After reading The Word Brain, you may decide that you have no time to learn a new language - but never again will you say that you have no talent for it.

the short PDF of

The Word Brain

Bernd Sebastian Kamps

Flying Publisher
The Word Brain

is about the effort to speak and understand another language. We define ‘speaking another language’ extensively. The definition includes the ability

- to read essays or newspapers
- to understand TV news or documentary programmes
- to imagine the correct spelling of words while listening to TV news or documentaries
- to understand everyday conversation

How long does it take to learn another language? How many words do we need to learn? Are languages within the reach of everybody? Which teachers should we avoid?

These are some of the questions you ask yourself when you or your children start to learn a new language. The Word Brain provides the answers.

Full Edition


The Author


Major Internet projects by BSK

1998 Amedeo
2000 Free Medical Journals
2002 FreeBooks4Doctors
2003 SARS Reference
2005 Free Medical Information
2006 Influenza Report
2006 Amedeo Challenge
2007 HIV Medicine
2009 Multidisciplinary Journal Club
2010 Hepatology Textbook, 2nd Edition
2010 The Word Brain

Designer

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The number of words you are familiar with determines your language abilities. The more words you know, the better you are. Put in numbers, this statement reads as follows:

\[15,000 > 10,000 > 5,000 > 2,000 > 1,000 > 500\]

You know more than 50,000 words of your native language. To be comfortable in another language you need roughly half that number – 25,000. As about 40 percent are variants of other words, a good estimate of words you need to learn is 15,000.

In order to understand how many truly new words are waiting for you – words you have never seen before and which you cannot deduce from other languages you know – we need a short history of your linguistic abilities:

- What is your native language?
- Have you learned other languages before?
- Which level did you achieve in these languages?
- Which language do you want to learn?

Based on your answers, the number of truly new words you must transfer into your brain varies between 5,000 for related languages (for example Spanish/Italian/French; see Table 1.1) and 15,000 for completely different languages (European languages/Arabic).

How long will it take you to learn these words? At a conservative estimate of 10 words per hour, it will take you 500 hours to learn 5,000 words and 1,500 hours to learn 15,000 words. Based on the number of hours you are prepared to invest on a daily basis, your total study time will vary between 6 months and 6 years (Table 1.2).

These figures have important implications: First, language learning means daily learning. ‘2-hours-a-week’ schedules are likely to be insufficient. If you have little or no time – think of busy physicians – or prefer to dedicate your time to geology, biology, or neuroscience, new languages are out of reach. Second, language learning is mostly a do-it-yourself job. The thousands of words you need to learn are currently outside your word brain and must get inside. Nobody, except you, can do this job. Teachers are of no help.

### Table 1.2: Study time (in months)*

<table>
<thead>
<tr>
<th>Hours/Day</th>
<th>Number of words to learn</th>
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<td>5,000</td>
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<tr>
<td>1</td>
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<td>8</td>
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<td>4</td>
<td>6</td>
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* At five days per week; figures are rounded

Apart from these two cases, however, anyone who demonstrated the ability to learn the language of their parents are entitled to learn their next language. The figures presented above are excellent news: Language learning is quantifiable and predictable. What is more, importing 5,000 to 15,000 new words into your brain in 500 to 1,500 hours turns out to be THE major battlefield in language learning. In fact, it represents up to 80 percent of your total effort. Chapter 7 shows how to learn the words.

**Total workload after Chapter 1**

500 – 1,500 hours
Chapter 2

Listening

Chapter Outline

2.1. Speech segmenting
2.2. MP3 files, 50–100 times
2.3. Cooking and commuting
2.4. Reduce listening to music
2.5. Stop watching TV in your native language

Have you recently listened to people speaking unfamiliar languages? If you haven’t, turn on your TV set or go down onto the streets and spot groups of animated people speaking foreign languages. Listen attentively. You will soon notice that humans produce continuous streams of uninterrupted speech. The overall impression? Phonological porridge, polenta, bouillie.

A porridge-like sense of unintelligibility prevails even after years of language classes at school. You are able to decipher a restaurant menu and order a dish of spaghetti, but comprehension vanishes as soon as the waiter starts talking. The same happens with taxi drivers and hotel employees again polenta and pea soup. Many of us conclude that we are inept at learning other languages and never try again.

Figure 2.1 French bouillie.

Speech comprehension is a triple challenge: slicing speech into words (“Where do single words begin; where do they end?”), endowing them with meaning by matching them with thousands of words stored in your word brain, and, finally, doing all this in real-time without giving it a second thought.

There is only one way to meet the challenge: continuous exposure to human language. Fortunately, babbling humans produce 10,000 words and more in a single hour. Even though, it will take between 1,000 to 2,000 hours of intense listening to achieve ‘semi-perfect sequencing abilities’.

School teaching is generally insufficient. Even if your teachers teach exclusively in the foreign language, you will rarely total more than 500 hours of attentive listening in a typical 5-year course.

To get the 1,000+ hours of listening, either emigrate or put your earphones on. The first audio sources will be the MP3 files of your language manual (it is imperative that all your language manuals come with audio files!). Be prepared to listen to your MP3 files 50 or even 100 times. (For additional sources such as educational material, podcasts, and audio books, check the full edition of The Word Brain at www.TheWordBrain.com.)

To accommodate thousands of hours of training in your busy time schedule, consider

1) listening to your MP3 files in parallel to other activities – commuting, doing sport, cooking, etc.
2) changing your TV habits. TV is a poor source of content, so stop watching TV in your native language and start watching TV in your future language.

The TV genres that serve your purpose most are the news and documentaries if you wish to become familiar with the language of the media and the language of science; and soap operas if you are interested in more colloquial language. Always use earphones for enhanced comprehension. Listen to your new TV programme every day, starting on the very first day that you begin studying another language. Persist, even if you don’t understand a single word.

During the first few months of your language training, don’t speak, just listen. As you are a virgin – linguistically speaking – stay that way for a while. Concentrate on absorbing words, sounds and sentences. Good pronunciation comes as a bonus of patient and attentive listening.

Total workload after Chapter 2
600 to 1,600 hours

Speech-recognition training, typically 1,500 hours and more, can mostly be integrated into daily activities. Only about 100 hours of extra study time are needed while you become familiar with one or two language manuals.
Reading

Chapter Outline

3.1. Image matching
3.2. Language manuals – 5, 10, 15 times
3.3. Text of your choice
3.4. Dictionary
3.5. Searching for words

Ocne uopn a tmie trhee lived in a cietarn vlagile a lttile cnortuy gril, the pret tseit crteuare who was eevr seen. Her mheteor was ecisxevely fnod of her; and her ghrodmentar doted on her slitl mroe. Tihs good waomn had a ltilte red riidng hood.

If you are a native English speaker, you will have recognised the initial sentences of Little Red Hood. If you are not, understanding the previous paragraph is more challenging, because your deciphering skill depends on the number of years you have been reading English.

How can you read so heavily distorted prose? The answer is ‘image matching’. Over decades of reading practise, your word brain has accumulated mental word-images of tens of thousands of words. When you read a text, you don’t spell the words, you see them. Reading a book is like seeing a movie. Word-images pass across our brain screen at a speed of 5 and more words per second and create mental images of things and events. Reading just one hour exposes your brain to some 20,000 words. In people with a higher education, reading is the most trained single skill, whatever their profession.

In a new language, you will have to absorb a huge number of new word-images. As with listening, some segmenting is needed. Take the word parachlorophenylalanine. For scientists with a basic knowledge in chemistry, the meaning and pronunciation of the word is as evident as the meaning and pronunciation of love and peace. Meanwhile, non-scientists will return to first-grade spelling techniques and ask themselves where the syllables start and where they end.

Every language has thousands of these complicated words. Fortunately, that does not translate into another 1,500 study hours. Reading is different from listening because training your reading skills comes as a bonus of the obligatory learning of the 5,000 to 15,000 words. In order to digest such a huge amount of words, you must read and check them again and again. These repetitions are sufficient to create all the word images you need for super-fast reading. (Things are different when you study languages that don’t use the Latin alphabet, for example Arabic or Chinese. In these cases, anticipate one to three years of extra study time.)

Start reading classical language manuals. Only a few are outstanding, so ask your teacher for help. Make sure that the manual has word lists and comes with a CD-ROM (www.TheWordBrain.com/BookRecommendations.php). Read the chapters 10, 15, or more times, until you feel comfortable with every sentence and every word. Reading is easier than listening, because it does not require high-speed processing of several words per second. Instead, you can take all the time you need until you understand everything – lingering on single words, going back and forth through a sentence, leaping between paragraphs. Remember that in educated people, most words enter the brain via the eyes; they are not the result of babbling, chattering, gossiping, or palavering, but of intense reading at school, at university or during professional occupation.

After the second language manual, start reading what you usually read in your native language. If you are a philosopher, read books about philosophy, if you are a scientist, read books about science. To read these texts, you need a dictionary to look up new words. A good dictionary is a book that weighs at least one kilogram and has a minimum of 1000 pages. It is the single most important book of your language project.

Now take a text of your choice, underline the new words, search for them in your dictionary, write them down in a neat, hand-written list or in a computer document, and learn them (see Chapter 7). Don’t forget to mark the words you have looked up. Even if you are not going to learn a whole dictionary by heart, you may decide one day to repeat the words that you are supposed to know.

Total workload after Chapter 3

700 – 1,700 hours

Due to the heavy exposure to written words during word learning, no extra time is needed to develop fast-reading abilities. For the present chapter, we just need to book 100 hours for the study of one or two language manuals.
Teachers

Chapter Outline

4.1. Avoid boring or bored teachers
4.2 The finite character of grammar
4.3. Recognising grammar
4.4. Coach model

The last three chapters – Words, Listening, Reading – may suggest that language learning can be done without teachers. As a matter of fact, for the most time-intensive tasks, such as word learning and speech recognition, teachers are of little help. However, words alone don’t make up human language. You need rules to arrange them in sentences, and, in the process, some words will be modified. Grammar is the collection of these rules. If you have little experience with grammar, you need good language teachers.

Finding good teachers can be a nightmare. If you book a vacation to attend English classes in private schools in London or French classes in Paris or Spanish classes in Seville, the odds are substantial that your teachers will have a perfect knowledge of one, but only one language – their own – and will themselves never have been through the cumbersome process of mastering another language. Spontaneously, a series of questions come to mind: Do these teachers know what it means to absorb 5,000 to 15,000 words? Can they imagine how it feels to nail 20 to 50 new words into your brain every day? Do they have the faintest idea of how demanding it is to crack high-speed human speech? In summary, do they have an appropriate comprehension of the complications and implications of language learning?

Make sure that your teachers are polyglots. After all, you have decided to become fluent in another language and your desire is to achieve the top. Avoid bored and boring teachers. Frustrated teachers could contaminate what is one of your most valuable resources: motivation. Protect it.

Traditionally, language teachers trained and checked six core competences: vocabulary, understanding of speech, production of speech, reading, writing, and grammar. As we have seen in the Words chapter, vocabulary training is inherently a lonely job because nobody except yourself can transfer thousands of words into your brain. The same is true for speech recognition. Here, audio books, Internet news, and TV, have supplanted teachers as prime speech sources. The impact of teachers on the third, fourth and fifth tasks – speaking, reading, and writing – is equally limited. Writing comes as a bonus of reading, reading as a bonus of word learning, and as you will see later, correct pronunciation comes as a bonus of hundreds of hours of listening.

Grammar is therefore the only domain where language teachers will continue to play a certain role in the future. Don’t be afraid of grammar. Grammar is not a black hole, but consists of about 30 problems to settle. If you followed my prescriptions in the first chapters – 1) Learn 20 or more new words per day; 2) Listen to human speech for at least one hour per day – all I would ask you at this point is to rapidly assemble the knowledge that is needed to recognise the most frequent grammatical structures. Recognising grammar requires 10 times less training than producing grammar. Just make sure that you receive grammar lessons in your native language. Reject all ‘monoglot’ proposals such as being taught Spanish grammar by a Spanish teacher who exclusively speaks Spanish. Don’t complicate your life. Your native language is by far the best tool for grasping and understanding new concepts.

In today’s environment, the best role for a language teacher is probably that of a coach. Depending on your previous exposure to your native and subsequent languages, your coach will prepare an individual time schedule for your project; recommend books, podcasts, audio books, and broadcasts; provide the first round of grammar; advise you on how to manage your daily word quota; teach you how to check that new words have arrived in your long-term memory; and demonstrate common pronunciation pitfalls. For the first few weeks, you should plan daily lessons with your coach or two or three lessons per week. Thereafter, reduce to weekly encounters. Finally, after the third or fourth month, one or two meetings per month will be sufficient. During the entire course, check the motivating power of your coach. If you have the feeling that he doesn’t motivate you or, worse, makes you feel like a donkey, fire him.

Total workload after Chapter 4

800 – 1,800 hours

The verb training and the first rounds of grammar will not take more than 100 hours.
The day you utter your first words in a new language is not always a happy day. Most languages have unfamiliar sounds, and to reproduce them faithfully takes time, sometimes years. If you have more than one new sound in a single word, the probability to get it right approaches zero. Take the one-second sequence 

\[ \text{:\text{ﻴﺮ}} \] 
\[ \text{ѧѧѧѧѧѧѧ} \] 
\[ \text{اﻟﺨ} \] 
\[ \text{ѧѧѧѧѧѧѧ} \] 
\[ \text{ﺻ} \] 
\[ – \text{good morning} \] (pronounce SabaH el-khair). In a single second, you are supposed to produce three sounds that are totally unfamiliar to most people from Western Europe. The odds are against you.

From the very beginning, comprehension has a head start over speech production. As a baby, when you stuttered your first barely intelligible sounds, you already possessed a passive repertoire of hundreds of words. The disparity between good language comprehension and poor language production usually persists throughout a lifetime. Many people may one day read Thomas Mann, Hemingway, or Voltaire, but only a few will develop their writing skills.

One of the reasons for this disparity is imbalanced practice. Unless you are incorrigibly logorrheic, listening is the predominant function mode of your word brain. The bigger the group, the smaller your contribution. In some situations – at school, university, or during meetings at work – you could listen for hours, and nobody would expect you to contribute more than a word or two.

The second reason is diversity. The words put into your brain are more diverse than the words coming out of it. You have only one life to tell – your own – while your co-humans make you listen to hundreds of different lives in different places and in different circumstances. You know people from different professions, geographical regions, age groups, etc. You know thousands of words you will never utter. What you know of the world is more than what you can say about it.

In the Listening chapter, I recommended that you observe a few months of silence. I promised you that you would partly avoid producing ungraceful speech. Now the moment has come to step out into the arena. If you are abroad, every day presents hundreds of opportunities to speak to friends and strangers. If, instead, you are at home, listen to your favourite language CDs and repeat the now familiar words and sentences. Don’t feel uncomfortable repeating a language CD for the 33rd time. Imitate the sounds, in particular the length of the vowels and the melody of the sentences. Later, repeat the sentences in real-time, with an interval of just one second. You will be amazed at how the sounds soon start to come out of your mouth.

Thereafter, use the same procedure – listening to and reproducing speech with a one-second interval – with sentences from other sources such as podcasts, audio books, or TV. In the beginning, real-life speech will be so fast that you will reproduce only fragments of sentences. Persist. With time, the fragments will become longer.

For a start, I recommend that you repeat the sentences of language manuals, TV, and audio books. In other words: Do not translate from your native language. Translations are risky for a language novice because they generate errors and you might get accustomed to these errors. Whenever possible, it is preferable that you use words and sentences that you have already heard being said by other people. At this early stage, don’t be ashamed to be a parrot.

Speak slowly and articulate. You will notice that with time, speech production will become increasingly unconscious. Even your foreign accent will eventually soften, although probably never disappear. Don’t consider this a problem. If you choose the right words and fold them in perfect grammar, nobody will ever dare blame you. As long as you speak fluently, an accent is not debilitating, on the contrary. In today’s world, especially in times of peace, some accents are truly charming.

Total workload after Chapter 5
850 – 1,850 hours

Due to heavy exposure to human speech during your CD and/or TV training (see chapter 2), once you start speaking, progress will be fast. For your initial training sessions, we generously allocate 50 extra hours.
In your native language, your brain recognises – and endows with meaning – any conceivable subset of 50,000+ words within fractions of a second. Any single of your 50,000+ native words is intertwined in multiple locations of your brain, floating in a sea of meanings, facts, and emotions. As soon as you wake up in the morning, all brain words go into stand-by mode, waiting to jump into consciousness. Grown over decades, this vast network of word webs is the most precious asset of your life.

To manage word webs, your brain relies on 10–100 (10^{11}) billion neurones that are connected via up to 1000 trillion (10^{15}) synapses. While the neurones are long-lived, synapses are adaptable. New synapses are created, others degenerate, still others change in strength.

Word learning requires multiple training sessions. For our immediate purposes, we will define *knowing a word* as successful recall after one month of non-exposure. Only occasional words will get there after the first encounter, while most words will need as many as 5, 10, or even 20 rehearsals. The clue to success is ‘spaced repetitions’. If you meet a word for the first time on Day 0, repeat it on Day 1, 3, 6, 10, 17, and 31. Figure 6.2 illustrates these spaced repetitions. Be prepared that the sum of all the repetitions may total around 4 to 6 minutes per word.

The method of nailing words is an individual affair, but you are well advised to rely on the tens of thousands of webs that are already firmly anchored in your word brain. All you need to do is to add two pieces of information to an existing word web: how you write a new word and how to pronounce it. Everything else – knowledge and memories – is already in place. In practise, you will dress a two-column list, putting your new and your native language face to face. Word lists are not perfect – German Brot is different from French pain, it looks different, it smells different, and it tastes better – but with 5,000 to 15,000 words to nail, you cannot afford to lose time with subtleties. The pre-existing webs of your word brain are a unique support for nailing new words. Use them. If your teacher tells you that you can do without word lists, fire him.
With thousands of words in the waiting loop, you certainly wonder if there are ways to improve your memory performance. Abundant sleep is certainly helpful, maybe even physical. If possible, avoid higher age. The younger you are, the easier new languages flow into your brain. So if you are under 30 and dream about learning another language, do it now! Never again will the conditions be so favourable.

Of course, you will also avoid drugs and alcohol at high dosage. Acute alcohol intoxication (‘black-out’) is fatal for memory, not to speak of chronic abuse (‘alcohol dementia’). Even episodes of heavy drinking such as a bottle of wine impair memory performance during the hangover period.

Distraction can be equally disruptive. If you repeatedly subtract a single-digit number from a larger number directly after one of your nailing sessions, you will see that your memory is impaired for the 3 to 5 most recently nailed words. Certain episodes of life are therefore inherently incompatible with robust learning: death of relatives and friends, illness or hypochondriac fears, separation or divorce, job loss or financial disaster. More frequent and therefore more dangerous is seemingly innocuous distraction, for example extended surfing tours on the Internet. Opening social network accounts, reading incoherent information from disparate sources, participating in nonsense quizzes, listening simultaneously to music, downloading videos or doing whatever else you can imagine – such acrobatic multitasking is heavy stuff for delicate new brain connections. Future studies might show that participation in ‘social’ networks is inversely correlated with success at school and university.

Psychostimulant drugs have been used by a certain number of students. Promoters of these drugs trivialise this practise as ‘memory-enhancing’ or ‘cognitive-enhancing’. I prefer to use the name that is more appropriate: brain doping. Some people are trying to make the very idea of brain doping fashionable and socially acceptable. The line of reasoning is as follows: ‘We are ready to give brain-doping drugs to adults with neuropsychiatric disorders and severe memory and concentration problems. We – physicians and pharmaceutical companies – would also welcome that these drugs be prescribed more widely for other psychiatric disorders or children and adolescents with hyperactivity disorders. After all, why boost the brainpower of other people and not our own? We already take Italian espresso and caffeine-containing soft drinks. If children at school took these drugs, would you be able to withstand the pressure to give them to your children?’

Yes, we most certainly would. What’s more, we don’t appreciate visions of brain doping ‘benefitting society or extending our work productivity’ and we are not happy that people who might be biased in their convictions fashion the discussion about brain doping. Scientific journals should carefully select the contributors of articles on this subject. The potential market for brain-doping drugs is immense – bigger than that of any antidiabetics, anticholesterol, antihypertensives, antipsychotics and other anti-XXL drugs combined. Stakes are high, temptations are great, and way too many researchers are for sale.

If your friends yield to the temptation of using brain-doping drugs, don’t follow them! Remind them of the motto, by Eric Kandel, Nobel Laureate: ‘Studying well is, without a doubt, the best cognitive enhancer for those capable of learning’. Remember that most drugs have adverse effects – \textit{a fortiori} when used chronically. I predict that after decades of use, brain-doping drugs will be shown to produce devastating effects on the brains of those who wanted to – in brain-doping parlance – ‘perform better and enjoy more achievements and success’.

Does it take adults much longer than children to learn new languages? The answer is: No. The ease with which children learn languages is an illusion. If 18-year old young adults know 30,000 to 50,000 words, where did they get them from? Walking in the open air, listening to birds and enjoying the dance of butterflies? No, they did so at school, from early in the morning until the afternoon, 9 months a year, 12 years in a row. Even if education at school and university is about facts and concepts, word learning is a huge burden of formal education. Remember those failed oral examinations because the words were on the tip of your tongue but wouldn’t proceed any further. Part of your failure? Insufficient word training. You would not become a physician, a philosopher, or an engineer without acquiring thousands of new words. How many words did I learn at medical school? Probably 10,000 or more. Word brains fashion our careers.

Young children are language machines because they have time. Italian is exhilaratingly concise when it translates this idea into ‘Non hanno un cazzo da fare!!’, saying, in essence, that children have pretty few things to care about except listening and talking. If we, adults, add time to our language-learning recipe, children immediately lose their head start. Adults possess vast brain webs of meanings, fact, and events. What’s more, we are capable of focused working for 4, 6, or 8 hours a day and are terrifyingly effective when we do so. In comparison, young children stand no chance of competing. In other words: start a four-year language training course today, and in four years, I expect you to have language skills that are clearly superior to those of a 6-year-old child.

Total workload after Chapter 6

850 – 1,850 hours
You are now ready for take off. If you are learning ‘just for fun’ and want to limit daily learning to one hour a day, avoid languages with heavy ‘word loads’. For people from Western Europe these are, for example, Russian, Turkish, Arabic, Chinese, or other African and Asian languages. Instead, choose languages with a more familiar vocabulary.

If you learn languages at university and, a fortiori, if you contemplate becoming a language teacher, things are different. Every language is within your reach because your daily work schedule includes 3 hours of word nailing plus hours of listening to audio sources.

First, find out how many new words you can nail every day. For a start, we will consider 20 truly new words a feasible and respectable long-term goal. ‘New’ means that you cannot guess the meaning of the word. For English native speakers, words such as Sicherungsverwahrung, Grundsatzurteil and Bundesgerichtshof are new, whereas evolución, democracia and economía are not.

At 400 new words per month, progress is evident week after week. Rapid word accumulation is paramount for two reasons. First, you need to recognise the words that your auditory brain cortex will soon be able to ‘cut out’ from spoken language (see chapter Listening). Second, you must move as quickly as possible into territory where you are able to read everything... because reading is the best conceivable language training! Reading is total immersion par excellence. In one hour, it exposes you to as much as 20,000 words. For word brains, reading is paradise.

Make sure that every single word has safely arrived in lifelong memory. To check progress, develop your own system. Revisiting the word lists frequently and marking ‘difficult’ words for further revision is one such system. Alternatively, you can use index cards or word trainers on electrical devices. For more information on this topic, please see www.TheWordBrain.com/NailingSystems.php.

Soon, you will face two problems. The first is saturation. At a rate of 20, 30, or 40 new words a day, the time will come when you will feel like a force-fed French goose. The solution: nail words five days a week and stop nailing at weekends. If saturation develops nonetheless, pause for an entire week.

The second problem is more severe: lack of words. Good language manuals usually present around 2,000 words – that is far short of your final word score of 5–15,000. At this early stage, not even dictionaries are helpful – deciphering a text where half of the words are unknown is achingly slow.

There is one acceptable solution: nailing word compilations that are grouped by topic and divided into basic and advanced vocabulary. Good compilations present around 7,000 words and offer free pronunciation audio files (see an example at www.hiv.net/link.php?id=16 and www.TheWordBrain.com/BookRecommendations.php).

Define the number of pages you will nail every day and start ploughing your way through them. People who have never used these books sometimes observe that learning hundreds of pages of words out of context is not an exciting perspective. I agree, but I wonder if the alternative – searching 10,000 words in a dictionary – is more sexy. Anticipate at least two rounds and possibly another round after 6 to 12 months.

To break the boring rhythm of word nailing, read real-world texts. You will soon discover how exciting it is to work on essays, newspapers or novels. Underline new words, search for them in the dictionary, and write them down in a notebook. At this point, you might even slow down your nailing rhythm, but only on one condition: that you extract from your reading sources double the number of words that is on your nailing schedule. For example, if you nailed 20 words every day, look up at least 40 words in the dictionary. At this double-strength dosage, searching the words and writing them down will suffice and dispense you of nailing them in sensu strictu.

Final workload
1,000 – 2,000 hours

Allow for an additional 150 hours to explore your dictionary in more detail.
Epilogue

We have reached the end of our journey. After visiting your colossal lifelong memory, your breathtaking speech segmentation skills, your frantic reading speed, and your pronunciation acrobatics – all unique on Earth – let’s sit down for a moment.

*The Word Brain* may have changed the way you see languages and language learning. Not all languages are equal because, depending on who you are and which languages you speak, some languages are easier than others. However, all languages are equally beautiful. The Germans will appreciate that Turkish is as beautiful as German; the French will be delighted that Arabic is as expressive and gentle as French; and the Italians will be pleased to discover that Albanian is as subtle and amusing as Italian. Even more importantly, we have seen that languages are within the reach of everybody. Please pass this knowledge on to your children, grandchildren, and friends.

Although language learning is predictable, there are no miracles. Success is determined by the number of hours people are ready to invest. Fortunately, there are potent catalysts, for example life and love. Just imagine yourself in an intense love affair, spending weeks and months in close symbiosis, exposed to a single linguistic ‘source’, discussing the world from dusk to dawn, and all this submerged in memory-stimulating emotions, supplemented with memory-boosting physical activity. The progress people make in these conditions is remarkable – sometimes dangerously remarkable. I once unmasked a cheating husband. While talking about Italy and Italian, I noticed that his language skills were quite honourable, so I asked him,

– How long have you been studying Italian?
– Oh, not that long. Three years, during my summer seminaries.
– And how long did those seminaries last?
– Two weeks each.
– Oh, really? I didn’t know that you had a girlfriend in Italy.
– Who told you?
Nobody told me. The gentleman was simply too erudite. You don’t acquire certain words and a certain ease with language in 6 weeks of canonical summer-school teaching. Cherchez la femme...

I have already recommended extensive travel for those who are in their late teens or early twenties. Youth, high levels of sex hormones, and the desire to find mates, are mighty communication catalysts. However, love and sex are not always practical. Later in life, you wouldn’t want to get divorced just because you needed extra-marital language courses. For more composed people, there are entertaining alternatives, such as organised travel tours. I once went to Brazil and booked a 12-day tour in a local tourist agency. All other travellers being Brazilian, the 5,000 km bus trip turned out to be one of the most intensive languages courses I have ever had.

I am well aware that some of my advice is demanding and that I have set the bar high. However, the bar is no higher than we can all reach. The most satisfying insight is that language learning is a mere variable of time: you may decide that you have no time, but never again will you have to say that you have no talent for it. If, instead, you find the time to learn a new language, I wish you the very best. Languages are formidable windows to the beauties and mysteries of the human odyssey. Pushing them wide open is among the most gratifying moments in life.
How long does it take to learn another language? How many words do we need to learn? Are languages within the reach of everybody? Which teachers should I avoid?

These are some of the questions you ask yourself when you or your children start to learn a new language. The Word Brain, by Bernd Sebastian Kamps, provides the answers.

The PDFs of all Word Brain editions are free: www.thewordbrain.com.