

3.4 Cognitive Development Across the Lifespan

Name: _____ Class: _____ Date: _____ **Total: 18 marks**

KEY WORDS assimilation 同化 • egocentrism 自我中心 • piaget 皮亚杰
• zone of proximal development 最近发展区 • accommodation 顺应

Objective

Build the skills to answer exam questions on **cognitive development** 认知发展.

You must be able to:

- describe **assimilation** 同化 and **accommodation** 顺应
- name the stages of the Piagetian sequence and one achievement of each
- explain **scaffolding** 支架 and the **zone of proximal development** 最近发展区
- state what later research revised about stage accounts

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Two processes

A **schema** is a mental framework. **Assimilation** fits new information into an existing schema; **accommodation** changes the schema to fit information that will not fit.

■ The stage sequence

Sensorimotor: knowing through action; achieving **object permanence**. **Preoperational**: symbolic thought, but **egocentrism** and failure of conservation. **Concrete operational**: logical operations on concrete material, including **conservation**. **Formal operational**: abstract and hypothetical reasoning.

■ Scaffolding

A more capable partner supports a learner through what they cannot yet do alone — the **zone of proximal development** — and withdraws support as competence grows. Development here is social before it is individual.

■ What was revised

Later work found children often competent earlier than the stage account predicted, and development less uniformly staged: performance depends heavily on how the task is presented.

2 Practice

2.1 State the difference between assimilation and accommodation. [2]

2.2 Explain what the zone of proximal development describes. [2]

2.3 A child says the taller glass holds more water although both were poured from identical glasses.

(a) Name the ability not yet acquired. [1]

(b) State the stage this indicates. [1]

3 Exam-style questions

3.1 Knowing that a hidden object still exists is [1]

- **A** conservation
- **B** object permanence
- **C** egocentrism
- **D** accommodation

3.2 Later research revised stage accounts mainly by showing that children [1]

- **A** develop more slowly than described
- **B** often show competence earlier when tasks are simplified
- **C** never reach formal operations
- **D** do not use schemas

3.3 A teacher gives hints that gradually decrease as a pupil masters a task.

(a) Name the technique. [1]

(b) Explain why withdrawing support is part of the method. [2]

3.4 Applied research task. A child is shown two identical glasses of juice, filled to the same level, and agrees they hold the same. The juice from one is then poured into a tall narrow glass while she watches. She now says the tall glass has more. A second, older child watching says the amount cannot have changed because nothing was added or taken away.

(a) Name the Piagetian stage each child is in, and the concept the younger child has not yet acquired. [3]

(b) Explain the older child's reasoning in terms of reversibility. [1]

(c) Explain what egocentrism means in Piaget's theory, and give an example that is not the juice task. [2]

(d) Vygotsky would explain the older child's success differently. Explain his account using the zone of proximal development and scaffolding. [1]

Solutions

2.1 assimilation fits new information into an existing schema; accommodation changes the schema to fit the information.

2.2 the range of tasks a learner cannot do alone but can do with support; development occurs by working within it with a more capable partner.

2.3 (a) conservation. (b) preoperational.

3.1 B. object permanence is the sensorimotor achievement.

3.2 B. simplified tasks reveal earlier competence than the original stage tests.

3.3 (a) scaffolding. (b) the aim is independent performance, so support must be removed as competence grows or the learner never works unaided.

3.4 (a) The younger child is in the **preoperational** stage (1); the older child is in the **concrete operational** stage (1); the younger child has not yet acquired **conservation** (1).

(b) She can mentally **reverse** the action — imagine the juice poured back into the original glass — and so knows that the quantity is unchanged by a change of container (1).

(c) Egocentrism is the inability to take another person's point of view, so the child assumes others see and know what she does (1); for example, a child hiding by covering her own eyes, or describing a picture over the phone as though the listener could see it (1).

(d) For Vygotsky the older child succeeds because the task now falls within her **zone of proximal development** — the gap between what she can do alone and what she can do with help (1); adults and more able peers have **scaffolded** the reasoning in earlier encounters until she could carry it out unaided.