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Partially correct constructs illuminate students' inconsistent answers.

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Summary: We present a view of knowledge construction processes, focusing on partially correct constructs. Motivated by unexpected and seemingly inconsistent quantitative data based on the written reports of students working on an elementary probability task, we analyze in detail the knowledge construction processes of a representative student. We show how the nested epistemic actions model for abstraction in context facilitates following the emergence of a learner's partially correct constructs (PaCCs). These PaCCs provide added insight into processes of knowledge construction. They are also used in order to analyze and explain students' thinking in situations where some of the students' answers were unexpected in light of their earlier answers or inconsistent with earlier answers. In particular, PaCCs are explanatory tools for correct answers based on (partially) faulty knowledge and for wrong answers based on largely correct knowledge.

Classification: C30 K50 D20

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