything you haven't put in your mind first by recalling. Try recalling main ideas when you are walking to class or in a different room from where you originally learned it. An ability to recall—to generate the ideas from inside yourself—is one of the key indicators of good learning.

2. **Test yourself**. On everything. All the time. Flash cards are your friend.

3. **Chunk your problems**. Chunking is understanding and practicing with a problem solution so that it can all come to mind in a flash. After you solve a problem, rehearse it. Make sure you can solve it cold—every step. Pretend it's a song and learn to play it over and over again in your mind, so the information combines into one smooth chunk you can pull up whenever you want.

4. **Space your repetition**. Spread out your learning in any subject a little every day, just like an athlete. Your brain is like a muscle—it can handle only a limited amount of exercise on one subject at a time.

5. **Alternate** different **problem-solving techniques** during your practice. Never practice too long at any one session using only one problem-solving technique—after a while, you are just mimicking what you did on the previous problem. Mix it up and work on different types of problems. This teaches you both how and when to use a technique. (Books generally are not set up this way, so you'll need to do this on your own.) After every assignment and test, go over your errors, make sure you understand why you made them, and then rework your solutions. To study most effectively, handwrite (don't type) a problem on one side of a flash card and the solution on the other. (Handwriting builds stronger neural structures in memory than typing.) You might also photograph the card if you want to load it into a study app on your smartphone. Quiz yourself randomly on different types of problems. Another way to do this is to randomly flip through your book, pick out a problem, and see whether you can solve it cold.

Card 7

6. **Take breaks**. It is common to be unable to solve problems or figure out concepts in math or science the first time you encounter them. This is why a little study every day is much better than a lot of studying all at once. When you get frustrated with a math or science problem, take a break so that another part of your mind can take over and work in the background. Exercise is important healthy body heathy mind.

7. **Use explanatory questioning and simple analogies**. Whenever you are struggling with a concept, think to yourself, How can I explain this so that a ten-year-old could understand it? Using an analogy really helps, like saying that the flow of electricity is like the flow of water. Don't just think your explanation—say it out loud or put it in writing. The additional effort of speaking and writing allows you to more deeply encode (that is, convert into neural memory structures) what you are learning.

8. **Focus**. Turn off all interrupting beeps and alarms on your phone and computer, and then turn on a timer for twenty-five minutes. Focus intently for those twenty-five minutes and try to work as diligently as you can. After the timer goes off, give yourself a small, fun reward. A few of these sessions in a day can really move your studies forward. Try to set up times and places where studying—not glancing at your computer or phone—is just something you naturally do.

9. **Eat your frogs first**. Do the hardest thing earliest in the day, when you are fresh.

10. Make a mental contrast. **Imagine** where you've come from and contrast that with the dream of where your studies will take you. Post a picture or words in your workspace to remind you of your dream. Look at that when you find your motivation lagging. This work will pay off both for you and

What can you recall?