

Re-evaluating Executive Function in Early Childhood Education

Kristof Abrath · English Exam Preparation · IELTS Academic Reading

Reading Passage 3

[A] In recent decades, thinking about early childhood education has changed considerably. Historically, pre-school curricula in Western countries prioritised unstructured play, socialisation, and emotional development, on the assumption that formal cognitive instruction should wait until children begin compulsory schooling. However, developmental researchers have increasingly focused on “executive function” — a set of mental skills including working memory, cognitive flexibility, and self-control — as central to a child’s readiness for school. Proponents of early cognitive intervention argue that these skills, which rely heavily on the prefrontal cortex, may be a stronger predictor of long-term academic success than early literacy or numeracy. As a result, calls for structured, teacher-directed activities designed to train working memory and self-regulation in children as young as three have gained considerable support among policy makers.

[B] This push toward direct cognitive training is supported by studies showing that working memory capacity in early childhood is closely linked to later performance in mathematics and reading. Dr. Aris Thorne, a cognitive scientist at the Institute for Educational Mind Sciences, argues that targeted exercises — such as task-switching games and memory-retrieval routines — may help the prefrontal cortex, the brain region most involved in these skills, to develop more quickly. Working memory, Thorne explains, is the mental workspace where information is held and used. By giving young learners carefully controlled cognitive challenges, Thorne argues, educators can expand their ability to follow complex instructions, manage distractions, and develop problem-solving strategies before they start formal schooling. Thorne’s research suggests that this kind of training could help narrow the achievement gap between children from disadvantaged and more advantaged backgrounds.

[C] Despite its appeal and its research support, the early cognitive training approach has drawn strong criticism from developmental psychologists and progressive educators. Opponents argue that isolating specific mental skills through artificial, repetitive drills gives too narrow a view of child development. Dr. Elena Rostova, an expert in child psychology, maintains that executive function does not develop in isolation, nor is it best strengthened through separate drill-based activities. According to Rostova, executive control is a natural result of self-directed play, physical exploration, and complex social negotiation. When children take part in imaginative play, for example, they must continuously hold rules in memory, resist impulsive actions to keep the game going, and adapt when the situation changes. Rostova argues that structured training programmes risk over-stimulating young minds without building the wide-ranging self-regulation that develops naturally through everyday play.

[D] Central to this criticism is an idea from psychology called cognitive load theory. This theory holds that working memory has a strictly limited capacity for new information. When young children are given formal, highly structured tasks, this limited capacity can easily become overwhelmed — a state known as cognitive overload. Critics argue that direct instruction in early childhood often forces children to spend mental effort simply figuring out instructions, rather than engaging with the ideas behind them. Unstructured exploration, by contrast, allows children to control the pace and complexity of their own learning, keeping their mental effort within manageable limits and helping to prevent early academic stress.

[E] The debate is complicated further by mixed evidence about how long the benefits of early cognitive training actually last. While studies often show immediate improvements on the specific tasks used in training — such as computerised memory games or rule-based tests — long-term research on whether these gains lead to lasting academic achievement or better real-world problem-solving remains inconclusive. Some researchers point to the “fade-out effect”, a well-documented pattern in which early cognitive gains shown by children in training programmes shrink noticeably within two to three years of starting primary school. Critics argue that this fade-out suggests early cognitive training simply speeds up the appearance of abilities that would have developed naturally over time, rather than permanently changing a child’s long-term cognitive development.

[F] Furthermore, supporters of play-based learning point out that early academic pressure may unintentionally harm children’s social and emotional growth. Inhibitory control, they argue, is not simply a cognitive skill that can be measured using computerised response-time tests; it is closely linked to emotional self-regulation, empathy, and the ability to cooperate with others. A curriculum that gives up free-play time in favour of intensive working-memory drills risks undermining children’s motivation and their ability to work well with peers. Long-term studies of child-centred, play-based pre-school programmes show that children in these settings have lower stress levels, stronger social skills, and academic results that are comparable to — or better than — those of children in more academically focused programmes.

[G] In trying to reconcile these opposing views, a growing number of researchers support a hybrid approach known as “guided play”. Guided play bridges the gap between unstructured exploration and direct instruction by letting children lead their own exploration while adults provide subtle guidance. In a guided play setting, educators design rich, purposeful learning environments aimed at specific developmental goals, but allow children to direct their own activity within those environments. Early evaluations suggest that guided play can engage executive function skills effectively without causing the high mental effort associated with direct instruction, offering a compromise that appeals to both cognitive scientists and developmental psychologists.

[H] Ultimately, the debate over early cognitive training shows why early childhood education needs to be viewed from multiple perspectives at once. Rather than treating executive function as a separate skill to be trained in isolation, policy makers and educators should recognise that cognitive development is closely connected to emotional stability, physical activity, and social context. As research continues, the challenge for early childhood education will not be choosing between play and cognitive training, but designing learning environments that make the most of both.



Questions 1–9

IELTS Academic Reading / Summary Completion & Yes-No-Not Given

cont.

Reading Passage 3

Questions 1–5 – Summary Completion

Complete the summary below. Choose **NO MORE THAN TWO WORDS** from the passage for each answer.*Perspectives on Early Executive Function Training*

Proponents of early cognitive training argue that developing executive function is important, claiming these skills may be a stronger predictor of long-term academic success than early numeracy or (1). Researchers such as Dr. Aris Thorne advocate structured activities to expand working memory capacity, suggesting this approach could help narrow the (2) between different socio-economic groups.

Conversely, critics such as Dr. Elena Rostova argue that executive function develops naturally through self-directed play, physical exploration, and (3), rather than through artificial drills. Opponents also cite cognitive load theory, warning that structured instruction can cause (4) in young learners. Furthermore, long-term research raises concerns about the (5), in which early cognitive advantages gained through training fade after a few years of primary school.

TIP Summary completion follows the passage in order. Once you find the answer to one gap, the next answer will appear **later** in the same paragraph or the next one — never earlier.

Questions 6–9 – Yes / No / Not Given

Do the following statements agree with the views of the writer in the passage? Tick **YES**, **NO**, or **NOT GIVEN** for each.

6. The prefrontal cortex matures at a faster rate in girls than in boys during early childhood.
☐ YES ☐ NO ☐ NOT GIVEN
7. Unstructured play allows children to regulate their cognitive processing within manageable limits.
☐ YES ☐ NO ☐ NOT GIVEN
8. The writer suggests that inhibitory control can be fully measured using computerised response-time tests.
☐ YES ☐ NO ☐ NOT GIVEN
9. Guided play provides a balanced framework that satisfies both cognitive scientists and developmental psychologists.
☐ YES ☐ NO ☐ NOT GIVEN



Questions 10–13

IELTS Academic Reading / Multiple Choice

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Reading Passage 3

Questions 10–13 — Multiple Choice

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

10. What point does the author make about pre-school curricula in Paragraph A?

- ☐ **A.** They have always focused primarily on developing children's working memory.
- ☐ **B.** Educational priorities are shifting away from traditional play-based approaches toward greater emphasis on cognitive self-regulation.
- ☐ **C.** They have been redesigned specifically to close the socio-economic achievement gap.
- ☐ **D.** They were developed in response to research by psychologists such as Dr. Rostova.

11. Why does Dr. Elena Rostova criticise structured cognitive training in Paragraph C?

- ☐ **A.** It focuses on training memory skills that are not relevant to real classroom learning.
- ☐ **B.** It fails to replicate the natural development of executive function that occurs through imaginative play.
- ☐ **C.** It has not been tested with a large enough sample of children to be considered reliable.
- ☐ **D.** It focuses too heavily on cooperation between children rather than individual skill-building.

12. What is the writer's primary objective in Paragraph E?

- ☐ **A.** To provide evidence proving that early cognitive gains are permanently maintained.
- ☐ **B.** To highlight conflicting evidence regarding the long-term effectiveness of early cognitive training.
- ☐ **C.** To explain why computerised memory games are ineffective in early childhood settings.
- ☐ **D.** To argue that primary school curricula should be redesigned to prevent fade-out effects.

13. What general conclusion does the author reach in Paragraph H?

- ☐ **A.** Early childhood education should completely abandon cognitive training in favour of free play.
- ☐ **B.** Direct instruction is the only proven method to ensure academic success in middle childhood.
- ☐ **C.** Effective early education requires integrating cognitive training with broader developmental needs.
- ☐ **D.** Cognitive training programmes should be standardised across all pre-schools nationally.

TIP Watch for options that sound plausible but go further than the passage actually claims — the correct answer is directly supported by the text, not just consistent with it.



Model Answers & Explanations

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🕒 reference

Reading Passage 3

Explanations reference the paragraph and exact evidence used to reach each answer — use these to check your own reasoning, not just the final answer.

Q	ANSWER	EXPLANATION & PASSAGE LOCATION
1	literacy	Para A: "...these skills...may be a stronger predictor of long-term academic success than early literacy or numeracy."
2	achievement gap	Para B: "...this kind of training could help narrow the achievement gap between children from disadvantaged and more advantaged backgrounds."
3	social negotiation	Para C: "...executive control is a natural result of self-directed play, physical exploration, and complex social negotiation."
4	cognitive overload	Para D: "...this limited capacity can easily become overwhelmed — a state known as cognitive overload."
5	fade-out effect	Para E: "Some researchers point to the 'fade-out effect', a well-documented pattern in which early cognitive gains...shrink noticeably..."
6	NOT GIVEN	No paragraph mentions any difference in prefrontal cortex maturation rate between girls and boys — this detail simply is not discussed.
7	YES	Para D: "Unstructured exploration...allows children to control the pace and complexity of their own learning, keeping their mental effort within manageable limits..."
8	NO	Para F: The writer states inhibitory control "is not simply a cognitive skill that can be measured using computerised response-time tests" — the opposite of the statement.
9	YES	Para G: Guided play offers "a compromise that appeals to both cognitive scientists and developmental psychologists."
10	B	Para A: The paragraph describes a shift in priorities — from unstructured play toward structured, teacher-directed activities training self-regulation — not a claim about the past, a redesign for equity, or a response to Rostova specifically.
11	B	Para C: Rostova argues executive control "is a natural result of self-directed play..." and that drills fail to replicate this natural process.
12	B	Para E: The paragraph presents both immediate gains and the inconclusive, contested "fade-out effect" evidence — conflicting evidence on long-term effectiveness, not a single settled conclusion.
13	C	Para H: "...the challenge for early childhood education will not be choosing between play and cognitive training, but designing learning environments that make the most of both."