READING PASSAGE 3

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

Jean Piaget (1896–1980)

Seymour Papert looks at the work of the pioneering Swiss philosopher and psychologist

Jean Piaget spent much of his professional life listening to children, watching children and poring over reports of researchers around the world who were doing the same. He found, to put it most succinctly, that children don't think like grown-ups. After thousands of interactions with young people often barely old enough to talk, Piaget began to suspect that behind their cute and seemingly irrational utterances were thought processes that had their own kind of order and their own special logic. Einstein called it "a discovery so simple that only a genius could have thought of it."

Although not an educational reformer, Piaget championed a way of thinking about children that provided the foundation for today's education-reform movements. It was a shift comparable to the way modern anthropology displaced stories of primitive tribes being *'noble savages'* and *'cannibals'*. One might say that Piaget was the first to take children's thinking seriously.

He has been revered by generations of teachers inspired by the belief that children are not empty vessels to be filled with knowledge (as traditional pedagogical theory had it) but active builders of knowledge—little scientists who are constantly creating and testing their own hypotheses about the world. And though he may not be as famous as Sigmund Freud or even B. F. Skinner, his influence on psychology may be longer lasting.

In 1920, while doing research in a child-psychology laboratory in Paris, Piaget noticed that children of the same age made similar errors on intelligence tests. Fascinated by their reasoning processes, he began to suspect that the key to human knowledge might be discovered by observing how the child's mind develops. On his return to Switzerland he began watching children play, scrupulously recording their words and actions as their minds raced to find reasons for why things are the way they are. In one of his most famous experiments, Piaget asked children, *'What makes the wind?'* A typical dialogue would be:

Piaget *What makes the wind?*

Julia *The trees.*

Piaget *How do you know?*

Julia *I saw them waving their arms.*

Piaget *How does that make the wind?*

Julia *(waving her hand in front of his face)*
Like this. Only they are bigger. And there are lots of trees.

Piaget recognised that five-year-old Julia's beliefs, while not correct by any adult criterion, are not *'incorrect'* either. They are entirely sensible and coherent within the framework of the child's way of knowing. Classifying them as *'true'* or *'false'* misses the point and shows a lack of respect for the child. What Piaget was after was a theory that the wind dialogue demonstrated coherence, ingenuity and the practice of a kind of explanatory principle (in this case by referring to body actions) that stands young children in very good stead when they don't know enough or don't have enough skill to handle the kind of explanation that grown-ups prefer.

Piaget was not an educator and never laid down rules about how to intervene in such situations. But his work strongly suggests that the automatic reaction of putting the child right may well be counter-productive. If their theories are always greeted by *'Nice try, but this is how it really is…'* they might give up after a while on making theories. As Piaget put it, *'children have real understanding only of that which they invent themselves, and each time that we try to teach them something too quickly, we keep them from inventing it themselves.'*

Disciples of Piaget have a tolerance for—indeed a fascination with—children's primitive laws of physics: that things disappear when they are out of sight; that the moon and the sun follow you around; that big things float and small things sink. Einstein was intrigued by Piaget's findings, especially by the idea that seven-year-olds insist that going faster can take more time—perhaps because this, like Einstein's own theories of relativity, runs so contrary to common sense.

Although every teacher in training still memorises Piaget's successive stages of childhood development, the greater part of Piaget's work is less well known, perhaps because schools of education regard it as *'too deep'* for teachers. Piaget never thought of himself as a child psychologist. His real interest was epistemology—the theory of knowledge—which, like physics, was considered a branch of philosophy until Piaget came along and made it a science.

Through epistemology, Piaget explored multiple ways of knowing. He acknowledged them and examined them non-judgementally, yet with a philosopher's analytic rigour. Since Piaget, the territory has been widely colonised by those who write about women's ways of knowing, Afrocentric ways of knowing, even the computer's ways of knowing. Indeed, artificial intelligence and the information-processing model of the mind owe more to Piaget than its proponents may realise.

The core of Piaget is his belief that looking carefully at how knowledge develops in children will elucidate the nature of knowledge in general. Whether this has in fact led to deeper understanding remains, like everything about Piaget, controversial. In the past decade, Piaget has been vigorously challenged by the current fashion of viewing knowledge as an intrinsic property of the brain. Ingenious experiments have demonstrated that newborn infants already have some of the knowledge that Piaget believed children constructed. But for those, like me, who still see Piaget as the giant in the field of cognitive theory, the difference between what the baby brings and what the adult has is so immense that the new discoveries do not significantly reduce the gap, but only increase the mystery.

Questions 27–31

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

Write the correct letter in boxes 27–31 on your answer sheet.

27 In the second paragraph, the writer mentions the example of modern anthropology to illustrate

A the universality of Piaget's insights into the workings of the mind.
B the similarity between children's thought-processing in different cultures.
C how Piaget's work represents a crucial turning-point in our approach to education.
D how Piaget's work has aided our understanding of humankind's evolution from primitive origins.

28 According to the writer, what point is illustrated by the dialogue about the wind?

A The factual accuracy of what children say is of minor significance.
B Children want to learn about scientific principles.
C Children's reasoning processes can be amusing to adults.
D Children often pretend that they know the answers to questions.

29 Piaget believed in the importance of

A preventing children from making false assumptions.
B giving children honest feedback on their hypotheses.
C showing children how to formulate their own ideas about the world.
D maintaining children's confidence in their ability to interpret the world.

30 What does the writer suggest in the seventh paragraph?

A Children's sense of their surroundings changes as they get older.
B Children are able to grasp certain complex ideas as well as adults are.
C Even apparently irrational ideas can be worthy of interest.
D Sometimes the simplest explanations are the best.

31 The writer's main purpose is to

A outline Piaget's contribution to a range of scientific fields.
B summarise how education has benefited from Piaget's findings.
C discuss Piaget's role in the development of 20th-century psychology.
D express doubts about a number of Piaget's theories.

Questions 32–36

*Complete the summary using the list of words, **A–I**, below.*

*Write the correct letter, **A–I**, in boxes 32–36 on your answer sheet.*

Piaget maintained that children's mental processes were far more **32** _____ than they might appear. He encouraged the view that a child was not a 'blank slate' waiting to be filled with information, but rather a systematic builder of knowledge who regularly tries out his or her own **33** _____ about the world.

Piaget's impact on the area of **34** _____ could well outlast that of more celebrated pioneers of this discipline. Despite doubts cast over his ideas by the current view associating knowledge exclusively with the **35** _____, the effects of his work are still strong today. His principles are still widely used in the professional development of **36** _____.

A	correct	**B**	theories	**C**	brain
D	simple	**E**	teachers	**F**	psychology
G	logical	**H**	thought	**I**	philosophers

Questions 37–40

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

In boxes 37–40 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*

37 Piaget's early work in Paris involved innovative research techniques.

38 Piaget gave clear guidelines as to how adults should give information to children.

39 Piaget made a significant contribution to the field of epistemology.

40 We still have much to learn about the nature of knowledge.

题号	答案	关键定位（段落 & 英文引用）	中文解释
27	**C**	段 2: “*It was a shift **comparable to the way modern anthropology displaced** stories of primitive tribes… One might say that Piaget was the first to take children’s thinking seriously.*”	作者用“现代人类学的转变”来作比，说明皮亚杰的观点同样标志着教育观念的**重大转折**。
28	**A**	段 5: “*Classifying them as ‘true’ or ‘false’ misses the point…*”	对话显示儿童说话是否准确并非关键，关键在于其思维过程，因此选“事实准确性并不重要”。
29	**D**	段 6: “*each time we try to teach them something too quickly, we keep them from inventing it themselves.*”	皮亚杰反对立即纠正，以保护孩子**自行解释世界的信心**。
30	**C**	段 7: “*Einstein was intrigued… going faster can take more time… runs so contrary to common sense.*”	即便看似荒诞的想法（“越快越耗时”）也值得兴趣与研究，说明**看似非理性也可能有价值**。
31	**A**	全文综合，尤其段 3、8-10	文章不仅谈教育，还提到心理学、AI、信息加工等多领域影响，故为“概述皮亚杰对多门科学领域的贡献”。
32	**G** logical	段 1: “*thought processes that had their own kind of order and their own special **logic**.*”	皮亚杰认为儿童思维比表面看上去更**“有逻辑”**。
33	**B** theories	段 3: “*little scientists who are constantly creating and testing their own **hypotheses**…*”；段 6 亦有 “*If their **theories** are always greeted…*”	孩子反复验证的是自己的**“理论”**。
34	**F** psychology	段 3 末句: “*his influence on **psychology** may be longer lasting.*”	影响最大的学科领域被明确指出是**“心理学”**。
35	**C** brain	段 10: “*challenged by the current fashion of viewing knowledge as an intrinsic property of the **brain**.*”	质疑声音将知识归因于**“大脑”**，与皮亚杰形成对比。
36	**E** teachers	段 8: “*every **teacher** in training still memorises Piaget’s successive stages…*”	皮亚杰原理仍广泛用于**教师**的职业发展。
37	**NOT GIVEN**	段 4 只描述他在巴黎“注意到”错误，并未评价方法是否“创新”。	文中未说明这些技术是否“创新”，信息缺失。
38	**NO**	段 6: “*Piaget was not an educator and never laid down rules about how to intervene…*”	作者明确说皮亚杰**没有**给出成人应如何授课的明确指导。
39	**YES**	段 8-9: “*His real interest was **epistemology**… explored multiple ways of knowing.*”	文章肯定他对**认识论**的重大贡献。
40	**YES**	段 10 末句: “*new discoveries do not significantly reduce the gap, but only increase the mystery.*”	作者认为关于知识本质**仍有许多未知**。