

## Unit 1. Your Mind.

### Text 1. Your Mind. Do You Make the Most of It?

*Lifeplan psychology adviser John Nicholson explains how to reveal the hidden potential of your mind, and how to improve your mental efficiency.*

Psychological research shows we consistently **underestimate** our mental powers. If you think this does not **apply to you**, then here is a simple test to show you are wrong. Write down the names of all the American states you can remember. Put the list away and then set yourself the same task a week later. Provided you have not cheated by **consulting an atlas**, you will notice something rather surprising. The two lists will contain roughly the same number of states, but they will not be identical. Some names will have slipped away, but others will have **replaced** them. This suggests that somewhere in your mind you may well have a record of virtually every state. So it is not really your memory **letting down**; just your ability **to retrieve information from it**.

We would remember a lot more if we had more confidence in our memories and knew how to use them properly. One useful tip is that things are more likely to be remembered if you are in exactly the same state and place as you were when you learned them.

So if you are a student who always revises on black coffee, perhaps it would be sensible to prime yourself with a cup before going into the exam. If possible, you should also try to learn information in the room where it is going to be tested.

When you learn is also important. Lots of people swear they can **absorb new information** more efficiently at some times of day than at others. Research shows this is not just imagination. There is a biological rhythm for learning, though it affects different people in different ways. For most of us, the best plan is to take in new information in the morning and then try **to consolidate it into memory** during the afternoon. But this does not apply to everyone, so it is essential **to establish your own rhythm**. You can do this by learning a set number of lines of poetry at different times of the day and seeing when most lines stick. When you have done this, try to organize your life so that the time set aside for learning coincides with the time when your memory is at its best.

Avoid learning marathons — they do not **make the best use of your mind**. Take plenty of breaks, because they offer a double bonus: the time off gives your mind a chance to do some **preliminary consolidation** and it also **gives memory a boost to** the learning which occurs on either side of it.

Popular fears about the effects of ageing on intelligence are based on a misconception. Research shows that although we *do* slow down mentally as we approach the end of life, becoming stupid or losing your grip in the world is not an inevitable consequence of the ageing process. On some measures — vocabulary, for example — we actually improve in the second half of life. In old age, intellectual functioning is closely **related to** physical health. But there also seems to be a lot of truth in the old adage: *If you do not want to lose it, use it.*

Learning goes well when people feel challenged and badly when they feel threatened. Whenever a learning task becomes threatening, both adults and children feel anxious. Anxiety **interferes with the process of learning** because it is **distracting**. In order to learn effectively you have **to be attending closely to the task**. An anxious person is likely to be worrying about what will happen if he fails, to the **detriment of** his attempts to succeed. If his mind is full of thoughts such as "I'm sure I'm going to fail this test", or "What are my parents going to say?", he will not do as well as he should.

Learning is an active process. Despite claims to the contrary, you cannot learn when you are asleep. "Sleep learning" (accomplished by having a tape recorder under the pillow playing soothing but improving messages while you are recharging your tissues) is unfortunately a myth. Any learning that seems to have occurred in this situation will actually have been done after you woke up but were still drowsy.

Other people can provide you with information, but only *you* can learn it. It also has to be "chewed over" before it can be integrated into your body of knowledge. That is why just reading a book is no way **to acquire information** unless you happen to possess a photographic memory. Parroting the author's words is not much better. You have to make your own notes because this obliges you to apply an extra stage of

processing to the information before **committing it to memory**. Effective revision always involves reworking material, making notes on notes, and perhaps re-ordering information in the light of newly-observed connections. As a general rule, the greater your brain's investment in a body of information, the better its chances of **reproducing** it accurately and effectively when you need it.

**1. Answer the following questions.**

- 1) What does the experiment with writing down the names of all the American states suggest?
- 2) What is necessary to do to remember a lot more information?
- 3) In what situations do we remember things better?
- 4) Is the time of learning important?
- 5) Are learning marathons of any use?
- 6) How does age influence intelligence?
- 7) How do emotions influence the process of learning?
- 8) Prove that learning is an active process.

**2. Finish the sentences.**

- 1) So it is not really your memory letting down; just your ability .....
- 2) We would remember a lot more if .....
- 3) Things are more likely to be remembered if .....
- 4) So if you are a student who always revises on black coffee .....
- 5) Lots of people swear they can absorb new information more efficiently .....
- 6) The time off gives your mind .....
- 7) Research shows that although we *do* slow down mentally as we approach the end of life....
- 8) But there also seems to be a lot of truth in the old adage ....
- 9) Learning goes well when ....
- 10) Other people can provide you with information, but ....
- 11) You have to make your own notes because ....
- 12) The greater your brain's investment in a body of information ....

**3. Find the English equivalents to the following words and expressions.**

Недооценивать свои умственные способности; иметь отношение к кому-либо; посмотреть в атласе; заменить что-либо/кого-либо; подводить кого-либо; извлекать информацию из памяти; впитывать новую информацию; заучить/запомнить что-либо (2); установить свой ритм; максимально использовать; предварительное закрепление; стимулировать память; мешать процессу учёбы; отвлекающий; уделять внимание задаче; в ущерб чему-либо; усваивать информацию, воспроизводить информацию.

**4. Insert the words from the box into the following sentences. Some words are unnecessary.**

*Retrieve, restore, absorb, commit, let down, boost, attend, apply, interfere, consult, distracting, detriment.*

- 1) If you don't know the word, you can .... the dictionary.
- 2) These changes will help to give a .... to our economy.
- 3) In order to make progress you should .... to your studies.
- 4) I don't think these words .... to me.
- 5) The sound of radio upstairs .... with my work.
- 6) She liked the quotation very much and decided to .... it to memory.
- 7) I'm counting on you to support me, don't .... me ....
- 8) So much information! I can't .... it all at once.
- 9) This noise outside is .... I can't concentrate on my work.

10) This computer can .... stored information in a matter of seconds.

### **Develop the following ideas.**

- 1) Sometimes it is not really your memory letting down; just your ability to retrieve information from it.
- 2) It is essential to establish your own rhythm.
- 3) Popular fears about the effects of ageing on intelligence are based on a misconception.
- 4) Learning goes well when people feel challenged and badly when they feel threatened.
- 5) Learning is an active process.

## **Unit 2. Memory.**

### **Text 1. Memory.**

Human beings have amazing memories. Apart from all our personal memories about our own lives, we can recall between 20,000 and 100,000 words in our own language as well as possibly thousands more in a foreign language. We have all sorts of information about different subjects such as history, science, and geography, and we have complex skills such as driving a car or playing a musical instrument. All these things and countless other depend on our memory.

How well you remember things depends on many different factors. Firstly, some people naturally have better memories than others, in just the same way as some people are taller than others, or have different colour eyes. Some top chess players, for example, can remember every move of every game that they have ever seen or played.

Secondly, research shows that different things are stored in different parts of the brain. Ideas, words, and numbers are stored in the left-hand side, while the right-hand side remembers images, sounds, and smells. In most people one side of the brain is more developed than the other.

Thirdly, we all remember exciting, frightening, or dramatic events more easily. This is because these experiences produce chemicals such as adrenaline, which boost your memory.

Fourthly, the context in which you learn something can affect how well you remember it. Tests on divers, for example, showed that when they learnt things underwater, they could also remember those things best when they were underwater.

Lastly, the more often you recall a memory the more likely you are to remember it. If you don't use it, you'll lose it. A telephone number that you dial frequently will stay in your memory easily, but you will probably have to write down one that you use only now and again.

Your mind is programmed to remember what helps you to survive. You remember bad experiences in order to be able to avoid them in future. You remember good experiences in order to be able to repeat them in future. It's easy to remember the food you hate and the food you love. It's not at all easy to remember something that is neither good nor bad, neither loved nor hated. In other words information without emotion is very difficult to remember.

So when you are faced, for example, with a list of new words or literary facts or quotations, you will not remember them easily unless you add an emotional value to them. But it's no good telling yourself you 'have to' learn them or you 'must' learn them, or "there's a test tomorrow". You are only adding negative connotations to them, and making them more difficult to learn.

Here are some simple suggestions for adding positive emotional values to items you will need to remember.

**Tip One.** Whether listening to or reading items you want to learn or remember, make the items into a story (speaking or writing), however strange that story is.

**Tip Two.** As well as making them into a story, make sentences or paragraphs about yourself (speaking or writing) using these items. Don't worry if that 'self' is more fantasy than reality.

**Tip Three.** After using tips one and two, simply talk to yourself and tell your brain to remember the items you want to remember.

**Tip Four.** Walk the nerve pathway of memory until it is a well-frequented road, revise and revise recalling the items. The best times to do quick recall are first thing in the morning, and last thing at night.

**Tip Five.** Reinforce the positive, emotional value by greeting the items like friends when you recall them.

When you're overwhelmed, your mind will forget. It needs to forget. Forgetting is a useful strategy to clear your mind for new tasks and challenges. When you are feeling overwhelmed, don't try to learn or remember. Do some deep breathing or some physical exercise. Relax. If you decide to keep working although you feel overwhelmed, do some work that is not learning new items, for example tidy your notes and put them into a folder, or draw a chart or plan your revision timetable. All these are organisational tasks which put you back in control. Being back in control is being the opposite of overwhelmed, you experience the language as controlling you, rather than as you controlling it.

Use these tips and you will say, "I normally remember" rather than, "I always forget".

**1. Answer the questions to the first part of the text.**

- 1) What are the five factors that affect how well you remember something?
- 2) What examples are given to illustrate each one?
- 3) What factors were not illustrated by any example? Can you give examples from your own life to illustrate this point in the text?
- 4) Can you think of any more factors that affect your memory?

**2. Explain the meaning of the following phrases with one word from the text. You are given the first letter of each word.**

1) to study lessons or notes again, in order to learn them before an examination (r...); 2) a well-planned series of actions for achieving an aim (s...); 3) to feel calm and comfortable and stop worrying (r...); 4) as different as possible from something else (o...); 5) to continue to live or exist in spite of many difficulties and danger (s...); 6) the organ inside your head that controls how you think, feel and move (b...).

**3. Which of the tips given in the article do you find most helpful? Discuss it with your partner. Can you think of any other techniques to make remembering things easier?**

**4. Here are some examples of famous people with good memories. Do you think they trained their memories? Do you know any other examples of the same kind?**

- \* Conductor Arturo Toscanini knew every note of more than 400 pieces of music.
- \* British Prime Minister Winston Churchill could recall so much Shakespeare that he would repeat the characters' words from the audience during performance.
- \* Microsoft Chairman Bill Gates still remembers hundreds of lines of source code for his original Basic programming language.
- \* Harry Lorayne, 69, a memory coach and performer, can memorize the names of as many as 500 people in an audience.
- \* Charles Dickens, the famous English author, said that he could walk down any street in London and then tell the name of every shop he had passed.

**5. Read the following passage containing some tips for students revising for an exam. What paragraph of the text can it supplement? Do you think you can benefit from these tips?**

"You know your best times of day or night when you are able to think quickly and clearly and take in new facts or ideas. At the same time you realize that there are certain periods during the day when you cannot study at all. Don't waste time sitting staring at your books or notes. Your concentration and energy have gone because you have reptile needs. So eat, drink, get cool, get warm, or think about someone you love. After that, the best way is to "switch off" for 10 - 20 minutes. Some people switch off best by going for a walk, or having a shower or bath, or lying back and listening to music, or having 10 - 20 minutes' sleep".

**6. Read the jokes and comment on them.**

Three elderly women were having tea together. One of them said, "You know, the funniest things are

happening to me. I sometimes find myself at the bottom of the stairs and wonder whether I was going up to get something or was coming down to get something".

The second woman replied, "You know, I sometimes find myself in front of the refrigerator. I can't remember whether I have just put something in or I have come to take something out".

The third woman said, "Well, I don't have anything like that happening to me yet. But perhaps I'd better knock on wood" - which she did, three times. Then, startled, she looked at her guests and said, "I guess somebody's at the door. Excuse me!"

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Mr. Green was a good and clever man but he had the habit of talking to himself all the time. One day a friend of his came and asked him why he did this. "Well, there are two good reasons", he said. "First, I like to hear a wise man speak. Secondly, when I speak it is a pleasure to have an intelligent audience".

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"My wife has the worst memory I've heard of." "Forgets everything, eh?" "No, remembers everything."

### **Unit 3. Producing Genius.**

#### ***Pre-reading task.***

**Discuss what makes a person genius: nature (inborn abilities) or upbringing.**

#### **Text 1. Producing Genius.**

**Just what makes the great great? Popular belief has it that geniuses such as Einstein, Picasso, Mozart and the mathematician Carl Gauss were simply touched by the divine finger, but Professor William Fowler of the Massachusetts Centre for early learning disagrees.**

Gauss, so the myth goes, sprang untaught from an uneducated working class family, but on looking into Gauss's childhood Fowler has discovered that he was taught numerals from the age of two by his mother, that his father was in fact not a labourer but a foreman and played calculation games with him and that Gauss had an educated uncle who taught him sophisticated mathematics from an early age.

The pattern is repeated with other child prodigies; the young Einstein was treated to practical demonstrations of physics as a child by his electrical engineer father; Pablo Picasso was copying still lifes at the age of eight under the direction of his art teacher father; and, says Professor Michael Howe, a psychologist from Exeter University, "Mozart's father, Leopold, who was an instrumentalist and a highly ambitious teacher of music, seems to have gone to enormous lengths to ensure that his son became a successful musician."

"The young Wolfgang Mozart," he says "had few opportunities to play outdoors or make friends with other children and he was subjected to a very unusual childhood regime in which it is probable that from his earliest years a large proportion of the child's time was devoted to musical activities and practising."

Certain talents necessary for genius, such as memory, require long and gruelling periods of training; Mozart must have received between 20,000 and 30,000 hours of training before he was able to memorize the whole of Allegri's Miserere from just two listenings.

"We find parallel feats of phenomenal memorizing in master chess players," says Professor Howe. "Because, over the years, they have built up a huge knowledge of chess, they are able to recall what seem to most of us to be impossibly large numbers of chess positions."

Professor Mihaly Csikszentmihalyi of the University of Chicago has identified two styles of parental behaviour: the stimulating and the supportive. Supportive parents create a harmonious home and praise whatever level of achievement results from their children's pet interests. Csikszentmihalyi found that while these children were happier than average, they were not particularly intense in their concentration when studying and are therefore unlikely to show high levels of achievement.

A new trend in the USA has appeared among parents anxious to give their children a head start in the increasing competition for better jobs and better lives. 'We feel', says Patricia Rice, of "Parents for Better

Lives," that not giving our babies this kind of advantage is in fact going to handicap them in the future.'

"The babies of parents in our group," she says, "are given training in reading, arithmetic and abstract logical puzzles using flashcards while still in the cradle. We have been doing it for some years now and all the children who have been involved in the scheme are getting better grades than any other children in their schools and most are now being sent to schools for gifted children."

"We feel the long hard slog will definitely pay off when the children grow up into successful, high achieving adults," she says.

## **Text 2. Geniuses.**

There is not much that can be done to change the future of your child's mind. That is the view of Dr Sandra Scarr of Virginia University and president of the Society for Research in Child Development.

Parents should not worry too much about whether to take their child to a museum or a ball game, she says. Geniuses are born, not made, and parental anxiety to achieve distinction for their children is at best useless and might, indeed, simply transfer that anxiety from the parent to the child.

Much of the support for this view comes from the biology of individual differences, a specialized area of genetic research. A team from Cardiff University together with Dr Robert Plomin of Penn State University is working to track down one of the genes that contributes to the development of intelligence.

So far, evidence for the effects of genetic influence on talent and intellectual achievement has been largely statistical, being derived from hereditary studies such as comparisons of twins separated at birth. Bill Plomin's research is based on the gene mapping techniques, which means that for the first time there may be direct evidence of the role that genes play. Although results have yet to be confirmed, a specific gene has indeed been identified.

The discovery of a first gene, Plomin says, will not solve the riddle of intelligence. Each gene will code for only one of the billions of building blocks of the brain: the cell proteins and neurotransmitters that interconnect to produce thought, memory, identity and all our other mental functions.

The nature/nurture debate will, however, lurch profoundly and permanently towards nature if even one gene can be incontrovertibly linked with a specific form of intelligent behaviour.

Further evidence for the biological component of mental abilities is being made available from the use of computerized brain scanners, which display on a TV screen those areas of the brain being stimulated by certain types of mental activity.

Professor Camilla Benbow of Iowa State University heads a long-term study of the mathematically gifted. In her study, at the top level of mathematical aptitude boys outnumber girls by 13 to 1. Benbow reveals that the way in which gifted boys' brains process spatial information is completely and qualitatively different from the way in which average boys and even gifted girls do.

Brain scans of the children while involved in solving simple visual problems show that boys of average ability and gifted girls use both sides of the brain equally when thinking about simple visual puzzles. In the gifted boys there is a sudden drop in activity in the left hemisphere - the side most involved in language -and exaggerated use of the right, which is best at spatial thinking.

Benbow says that male hormones have a tendency to shift boys' thinking towards the right side of the brain, emphasizing spatial rather than linguistic abilities and giving boys a statistically greater chance of becoming gifted mathematicians. Girls who achieve well in mathematics do so as a result of general mental superiority; a superiority that gifted boys may not possess.

These findings, however, provide strong evidence that superior mental abilities are likely to be the result of genetically and hormonally governed biological factors.

*from 'Horizons: Aspects of Modern Life'*

### **1. Answer the questions:**

- 1) Did Gauss spring from uneducated working class family?
- 2) What background did the other child prodigies mentioned in this article have?
- 3) Why was Mozart's childhood unusual?
- 4) What two styles of parental behaviour are described in the article? What is the difference between them?

5) What kind of parents are more likely to produce a genius?

6) Which of these two types of parental behavior is completely useless according to Dr Sandra Scarr?

Prove it. Do you agree with Dr Sandra Scarr?

7) Do biological studies support Dr Sandra Scarr's point of view?

8) Is the debate on the role of nature and nurture in producing genius finished? Why?

**2. Do these two articles contain different or similar point of view on the nature of geniuses?**

**3. The main idea of which article can be summarized by the following statements:**

**a) Geniuses are born.**

**b) Geniuses are made.**

**4. Explain the following word combinations:**

1) to be touched by the divine finger

2) to teach sophisticated mathematics

3) to be subjected to unusual regime

4) to praise whatever level of achievement results

5) to handicap the children

6) to give the children a head start

7) hard slog will pay off

8) hereditary studies

9) nature/nurture debate

**5. Find the following word combinations in the text. Recollect the situations in which they are used.**

1) изнурительные тренировки

2) хвалить кого-либо

3) давать ранее преимущество

4) умственные способности

5) математические способности

6) пространственное мышление

7) вспоминать, напоминать

**6. Discuss what abilities are necessary for a genius.**

**7. Agree or disagree with the following:**

**a) Gifted children will never reveal their talents without special training.**

**b) Hard slog can make a genius out of a person without special aptitudes.**