

Have you always dreamed of speaking French fluently, however, you somehow let go of that idea because it seems unrealistic? Would computer programming give you a professional advantage if you only you could create time to study it? No matter what your personal or professional ambitions might be, ultralearning can help you achieve them in record time.

Ultralearning is an aggressive, self-motivated way of learning that allows people to swiftly and efficiently master complex skills. Using this method of learning makes them become ultra learners. At first, their accomplishments might look unapproachable; just think along the lines of learning a new language in less than three months. However, the reality is that anybody can use the ultralearning approach and see results.

These following chapters will highlight the main principles of ultralearning and give you certain approaches and techniques you need to begin your own ultralearning project and successfully pull it off!

Ultralearning is the smart, strategic method to improve the skill for both your personal fulfillment and professional advantage.

Benny Lewis is a multi-lingual who uses an average of three months just to learn a new language. This makes him an ultralearn: a person that is a self-directed learner and can gain new skills within a short period through the use of an aggressive and strategic learning method.

Ultralearning projects are self-directed, challenging and it takes time. Let's consider the ultralearning project that was developed by Eric Barone. A lot of computer games are produced by groups of professionals with vast budgets. Barone who is an IT graduate working as a theater usher decided to invent one entirely by himself. Over five years, Barone developed his game's mechanics through intensive trial and error. Along the line, he taught himself pixel art, music composition, sound design, and story writing.

He finished the game called Stardew Valley and it was released in 2016. The game sold above three million copies in 2016 and it made Barone on Forbes' '30 Under 30' list.

Your ultralearning project might not make you appear on the Forbes magazine, however, it can bring 'unrealistic' dreams such as learning of French or perfecting watercolor painting, within reach. Aside from ultralearning being a way to personal fulfillment, ultralearning can also enhance your professional edge. And remaining competitive professionally has never been more crucial.

Because medium-skilled jobs are threatened by automation, it is important for workers to adjust, upskill and reorient in order to remain competitive. In the new professional world, the most desirable workers have hybridized skill sets like librarian/data analyst, architect/textile designer, accountant/Mandarin speaker. Ultralearners can expand their sets of skills without taking a break from work just to further their education or qualifications.

If ultralearning sounds interesting to you, it is likely that you already thinking about how it works. The next chapters will explain the principles of ultralearning, and explain how to implement them in your own ultralearning project.

Meta-learning is a vital, yet ignored, step for achieving a big-picture understanding of your field.

Whether you're teaching yourself stochastic calculus or mastering your tennis serve, your ultralearning project should always start with meta-learning which is the process of learning how to learn. The idea here is that you shouldn't begin by gripping information at random. You have to start by knowing how information is organized in your selected field.

For instance, the writing system of Mandarin Chinese isn't just a group of random characters. Rather, the characters are structured by radicals, which are visual markers that show the associations between those characters. Hence, if you were learning Mandarin, you'd want to begin with organizing principles such as radicals, instead of just learning each character individually.

Meta-learning is basically about looking for the big picture, then using it to create your own optimal learning approach. Although, that's easier said than done. A lot of learners take several years to get to a big-picture understanding of their subject. Luckily, there are some simple techniques you can use to make a meta-learning shortcut.

First, you have to make a meta-learning map by dividing your topic into three categories: concepts or what is required to be understood; facts, or what needs to be learned; and procedures, or what needs to be done. Some projects such as learning a new programming language, involve a combination of the three. However, working on that tennis serve will majorly involve perfecting a procedure. Concentrate your energies on the most heavily-weighted categories.

Next, use this map to determine the parts of learning that might seem challenging, and then come up with methods for overcoming them. If your breakdown shows that you'll need to commit a lot of facts to memory, for instance, you might think of getting spaced-repetition software, which creates randomized memory tests, to enhance the memorization process.

Finally, create how you're going to learn. To do this, try benchmarking which is researching people who've gotten a similar skill or institution that offer accreditation in your field of study. Use these as your benchmark. Imitate their approaches and equipment. Use online course lists or curriculums to get the resources, tools, and texts that are important in the field.

Time invested in meta-learning sets your project up for success. As a general rule, dedicate 10% of the total time you ought to spend on your project to meta-learning.

Through meta-learning, you can come up with a roadmap for your ultralearning project. Once your map is all set, you should improve your powers of focus to ensure that you don't go off-road. We'll look at how to do this in the following chapter.

Simple mental approaches can defend against distractions and improve your focus.

Modern life has a lot of distractions from regular email notifications on your phone to the temptation to binge-watch the latest Netflix series. However, you don't have to let these distractions hinder you from achieving your ultralearning goals! There are some simple methods you can use to overcome the challenges of finding your focus.

What is the first challenge to finding your focus? Getting focused in the first place. Trick yourself into getting started by setting a timer let's say for three minutes. Assure yourself that you can stop working when the time is complete. However, at the end of three minutes, you might have found the drive you need to continue working.

You can build on this technique with the Pomodoro method: let's say set a timer for 20 minutes and work continuously during this time. When the timer goes off, take a break for five minutes and then go back to work for another 20 minutes.

Once you've gotten your focus, the challenge becomes maintaining it. External disruptions can dissolve your concentration. Control your work surrounding by removing them. Make sure your phone is on airplane mode and switch off your Wi-Fi.

The challenges don't stop when you've gotten your focus, either. Once you've begun your work, it's easy to slide into 'autopilot' mode. You might feel you're getting a lot of work done, however, if you're not entirely engaged with your task, you're less likely to keep new material. Fight autopilot with interleaving which is intentionally alternate between materials and modes of learning.

Meaning, interleave by attempting your project in short, regularly-spaced sessions. If you have like ten hours in your week to dedicate to Russian, target for five two-hour sessions instead of one ten-hour session. Focus on a different aspect or skill set such as vocabulary or grammar, in each and every session.

Finally, make the most of your study sessions by concentrating on your mental arousal, or your level of energy and alertness. High arousal creates intense, but narrow, focus – which is perfect for repetitive tasks, such as practicing musical scales. Low arousal produces a more relaxed and wide-ranging set of focus, which is perfect for lateral thinking and forming connections,

which are essential for creative tasks like music composition. Match your arousal level to your task – do simple tasks when your focus is more aroused and difficult tasks when it's less aroused for the best ultralearning results.

Improving your focus will ensure you have the mental strength to finish your ultralearning challenge. In the following chapter, we'll see how to tackle that challenge as efficiently as possible.

Taking the direct path from theory to practice enables you to skill up easily.

Imagine learning French throughout your high school and not being able to have a simple conversation when you go for a trip to Paris. It's a normal occurrence, and it all comes about through a failure to transfer. Transfer is a process of learning something in one context (like a French class), then transferring it to another context (like Paris). Regardless of its significance, formal education mostly fails to optimize transfer.

The issue with formal education is that it lays an indirect path between the learning context and the target setting – the context in which learned skills and knowledge are truly applied. Repetition learning of French words in a high school classroom is a far cry from asking the nearest Parisian how do you get to a metro station. Ultralearners know to maintain the path between their learning setting and their target setting as direct as possible. By doing this, they develop a quality of ultralearning known as directness.

How do you practice directness in learning? The best direct approach to learn something is to do it. The most effective method to learn a language is to speak it. The most effective way to learn to code is to write code. This learning-by-doing method is known as project-based learning. It positions the skill you're learning directly in your target setting – no transfer is needed!

One of the most extreme but effective methods of project-based learning is immersive learning: which is the complete immersion in the target setting. A student of French who decides to spend three months in Paris is using an immersive learning method.

Definitely, not everyone has the time for immersive learning. Furthermore, some skills don't lend themselves to this method. There's a reason that trainee pilots don't immerse themselves by flying Boeings during their first day of training. Instead, they learn in flight simulators.

If immersive learning isn't within your reach, use the flight simulator approach by copying the conditions and pressures of your target setting as closely as possible. For instance, If you can't spend three months in France, attempt a Skype tutorial with a French speaker.

Whatever you're learning, create a direct path between your learning environment and your target environment. Once you've done that, it's now time to drill down and master your technique. This will be discussed in the following chapter.

Use drilling to improve your skills to perfection.

What is common among elite athletes, piano prodigies and successful ultralearners? They all depend on drilling to master their techniques and maintain their competitive edge. Therefore, how can one drill strategically to attain the best results?

You should never start your project by drilling. Rather, use the direct-then-drill method. In order to do this, you have to begin with direct practice, whether you're writing code or weaving tapestry. Use this direct practice to determine the areas where you wish to drill. After drilling, go back to direct practice until it becomes essential to drill again.

To make the best out of your drilling, apply it to a rate-determining step. In Chemistry, the rate-determining step is part of the process that precipitates a chain reaction; while in ultralearning, it's the step that unlocks the next stage of knowledge or opens up the widest range of applications.

For instance, you may have a great understanding of the principles of accounting theory, however, at the same time you lack the Excel expertise to put these principles into practice. In this case, learning Excel would be your rate-determining step, therefore you'd concentrate your drilling in this area.

How should your drills be designed? This depends on the area you want to drill. Can it be easily isolated from the rest of your project? If that is the case, attempt time-slicing which is where you isolate one step in a more involved process and repeat the step until you've mastered it.

For instance, if you want to perfect your golf game, you could time-slice by drilling your drive shot. Or you could divide your desired skill into different cognitive components and drill each separately; for instance, in language learning, you could drill vocabulary, pronunciation or spelling.

If you're working on a more creative or difficult project, it might be more challenging to drill in isolation – for instance, it is difficult to drill creative writing. In that case, try the copycat approach instead. Select a piece of work that you like, maybe a painting by Cezanne or a passage by Dickens, and emulate it as closely as you can.

Pop quiz! Which ultralearners developed Stardew Valley? Why is transfer very essential? What's the interleaving method? If you had any challenge answering these questions, you may need to work on retrieval. The following chapter will show you how.

The best way to retrieve the information you've learned is by using challenging recall methods.

Learning color theory is a great method of improving your artistic skill and know-how; however, only if your hard-won knowledge doesn't desert you when you're at your easel. It's worthless learning new skills, concepts and procedures if you're not able to retrieve them instantly and efficiently. There are two approaches you can use to enhance your retrieval rate. However, be careful! One of them is way more effective than the other.

The first one is to review which is going back over the resources you've just studied. The second is recall which is trying to remember facts and concepts from memory.

A study that was conducted in 2011 from Purdue University claims that recall is far more effective for long-term learning retention; however, a lot of learners choose review methods over recall methods when trying to consolidate their learnings.

There's actually a reason why we opt for review over recall and it all comes down to a concept known as judgment of learning. Basically, when we're able to process or understand a concept without any difficulty, we believe that we've learned that concept. Going back to read something we have already learned gives us the impression that we've understood this new information. That's why we move towards passive review techniques: they confirm our perception that we're learning successfully.

However, perception isn't everything. Finding it difficult to remember something in the short term means you're far more likely to remember it in the long term. Experts named this desirable difficulty; the difficulty posed by recall is ultimately desirable, as it takes full advantage of our chances of recalling what we've learned.

Here are some fun means to make your study sessions more recall-focused.

The first way is to test yourself on what you've learned using flashcards or, free recall: after your session, sit down with a piece of blank paper. Challenge yourself to list down everything you can remember from what you've learned, in as much detail as possible.

Another method is to avoid making notes when reading – pose questions that challenge you to remember the answer. Instead of writing "The Battle of Hastings took place in 1066," write down "When did the Battle of Hastings take place?" Every time you go through your notes, you'll be challenged to recall what you've learned.

Lastly, for a more solid recall-based challenge, give yourself a task that will test you on everything you've learned in your ultralearning project so far. The advantage of this method is that you don't have to waste your time recalling general parts of your subject that don't apply directly to your intended learning project; rather, you'll recall exact skills and concepts in a targeted way, as you need to use them.

Nailed retrieval? Now, it's time to get on good terms with feedback.

Obtain high-quality feedback to know your weaknesses and enhance your performance.

Irrespective of what stage of expertise you're at, you have to look out for feedback on your progress if you want to improve. Besides, you need to learn how to differentiate between different stages of feedback and get methods for obtaining feedback.

Almost every feedback is beneficial, however; not all feedback is made equal. It's useful to separate feedback into three different groups. The first and most basic type of feedback is outcome feedback. This feedback can confirm whether or not you've gotten to the desired outcome. Imagine you're giving a public talk and the audience applauds you at the end. That is an example of outcome feedback. It can be encouraging; however, it's difficult to gather any more information from this type of feedback.

Informational feedback offers you more to work with, by alerting you to the fact that you're doing something wrong. If you give a talk in public and the audience walkout at a certain point, they're giving you informational feedback. This form of feedback is beneficial for emphasizing problem areas and isolating your mistakes.

The best form of feedback is corrective feedback and it is the feedback that says what you're doing wrong and how you can address it. Imagine giving a public talk where there's a professional speechwriter in the audience, who provides notes on what went well, what didn't and how you can improve. This speechwriter is giving you corrective feedback, and this is by far more instructive than outcome feedback.

When organizing your feedback, concentrate more on corrective feedback over informational feedback, and informational feedback over outcome feedback.

How do you make sure that you're getting enough feedback in the first place? Begin by remembering to fail for feedback: if you're not extending yourself to the point where you fail, you

prevent yourself from getting valuable informational or corrective feedback. Pushing beyond your limits will produce useful feedback; acting on that feedback will, in turn, broaden your limits.

Don't neglect to look for meta-feedback too. It's essential to look for feedback on how well your learning techniques are working. A simple method to test your learning techniques is to track your learning rate; for instance, try to time how long it takes you to accurately solve complete a math problem. If your learning rate isn't tracking upward, act on this negative feedback by going back to your learning methods.

By eliciting feedback and prioritizing corrective and informational feedback, you can always change and improve your performance.

Smart, strategically-spaced memorization sessions make sure that what you learn actually sticks.

Nigel Richards won the World French Scrabble Championships in 2016, regardless of him not speaking French. There are 386,000 French words accepted for Scrabble, and Richards devoted them to memorize them. That's a great ultralearning!

Your ultralearning project might not need a lot of memorization, however, you'll possibly need to memorize some facts, formulas or procedures.

Hence, how do you learn things so that they stick?

The best productive method you can use is to settle on a memorization system and incorporate it at regular, closely-spaced stages through your project. The main idea is to use a memorization system that's both easy to incorporate into your project and well-suited to the kind of project you've decided to solve.

It can be very tempting to put things in your memory all at once. If you do this, you may see just short-term results. However, for long-term retention, it's better to avoid cramming. Ensure that

you space out your memorization sessions. However, the spacing shouldn't be too far apart – if you leave it too long between memory-building sessions, you'll begin to see diminishing returns. Preferably, make time for memorization a few days each week.

Use a Spaced Repetition System (SRS) when you're learning facts or simple concepts. Attempt the use of flashcards, which test your knowledge on a discrete bunch of information in a randomized manner. Alternatively, use SRS software where 'randomization' is optimized by an algorithm.

Spaced repetition can be effective for more complicated concepts. Here, your attention should be on frequently repeating key processes instead of recalling information. In order to try this, switch out the flashcards for a refresher project: test your retention by always putting your skills into practice. You could even attempt overlearning which is pushing yourself beyond your skill limit.

Let's say you want to pass the basics of algebra. Pushing yourself to learn some common formulas could really help you recall beginner-level formulas more effectively. A study that was conducted in 1991 from Ohio Wesleyan University shows that extending your learning into a higher skill set not only challenges your abilities but it also develops your retention of lower-level skills.

For more procedural projects, the most effective retention approach is to simply recall by doing which is the repetition of a procedure enough times that your body begins to automate it.

Now that you've learned about the main principles of successful ultralearning, it's time to level up! Begin by going with your instinct.

Cultivating profound understanding is a certain way of finding your intuitive brilliance.

Richard Feynman a Physicist was famous for his mysterious intuition; he had the skill of looking at a complicated problem and seemingly picking the solution out of thin air. The technical term for this skill is called intuitive expertise, and it can look mysterious to outside observers. However, there's a good rational reason for Feynman's flashes of brilliance which is his

profound understanding of physics which allowed him to understand unexpected connections and patterns.

No matter the subject you may be studying, it actually takes time and patience to get to the level of deep understanding on which intuitive expertise is built. However, by following a few simple techniques; you can increase the speed at which you get it.

Begin by going back to the fundamentals. Feynman was known for asking ‘stupid questions’ and he would annoy his students by asking them a lot of questions about basic concepts. Though, Feynman knew something his students had yet to learn: it’s possible to move to complicated concepts when you just have a vague understanding of basics concepts. In contrast, it’s difficult to become an intuitive expert until you know the basics concepts of your field thoroughly.

A challenging learning experience can make you have a deeper understanding of the subject. This is why you should try and accept the struggle. Avoid taking shortcuts while learning; if there are two methods to get to a solution, select the longer, more involved one. In the short term, learning some standard chess moves will likely enhance your win rate, however, learning a lengthier chess approach is a better way to deeper understanding of the game.

When things get really difficult, endeavor not to give up instantly. Rather, device a struggle timer. Try yourself to sit with every challenge or any difficulty for at least ten minutes before you find a simpler solution.

Finally, extend your understanding of the main concepts by proving them for yourself. Look at the theorems, concepts, and methods that expert practitioners in your field have created, then attempt them, prove them or copy them for yourself. You’re not attempting to contradict those practitioners’ work; instead, you are only trying to understand the process and thought patterns behind it.

You get a shallow understanding of your subject if you just accept the truth of ideas just because the experts say they are true. It’s best to work through those ideas yourself if you want to get deep knowledge and intuitive expertise. By doing that, you will end up becoming just like one of those experts!

Strategic experimentation sets the basis for true innovation.

How did Vincent van Gogh go from an art school dropout, whom his classmates remembered as an ‘unremarkable’ painter, to the innovative artist who painted masterpieces such as Sunflowers and Starry Night? He did this through continuous, relentless experimentation. If you look back over van Gogh’s full piece and you’ll notice that he didn’t hit on his distinctive aesthetic instantly. Instead, he tirelessly attempted various styles and methods until he perfected his craft.

Afterward, he experimented more and more until he finally got a unique style.

Experimentation is ultralearning’s secret component – this method can take you from an accomplished practitioner to a true innovator. However, experimentation can be a little overwhelming at first. If you’re thinking about where to start, one method you can adopt is to copy then create: imitate someone else’s work, then use this as a stepping-stone towards testing your own concepts.

Let’s say you’re learning how to cook Korean meal. You have to look for the best recipe and follow the recipe exactly, learning its processes and concepts as you go. Once you’ve done that, you can begin to improvise with the process and flavor profile.

Another thing you can do to jumpstart your experimentation is to enforce some limits on it. This might look counterintuitive; however, your creativity can blossom by limiting it. This is because working within strict limits can assist you in shaking off your working habits and force you to attempt something new. For instance, if you’re a budding artist or poet, you might try to paint a picture with just shades of green or writing a verse without the letter ‘e’: you might be stunned by how your creativity blossoms when it’s limited.

Lastly, target the unexpected by hybridizing your resources, methods or skills to discover your unknown superpower. Merging two seemingly different elements together can lead to a great outcome(s). Scott Adams was an engineer before he invented the office comic strip Dilbert and he had a passion for drawing. He wasn’t the best engineer neither was he the best artist, however, when he discovered a method to hybridize his unique skill set, he eventually created one of the world’s famous comic strips. Experimentation pays off!

Ultralearning: Master Hard Skills, Outsmart the Competition, and Accelerate Your Career by Scott H. Young Book Review

At first look, ultralearners can appear like outliers. However, in reality, anyone can use ultralearning's aggressive, self-directed learning approach to master hard tasks Within a short time. Want to successfully finish your own ultralearning project? Begin by setting the groundwork: apply meta-learning methods and refine your focus. Improve your learning by concentrating on directness, drilling, retrieval, feedback, and retention. In order to take things to the next stage, cultivate perception and experiment intensively.

Select the brain of an expert.

Are you interested in taking on an ultralearning challenge to improve your professional edge? Before you commit to a time-consuming project such as teaching yourself the fundamentals of a coding language, ensure it fits with your career objectives. Look for a professional in your ultralearning field and conduct an Expert Interview with them. Ask them questions on what concepts are important to the field, what skills are in demand and which resources they recommend working with. After all, there's no point learning C++ if you want to break into a field where everyone codes in Python.

<https://goodbooksummary.com/ultralearning-by-scott-h-young-book-summary/>