READING PASSAGE 3

*You should spend about 20 minutes on **Questions 27-40**, which are based on Reading Passage 3 below.*

What makes a musical expert?

How does someone become expert in music?
And is it really possible to have a talent for music?

Does that class of people acknowledged to be musical experts just have more of the same basic skills we are all endowed with, or do they have a set of abilities — or neural structures — that are totally different from those of the rest of us? Are high levels of musical achievement simply the result of training and practice, or are they based on innate brain structure — what we refer to as talent? Talent can be defined as something that originates in genetic structures and that is identifiable by trained people who can recognize its existence before a person has achieved exceptional levels of performance. The emphasis on early identification means that to investigate it, we study the development of skills in children.

It is evident that some children acquire skills more rapidly than others: the age of onset for walking and talking varies widely, even between children in the same household. There may be genetic factors at work, but these are closely linked with other factors — with a presumably environmental component — such as motivation and family dynamics. Similar factors can influence musical development and can mask the contribution of genetics to musical ability.

Brain studies, so far, haven't been of much use in sorting out the issues. Gottfried Schlaug at Harvard collected brain scans of individuals with absolute pitch* (AP) and showed that a region in the brain called the planum temporale is larger in these people than in others. This suggests that the planum is involved in AP, but it's not clear if it starts out larger in people who eventually acquire AP, or if the acquisition of AP makes the planum increase in size.

Results of research into the areas of the brain involved in skilled motor movement are more conclusive. Studies of violin players have shown that the region of the brain responsible for controlling the movement of the left hand (the hand that requires greater precision in violin playing) increases in size as a result of practice. We do not know yet if the propensity for increase pre-exists in some people and not others.

**individuals with absolute pitch: people who can identify or sing any musical note correctly without help*

The evidence against talent comes from research on how much training the experts do. Like experts in mathematics, chess, or sports, experts in music require lengthy periods of instruction and practice. In several studies, the very best music students were found to have practised more than twice as much as the others. In another study, students were secretly divided into two groups based on teachers' perceptions of their talent. Several years later, it was found that the students who achieved the highest performance ratings had practised the most, irrespective of which talent group they had been assigned to, suggesting that practice does not merely correlate with achievement, but causes it.

Anders Ericsson, at Florida State University, approaches the topic of musical expertise as a general problem in cognitive psychology. He takes as a starting point the assumption that there are certain issues involved in becoming an expert at anything; that we can learn about musical expertise by studying expert chess players, athletes, artists, mathematicians, as well as the musicians themselves. The emerging picture from such studies is that ten thousand hours of practice is required to achieve the level of mastery associated with being a world-class expert — in anything. In study after study, of composers, ice-skaters, concert pianists, chess players and master criminals, this number comes up again and again. Someone would do this amount of practice if they practised, for example, roughly 20 hours a week for ten years. Of course, this does not address why some people do not seem to get anywhere when they practise, and why some people get more out of their practice sessions than others. But no-one has yet found a case in which true world-class expertise was accomplished in less time. It seems that it takes the brain this long to assimilate all that it needs to know to achieve true mastery.

The ten-thousand-hour theory is consistent with what we know about how the brain learns. Learning requires the assimilation and consolidation of information in neural tissue. The more experiences we have with something, the stronger the memory/learning trace for that experience becomes. Although people differ in how long it takes them to consolidate information neurally, it remains true that increased practice leads to a greater number of neural traces, which create stronger memory representation.

The classic rebuttal to this theory goes something like this: *What about Mozart? I hear that he composed his first symphony at the age of four!* First, there is a factual error here: Mozart did not write it until he was eight. Still, this is unusual, to say the least. However, this early work received little acclaim and was not performed very often. In fact, the only reason we know about it is because the child who wrote it grew up to become Mozart. And Mozart had an expert teacher in his father, who was renowned as a teacher of musicians all over Europe. We do not know how much Mozart practised, but if he started at age two and worked thirty-two hours a week (quite possible, given that his father was a stern task-master) he would have made his ten thousand hours by the time he composed his first symphony. This does not mean that there are no genetic factors involved in Mozart's greatness, but that inborn traits may not be the only cause.

Questions 27-30

Choose the correct letter, ***A, B, C*** *or* ***D****.*

Write the correct letter in boxes 27-30 on your answer sheet.

27 In the first paragraph, the writer suggests that a talented musician is someone

A who is aware of being set apart from other people.
B whose brain structure is unlike that of other people.
C who can perform extremely well in early childhood.
D whose essential skills are more varied than those of ordinary people.

28 According to the writer, what is unclear about the findings of Gottfried Schlaug?

A which part of the brain is linked to a particular musical skill.
B which type of musical skill leads to the greatest change in the brain.
C whether a feature of the brain is a cause or an effect of a musical skill.
D whether the acquisition of a musical skill is easier for some people than others.

29 According to the writer, what has been established by studies of violin players?

A Changes may occur in the brain following violin practice.
B Left-handed violinists have a different brain structure from other people.
C A violinist's hand size is not due to practice but to genetic factors.
D Violinists are born with brains that have a particular structure.

30 According to the writer, findings on the amount of practice done by expert musicians suggest that

A talent may have little to do with expertise.
B practice may actually prevent the development of talent.
C talent may not be recognised by teachers.
D expertise may be related to quality of instruction.

Questions 31-36

Do the following statements agree with the claims of the writer in Reading Passage 3?

In boxes 31-36 on your answer sheet, write

YES	*if the statement agrees with the claims of the writer*
NO	*if the statement contradicts the claims of the writer*
NOT GIVEN	*if it is impossible to say what the writer thinks about this*

31 Anders Ericsson's work with cognitive psychology has influenced other researchers.

32 Different areas of expertise seem to have one specific thing in common.

33 In order to be useful, practice must be carried out regularly every day.

34 Anyone who practises for long enough can reach the level of a world-class expert.

35 Occasionally, someone can become an expert at a global level with fewer than 10,000 hours' practice.

36 Existing knowledge of learning and cognitive skills supports the importance of practice.

Questions 37-40

*Complete the summary using the list of words, **A-J**, below.*

*Write the correct letter, **A-J**, in boxes 37-40 on your answer sheet.*

Mozart

The case of Mozart could be quoted as evidence against the 10,000-hour practice theory. However, the writer points out that the young Mozart received a lot of **37** _____ from his father, and that the symphony he wrote at the age of **38** _____ was not **39** _____ and may be of only academic interest. The case therefore supports the view that expertise is not solely the result of **40** _____ characteristics.

A	popular	**B**	artistic	**C**	completed	**D**	eight
E	tuition	**F**	encouragement	**G**	inherited	**H**	four
I	practice	**J**	two				

题号	答案	关键词定位（段落 & 句子）	解析
27	**B**	段1 第5–7行：“…or are they based on **innate brain structure** — what we refer to as talent?”	作者把 “talent” 界定为源于大脑神经结构的先天差异，因此选 “whose brain structure is unlike that of other people”。
28	**C**	段3 倒数2行：“…but it’s **not clear if it starts out larger … or if the acquisition of AP makes the planum increase in size**.”	争议在于 “因果”——大脑区域的大小到底是原因还是结果。
29	**A**	段4 第2–4行：“…region… **increases in size as a result of practice**.”	研究证实练习后大脑会发生变化，支持选项 A。
30	**A**	段5 第1–8行：“…students who achieved the highest performance ratings **had practised the most**, irrespective of which talent group…”	最突出表现与练习量相关，而非 “天赋” 多少。
31	**NOT GIVEN**	全文未提及 Ericsson 的研究 **影响了** 其他学者，只描述了他的研究内容与结论。	信息缺失，选择 NG。
32	**YES**	段6 中部：“…in study after study of composers, ice-skaters… **this number (10 000 hours) comes up again and again**.”	不同领域共性：均需约 1 万小时练习。
33	**NOT GIVEN**	文中提到 “roughly 20 hours a week for ten years”，未说 **每日** 必须练习。	无法确定作者态度。
34	**NO**	段6 末句：“…**why some people do not seem to get anywhere when they practise**…”	说明仅凭长时间练习并非人人都能成世界级高手，故与题干相反。
35	**NO**	段6 前后两句：“**no-one has yet found a case in which true world-class expertise was accomplished in less time**.”	明确否定少于 1 万小时即可成顶级专家的情况。
36	**YES**	段7 全段：“The ten-thousand-hour theory is **consistent with what we know about how the brain learns**… increased practice leads to a greater number of neural traces…”	现有学习与认知研究支持练习的重要性。
37	**E (tuition)**	段8 中部：“Mozart **had an expert teacher in his father**…”	强调得到大量 “授课/指导”。
38	**D (eight)**	同段前半：“…**did not write it until he was eight**.”	更正常见误传 (非四岁)。
39	**A (popular)**	同段中部：“This early work **received little acclaim and was not performed very often**.”	说明交响曲 “不受欢迎”。
40	**G (inherited)**	段8 末句：“…does not mean that there are no genetic factors, **but that inborn traits may not be the only cause**.”	论证专长并非仅靠 “遗传特质”。