

Expert and Novice Problem-Solvers Differences: A Discourse for Effective Teaching Delivery in Physics Classrooms

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Abstract : This paper reports on a study of problem solving differences between expert and novice Problem solvers for effective physics teaching. Significant differences were found both at the conceptual level and at the level of critical thinking, creative thinking and reasoning. It is suggested for a successful solution of a problem, conceptual knowledge alone may not be sufficient. There is the need of the knowledge of how the conceptual knowledge should be applied (problem solving skills). It is hoped that this research might contribute to efforts of exploring ways for students to acquire a powerful conceptual toolkit based on experts like problem solvers approach for effective teaching delivery.

Keywords : conceptual knowledge, procedural knowledge, critical thinking, creative thinking, reasoning ability

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