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Implementing Search-Based Activities in Mathematics Instruction, Grounded in Intuitive Reasoning

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Abstract : Fostering a mathematical style of thinking is crucial for cultivating intellectual personalities capable of thriving in modern society. Intuitive thinking stands as a cornerstone among the components of mathematical cognition, playing a pivotal role in grasping mathematical truths across various disciplines. This article delves into the exploration of leveraging search activities rooted in students' intuitive thinking, particularly when tackling geometric problems. Emphasizing both student engagement with the task and their active involvement in the search process, the study underscores the importance of heuristic procedures and the freedom for students to chart their own problem-solving paths. Spanning several years (2019-2023) at the Physics and Mathematics Lyceum of Dushanbe, the research engaged 17 teachers and 78 high school students. After assessing the initial levels of intuitive thinking in both control and experimental groups, the experimental group underwent training following the authors' methodology. Subsequent analysis revealed a significant advancement in thinking levels among the experimental group students. The methodological approaches and teaching materials developed through this process offer valuable resources for mathematics educators seeking to enhance their students' learning experiences effectively.

Keywords : teaching of mathematics, intuitive thinking, heuristic procedures, geometric problem, students.
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