Integration of Instructional Strategies in High School Physics: An Exploration on Perspectives of Students and Teachers from India and USA

MINI NARAYANAN, KUNNATHODI ABDUL GAFOOR, University of Calicut — An attempt is made to establish a theory on integrating instructional strategies and developing a positive attitude toward Physics among high school students. A structured interview was conducted in the form of questionnaire among the students and teachers of Physics among 89 randomly selected high schools in India and USA to verify the proposed theory. Perception, preference, and pros and cons with traditional as well as research-based instructional strategies have been analyzed. Statistical analyses reveal that there is a significant difference on preferred instructional strategies between students and teachers regardless of the nationality or exposed strategies. Students prefer student-centered instructional strategies integrated with strong teacher participation whereas the teachers prefer teacher-centered or student-centered strategies in their purest forms. We make an argument that a properly designed instructional strategy based on students’ epistemological beliefs in learning Physics could benefit them in modifying their attitudes toward the subject. In conclusion, the study supports the most significant goals in Physics Education Research: Achievement, Conceptual Understanding and Positive Attitude toward learning Physics.

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