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Abstract for: Integrating Systems Thinking into the IB PYP Framework

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This study explores integrating systems thinking into primary education, focusing on the IB framework. Using a model-based inquiry approach, it examines how students engage with Systems Thinking/Dynamics Tools to understand complex environmental issues like the Aral Sea crisis. Findings aim to develop strategies for promoting conceptual understanding and problem-solving skills, while aligning systems thinking with the requirements of the PYP programme. This study uses System Dynamics Tools, including stock-flow diagrams and Behavior Over Time Graphs, to analyze the Aral Sea crisis within an inquiry-based learning framework. It includes a structured booklet with predictive modeling tasks, open-ended reflections, and PYP concept alignments to assess student understanding. By integrating IB Approaches to Learning (ATL) skills, the study evaluates how systems thinking enhances problem-solving and conceptual connections in primary education The present study is still in the analysis phase. However, it is important to note that preliminary results, including key findings and trends, will be available and ready for discussion by the time of the conference. Findings show that simulation learning and systems tools enhance students' grasp of complex relationships. While simulations support reasoning, students struggle with independent application, indicating a knowledge transfer gap. Causal diagram analysis highlights two dominant structures—flat breadth-first and deeply nested depth-first—indicating complexity progression. Students' perception of links between tools and PYP concepts aids their analysis, but refining instruction with guided prompts and practice is key for independent reasoning