

Scheme of Strategies and Schema Development

Category	Strategy	Schema Development Goal	Example
Scaffold	Instruct	A: Introduce new attributes/relationships T: Clarify fuzzy concepts R: Explicitly state contradictions and guide restructuring	R: A whale looks like a fish, but observe how fish breathe and how whales breathe.
	Feedback	A: Confirm or correct understanding T: Feedback on minor deviations R: Reinforce the logic of restructured concepts	A: Child: "So, a spider has eight legs?" → "That's exactly right!"
	Explain	A: Expand the attribute network T: Contrast conceptual differences R: Re-explain the new schema	T: They all have wings, but a bat’s wings are skin stretched over long finger bones, while a bird’s wings are made of feathers.
	Model	A: Demonstrate new behavior paradigm T: Exhibit refined operations R: Demonstrate applying new concepts	A: Watch how I do this. First, I jump to this square.
	Social-emotional support	A: Encourage exploration of the unknown T: Support trial-and-error correction R: Resolve cognitive conflict	T: It's okay to guess wrong. Every guess gets us closer to the answer.
Question	Information seeking	A: Query for unknown information T: Focus on detailed variations R: Expose cognitive contradictions	R: You said butterflies and birds both fly. Do they flap their wings the same way?
	Memory prompting	A: Connect with past experience T: Activate contrasting memories R: Compare contradictory experiences	A: Do you remember the robin we saw in the park? What was it doing on the ground?
	Thought provoking	A: Explore conceptual boundaries T: Analyze subtle relationships R: Challenge cognitive frameworks	R: Child: "A whale and a fish are the same." → "If where an animal lives doesn’t decide its category, what other features can we use to classify them?"
	Confirmation	A: Verify initial understanding T: Confirm detailed cognition R: Consolidate new cognitive structures	A: So, you mean, to be a planet, it must revolve around the sun?
	Guided completion	A: Complete the knowledge chain T: Finish a detailed description R: Break through cognitive barriers	R: If a whale isn't a fish, and a dolphin is very similar to a whale, then a dolphin must belong to the category called...?

Scheme of Cognitive Alignment Level

Cognitive Alignment Level	Definition	Example
Fully Aligned	The child's response directly and accurately addresses the educator's question or prompt. This indicates the child fully understands the educator's intent and is actively engaged in the current cognitive task.	<ul style="list-style-type: none">• Educator: "An eagle has big wings for gliding, and a sparrow has small wings, so it has to keep on...?"• Child (Fully Aligned): "Flapping!"
Partially Aligned	The child's response is related to the educator's topic but does not fully or accurately answer the core question. This suggests the child only understood part of the question, or their attention was drawn to a minor detail in the prompt, or they are attempting to connect their own knowledge with some deviation.	<ul style="list-style-type: none">• Educator: "If this plant goes a long time without water, what do you think its leaves will look like?"• Child (Partially Aligned): "My mom has a plant, and it's red and very pretty."
Unaligned	The child's response is completely unrelated to the educator's prompt. This usually indicates the child is distracted, did not hear or understand the question, or is completely absorbed in their own thoughts. This type of response breaks the logical flow of the conversation.	<ul style="list-style-type: none">• Educator: "Why do you think this piece of wood floats on the water, but this stone sinks?"• Child (Unaligned): "I want ice cream tonight."
Unknown	The child's response is too vague, brief, or inaudible to determine their cognitive state. This includes unintelligible mumbling, simple nods/shakes of the head (without contextual description), or unidentifiable words.	<ul style="list-style-type: none">• Educator: "So, you think all the round blocks should go in this box, right?"• Child (Unknown): (Quietly) "That..."