READING PASSAGE 2

Letters Out of Order

Why a seemingly inefficient keyboard endured — and whether its rival was ever the better machine

A Glance down at almost any keyboard — on a computer, a telephone, a cash machine — and the same six letters greet you at the top left: Q, W, E, R, T, Y. The arrangement looks haphazard, even perverse; the commonest letters are scattered about the board rather than gathered conveniently beneath the fingers, and the whole layout seems to have been devised by someone with no great interest in making typing easy. A familiar explanation circulates to account for this oddity: the keyboard, it is said, was deliberately laid out so as to slow typists down. Like many such tidy explanations, it has been repeated far more often than it has been examined, and the truth turns out to be a good deal more tangled.

B The QWERTY layout dates from the 1870s and the work of Christopher Latham Sholes, an American printer who built one of the first commercially successful typewriters. On those early machines, each key drove a slender metal arm — a type-bar — that swung up to strike the paper through an inked ribbon. When two neighbouring bars were thrown forward in quick succession, they were apt to collide and stick fast, bringing the typist to a halt. Sholes found that he could reduce such collisions by separating the keys for letters that were frequently struck in sequence, thereby spreading their type-bars around the machine. The aim, then, was not to slow the typist for its own sake but to keep the machine from jamming — and by cutting the number of jams, a well-judged layout could in fact let a typist work faster. The popular notion that the keyboard was meant simply to slow people down is a garbled memory of this mechanical compromise. The design was adopted by the Remington company, whose typewriters carried it into offices across the world.

C Once established, the arrangement proved extraordinarily hard to displace, for reasons that had nothing to do with how good it was. As typewriters spread, schools began teaching touch-typing on QWERTY keyboards; firms, finding a ready supply of typists trained on QWERTY, bought QWERTY machines; and manufacturers, seeing what the firms wanted, built more of them. Each decision reinforced the others. A would-be reformer faced a circle that fed upon itself: there was little point in learning a layout that no employer used, and little point in a manufacturer offering one on which no typist had been trained. The standard endured not because anyone had judged it the best imaginable, but because everyone had already arranged their habits around it.

D In 1936 a determined challenger appeared. August Dvorak, an American educational psychologist, patented a new layout built on opposite principles. Where QWERTY scattered the common letters, Dvorak’s design gathered the most frequently used ones onto the central “home” row, directly beneath the resting fingers; it shared the work more evenly between the two hands, and arranged matters so that successive letters were more often struck by alternating hands. The result, its supporters maintained, was a keyboard on which the fingers travelled far less, words flowed more smoothly, and both speed and accuracy rose while fatigue fell. Here, it seemed, was a plainly superior machine that the world, out of mere habit, declined to adopt.

E To economists, the story carried a moral. In 1985 an economist gave the keyboard a starring role in his discipline, making it the textbook case of what is called path dependence — the idea that a technology can become locked in through the accidents of its own history, so that a market may stay committed to an inferior standard long after a better one has become available. QWERTY, clung to in defiance of the superior Dvorak, was offered as the clinching proof that the free play of choice does not reliably deliver the best design: once enough people and machines had settled on one option, the better option could no longer gain a foothold.

F In 1990 two economists looked again at the evidence and found surprisingly little of it. Much of the case for Dvorak's superiority, they observed, could be traced back to Dvorak himself, who held the patent and so had an obvious interest in the verdict. The most frequently cited proof — a wartime study reporting that retrained typists made spectacular gains on the new layout — turned out, on inspection, to be poorly controlled and to have been conducted in circumstances that favoured the desired result, very possibly under Dvorak's own direction. Later trials, carried out with more care and by disinterested parties, found the advantage of the Dvorak layout slight at best — far too small to repay the cost of retraining a workforce already fluent in QWERTY. By this account the market had not blundered at all: QWERTY had survived because it was good enough, and the rival supposed to expose its failure had never been shown to be much better.

G Where, then, does this leave the fable? The narrow version — QWERTY a proven calamity, Dvorak a suppressed wonder — does not withstand examination; whatever gap separates the two layouts is modest, and the dramatic figures once quoted do not hold up. Yet the broader idea the keyboard was recruited to illustrate is not so easily dismissed. That habit, training and the sheer weight of numbers can fix a standard in place, and make even a genuinely better alternative hard to introduce, remains entirely plausible — the example may simply have been poorly chosen. The deeper lesson of the keyboard, as with more than one cherished case study, is how readily a neat and often-repeated story can come to occupy the place where evidence ought to stand.

True / False / Not Given

Questions 1–5. Do the following statements agree with the information given in Reading Passage 2? Tick (✓) one box for each statement.

1 The QWERTY arrangement is found on almost all keyboards in use today.

TRUE | FALSE | NOT GIVEN

2 The QWERTY layout was created with the deliberate aim of slowing typists down.

TRUE | FALSE | NOT GIVEN

3 The Dvorak keyboard places the most frequently used letters on the home row.

TRUE | FALSE | NOT GIVEN

4 During the 1940s, the Dvorak keyboard outsold machines using the QWERTY layout.

TRUE | FALSE | NOT GIVEN

5 Later controlled trials showed that retraining typists to use Dvorak was clearly worth the cost.

TRUE | FALSE | NOT GIVEN

Multiple Choice

Questions 6–9. Choose the correct letter, A, B, C or D.

6 According to paragraph B, why were certain keys separated on the QWERTY keyboard?

A To make the most common words easier to spell.

B To stop the type-bars of frequently paired letters from jamming.

C To slow typists down so that they would make fewer mistakes.

D To divide the work evenly between the two hands.

7 How, according to paragraph C, did QWERTY become the universal standard?

A A government ruling obliged all manufacturers to adopt it.

B Sholes promoted it energetically after leaving Remington.

C Trained typists and existing machines reinforced one another, giving newcomers reason to conform.

D It was shown in trials to be faster than every rival layout.

8 What did the two economists conclude in 1990?

A That the Dvorak keyboard was even better than its supporters had claimed.

B That the evidence for Dvorak's superiority was weak and partly traceable to interested parties.

C That QWERTY had been imposed through a deliberate conspiracy.

D That the idea of path dependence is entirely without foundation.

9 What is the writer's overall view of the "fable" in the final paragraph?

A The narrow claim about the two keyboards fails, but the broader idea of lock-in is still worth taking seriously.

B Both the specific claim and the general idea of path dependence have been disproved.

C QWERTY has now been shown to be the best possible arrangement of keys.

D The Dvorak keyboard ought to replace QWERTY worldwide without delay.

Sentence Completion

Questions 10–11. Complete the sentences below. Choose NO MORE THAN TWO WORDS from the passage for each answer.

10 Sholes separated frequently paired letters in order to keep the machine from _____.

11 From 1985, the keyboard became the standard textbook example of _____.

Matching Information

Questions 12–14. The reading passage has seven paragraphs, A–G. Which paragraph contains the following information? Write the correct letter, A–G.

12 An explanation of the self-reinforcing process by which one standard crowded out the alternatives. A B C D E F G

13 A claim that a much-cited wartime study supporting the rival keyboard was unreliable. A B C D E F G

14 A description of the design principles on which the challenger keyboard was built. A B C D E F G

Answer Key

For teacher / self-study use. Fold or detach before distributing to students.

Q	Answer	Para	Explanation
1	**TRUE**	A	“almost any keyboard — on a computer, a telephone, a cash machine” carries the QWERTY letters.
2	**FALSE**	B	The aim was to stop the machine jamming, not to slow the typist; the “slow down” story is called a garbled memory.
3	**TRUE**	D	Dvorak gathered the most frequently used letters onto the central “home” row.
4	**NOT GIVEN**	—	The passage never compares sales figures for the two layouts. (A plausible-sounding figure the text does not supply.)
5	**FALSE**	F	Later trials found the advantage slight at best — far too small to repay the cost of retraining.
6	**B**	B	Frequently paired keys were separated so their type-bars would not collide and stick. C is the myth; D is the Dvorak rationale.
7	**C**	C	Training, machines and demand reinforced one another, giving newcomers reason to conform.
8	**B**	F	The evidence was thin and largely traceable to Dvorak, who held the patent. D overstates — they questioned the example, not the concept.
9	**A**	G	The narrow claim fails, but the broader idea of lock-in remains plausible. B is too strong; C and D are unsupported.
10	**jamming**	B	“to keep the machine from jamming”.
11	**path dependence**	E	“the textbook case of what is called path dependence”.
12	**C**	C	The self-reinforcing circle of typists, firms and manufacturers.
13	**F**	F	The poorly controlled wartime study, possibly run under Dvorak’s own direction.
14	**D**	D	Dvorak’s principles: home-row letters, balanced hands, alternating strokes.

Approximate IELTS Band Equivalence (14 questions)

Score	14	13	12	11	10–9	8–7	6–5	≤4
Band	9.0	8.5	8.0	7.5	7.0–6.5	6.0–5.5	5.0	<5.0