Confluence of social drivers and education research on physics education: Implications in the age of AI

Education is a social construct designed to serve learners, society, and national development needs. Within this context, physics education plays a vital role by driving technological advancement and contributing to economic and social progress. A dynamic feedback loop exists: as societies and technologies evolve, they become catalysts for change in curricula and educational practices, necessitating continual adaptation.

Physics Education Research (PER), a relatively recent field, is especially sensitive to social influences and local contexts, including equitable access for the majority and engagement of underrepresented groups. This presentation will examine three key strands of PER—**conceptual understanding** [1,2,3], **inquiry-based learning** [4,5], and the use of **historical narratives** [6,7,8]. Very briefly, it will trace their development over time, evaluate their current status, and explore future possibilities in the age of artificial intelligence. Finally, the discussion will consider the implications of these trends for access for the majority and fostering inclusivity in physics education.

References

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