

**70**

Mock exam practice for the spec section

**A2. Intellectual development**

Exam rules apply; Mobile phones on silent and in your bag, no talking or distracting others in any way, no doodling on the paper and face away from the wall displays with the answers on!

This exam paper, completed and marked is a very useful revision tool. Try your hardest every time you are set an exam and when you review how well you’ve done, set targets for revision to ensure continuous improvement.

Always have a spare pen!

**1)** Identify and outline five important aspects of intellectual development **[10 marks]**

**A)…………………………………………………………………………………………………………………………………………………………………………………………………………………………………… B)………………………………………………………………………………………………………………………………………………………………………………………………………………………………………C)………………………………………………………………………………………………………………………………………………………………………………………………………………………………………D)………………………………………………………………………………………………………………………………………………………………………………………………………………………………………E)………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

**2)** What is Noam Chomsky’s linguistic theory and what did he believe? **[4 marks]**

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**3)** What are the criticisms of Chomsky’s theory? **[2 marks]**

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**4)** Complete the table below **[12 marks]**

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| **Age** | **Language Development** |
| ***Around 3 months*** |  |
| ***Around 12 months*** |  |
| ***Around 2 years*** |  |
| ***Around 3 years*** |  |
| ***Around 4 years*** |  |
| ***5 years*** |  |

**5)** How can parents and childcare workers encourage linguistic muscles in infants and children? **[4marks]**

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| **Name of stage** | **Aprox age** | **Key Features within the Piaget stage** |
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**7)** Explain the meaning of Piaget’s terminologies; equilibrium, disequilibrium and accommodation **[6 marks]**

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**8)** How did Piaget test conservation skills? **[3 marks] ………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

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**9)** Evaluate Piaget’s theory **[10]**

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**10)** What part of the brain is involved in the formation and retrieval of memories? **[1 mark]**

**……………………………………………………………………………………………………………………11)** Biologically, what happens in later adulthood which can lead to age-related memory changes? **[2 Marks] ……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

**Answers – key word focussed**

1) A) **Language Development** – how we are acquire vocabulary, learn grammar and expression through language giving us the ability to communicate with others to form relationships. Essential for organising thoughts to share and express ideas.

B) **Problem Solving** – the ability to work through steps to achieve an end goal, leads us to be able to anticipate and predict so we can prevent problems in advance and plan to avoid them

C) **Memory**, storage, recall and retrieval information, essential in life!

D) **Moral Development** – reasoning, making choices and informs the individual how to act in an acceptable respectful manner, how to act towards self and others for the greater good.

E) **Abstract Thoughts Creative Thinking –** essential skills for thinking and discussing situations which can’t actually be observed, closely linked with problem solving and language development.

**[1 mark to identify – written in bold and then 1 mark for explaining what that is]**

2) **The Language Acquisition Device (LAD**) is Noam Chomsky's idea. His theory proposes that linguistic development in children is an **innate process**, the evidence for which comes from **'linguistic universals'**. These are the similarities between completely different languages, for instance the basic structure 'subject-verb-object', and the ways we naturally acquire the ability to use grammatical constructions to make coherent sentences (this can all be summed up as 'everyone acquires language in a similar way').

The LAD itself is a vaguely defined abstract concept; essentially **Chomsky believed that it is the inbuilt device that activates children's linguistic development when they are exposed to language in their environment** (e.g. when they hear/interact with their adult carers). There are a few factors that Chomsky has used to support his theory of language acquisition. **First is that there is an optimal learning age** like we saw with Genie Wileys case. Between the **ages 3 to 10 a child is the most likely to learn a language** in its entirety and grasp fluency. After this age, it is hard and even considered impossible for the child to completely grasp the language. This is why school systems are criticized for teaching foreign languages in high school and has only just started teaching it in primary school.

The second factor is that the child does not need a trigger to begin language acquisition, **it happens on its own**. The parent does not need to coax the child to speak, if it around language production, the child will work to produce that language on its own. Several things may help the child develop faster, such as the parent producing baby talk, or being read to on a consistent basis. But these things only have a small effect, and if they are not done, the child will still eventually

Another factor **found was that it does not matter if a child is corrected**, they still grasp the language in the same manner and speak the same way. During one stage, a child will make things plural that are already plural. For example, a child will say geeses instead of geese. It does not matter how many times a child is corrected, the child still says geeses. In one documented case, a child, after being corrected several times by the mother to say feet instead of feets, looked at the mother, said "ohh **[4 marks for 4 different points]**

*3)*Critics are quick to point out **there’s no scientific evidence of this LAD part of the brain** and there are many that still believe it’s social interaction that too much emphasis is put on the universal grammar statement. **Chomsky also didn’t explain or consider children who experience a language/speech delay due** to a variety of reasons, for example, children who have a learning disability or hearing or speech impairment. Children with Downs Syndrome are amongst those whose language is frequently delayed. **[2 points, 2 marks]**

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| Age | Language Development Key Features |
| *Around 3 months* | Infants begin to make babbling noises as they learn to control muscles associated with speech. The brain builds connections that send messages to the muscles around the mouth and tongue in young babies |
| *Around 12 months* | Infant begins to imitate sounds, such as saying bye-bye, made by carers, These copied sounds start to form singular words, such as teddy, car and no. |
| *Around 2 years* | Infants begin to make two-word sentences, such as “cat goed” meaning cat has gone away, The infant begins to build up their vocabulary, repeating words  |
| *Around 3 years* | Children begin to make simple sentences, such as “I want drink”. This the develops into the ability to ask questions, “when we go?” and the knowledge of new vocabulary grows rapidly, learning colours, big and small, low numbers etc |
| *Around 4 years* | Children begin to use clear, more grammatically correct sentences, however, there will still be errors, learning more daily. They ask questions through curiosity and a realisation of a bigger world |
| *5 years* | Children can speak using full adult grammar. Although vocabulary will continue to grow and formal grammar will continue to improve, most children can be expected to use language effectively by the age of five. |

5) **[2 marks for appropriate infant suggestion and 2 marks for young children]**

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| Babies and infants | Young children |
| * Blowing bubbles outdoors
* Moving hundreds and thousands around on a plate saying ‘p’ or ‘b’
* Watching and listening to others
* Counting each step of the stairs
* Nursey rhymes and songs sung
* Looking at picture books making animal noises
 | Taking part in listening in groupsAllow set listening and talking timesTaking part in speaking groupsSharing personal stories and rhymesPlaying word games and riddles |

6) **[1 Mark for naming stage, 1 mark for age group and 2 marks for 2 key points in stage] 16 total**

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| Name of stage | Aprox age | Key Features within the Piaget stage |
| Sensorimotor stage | 0-2 years | The infant only knows the world via its immediate senses; sight, taste, touch, sound and the (motor) actions it performs.The infant lacks internal mental schemata and is unable to distinguish between itself and its environment (profound egocentrism)The infant lacks *object permanence* – fails to see or act on ‘hidden’ objects |
| Sensorimotor stage | 0-2 years | At 0-5 months an object that was visually hidden is not searched for.At 8 months children will search for the object but will tend to search in places it has seen the object hidden before – even though the object is visually moved to a new hiding place |
| Pre-operational stage | 2-7 years | Throughout this stage the child’s continues to add to or create new schemas. Assimilation; Which is using an existing schema to deal with a new object or situation. **Accommodation**– This happens when the existing schema (knowledge) does not work, and needs to be changed to deal with a new object or situation. **Equilibration**– This is the force which moves development along. Piaget believed that cognitive development did not progress at a steady rate, but rather in leaps and bounds. Equilibrium occurs when a child's schemas can deal with most new information through assimilation. However, an unpleasant state of disequilibrium occurs when new information cannot be fitted into existing schemas (assimilation). The child is still dominated by the sensory information it receives and is thus very influenced by the appearance of things; sightThey fail to be able to carry out logical operations and show centration (only focus on one aspect of an object at a time)Lack of Conservation – *the inability to realise that some things remain constant or unchanged despite changes in visible appearance* |
| Concrete Operational | 7-11 years | The child is able to carry out mental operations such as the liquid conserve experiment and de-centre, meaning they generally can see another person’s point of view. The child can complete class inclusion tasks and the three mountains task successfully (overcoming egocentrism) This means the child can work things out internally in their head (rather than physically try things out in the real world). Children can conserve number (age 6), mass (age 7), and weight (age 9). Conservation is the understanding that something stays the same in quantity even though its appearance changes |
| Formal Operational stage | 12 years plus | Ideas can be manipulated in the head and reasoning deductions can be carried out on verbal statements, without the aid of visual/concrete examples. They can think about hypothetical (forethought imagining) problems such as planned bus journey.Can think about abstract concepts, such as the pendulum study eg. swinging pendulum with different size plasticine balls.Consequences considered and things are planned in advance.During this time, people develop the ability to think about abstract concepts, and logically [test hypotheses](https://www.simplypsychology.org/formal-operational.html). |

7) Equilibrium is a state of cognitive balance when a child’s experience I in line with what they understand (no new unknown knowledge or learning). Disequilibrium is a state of cognitive imbalance between experience and what is understood (how new knowledge presents itself) Piaget’s term ‘accommodation’ is when schemas (known knowledge and concepts) are adjusted as new knowledge is understood in line with their new experience. **[1 mark for each corrected explanation of terminology]**

8) Used two equal amounts of liquid in glass beakers then poured one into a taller beaker in front of the child or two lines of coins, spread at equal distance, then increased the distance between each coin in one line so it appears longer. **[3 marks for accurate description of experiment]**

9) **[10 marks in total, 4 positives and 4 criticisms written well in a logical manner]**

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| Positives areas of Piaget’s theory  | Negatives/criticisms of Piaget |
| Piaget said children were motivated to learn through curiosity and a thirst for knowledge and they did not require or need any encouragement. | Bruner did not agree with Piaget’s notion of ‘fixed’ stages and the readiness to learn. He believed that with adult support children could be ‘advanced’ into learning at a higher level, progressing to higher level learning skills. Bruner believed, like others, thought that a individuals ability to use formal logical thoughts may depend on how much encouragement (praise) they had received to think logically and explore with confidence. |

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| Positives areas of Piaget’s theory  | Negatives/criticisms of Piaget |
| Piaget believed children’s cognitive abilities developed in clear stages and gave them approximate age categories, relating to averages in children he studied. | Some critics believed Piaget over estimated or underestimated Piaget’s beliefs of children’s cognitive abilities, especially his thoughts on egocentrism as children age 5 have been seen showing empathy towards others |
| Object permanence was Piaget’s terminology when describing how children ‘forget’ and believe something has vanished, demonstrating it well in his study | Bower, a critic of Piaget, suggested that by 8 months a child understands that objects have a permanent existence. He suggests that infants begin to understand their mothers are permanent by 5 month. Berryman et al (1991) believes that Piaget underestimated the perceptual capabilities of the sensorimotor developments. |
| Conservation – Piaget thought younger children focus on one aspect eg. The tall glass or the longer line because they were sat in front of the experiment and asked about conservation and failed to see the amount was the same, equal. | Many theorists believe that children can handle problems in a logical way. Bruner (1991) realised that children can think logically as long as they understand what the problem is and how to deal with it and as long as the problem is put in language that they can understand. (water in jar experiment using a duck). Piaget underestimated children’s thinking ability by stating that children did not understand the logic of language between 4-7. |
| Piaget believed that in the preoperational stage that children could not de-centre, based on the three mountains experiment | Harris (1989) believed that children as young as 3 could understand others perspective, particularly in comforting others. Perhaps children failed at Piaget mountain test because it was too formal or too complex, children do not possibly reach full potential in formal settings. |
|  | Abstract thinking It is believed now that Piaget **overestimated** the capabilities of the average adolescent and adult, he stated that formal operations develop generally for all as part of the developmental stage. However Segall et al (1990) report on a number of studies, which suggest that formal operational logic is dependent on education and training rather than a natural ability, which simply occurs in humans. |

10) The **hippocampus** is the region of the brain involved in memory **[1 mark]**

11) Decrease blood flow to the brain as fatty deposit build up in jugular and main arterial blood vessels to all regions of the brain and the artery walls hardening so the pulse beat muscular action of the arteries is not as efficient so less oxygen and nutrient rich blood reaches the cells of the heart, impacting n memory along with other aspects the brain controls.