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# Impact of Constructivist Teaching on Students' Beliefs about Teaching and Learning in Introductory Physics

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## Abstract

This article reports on the impact of different teaching styles on students' beliefs about teaching and learning—concerning effective teaching strategies, effective learning strategies, and learning goals—in an introductory physics course in engineering. A questionnaire including closed and open‐ended questions was administered to two groups: 55 students taught based on a constructivist view of learning by the author, and 51 students in a traditional class taught by another instructor. Eight students from each group were then interviewed. The results show that the constructivist teaching seemed to effectively shift students' beliefs about the teaching and learning tasks towards a constructivist orientation, as well as develop their epistemological beliefs about science knowledge to a more sophisticated perspective. On the other hand, the traditional teaching, limited to a didactic way of lecturing, seemed to have enhanced students' commitments to transmission views of learning and objectivist‐positivist perspectives of science knowledge. However, both groups were found to consistently favour superficial learning strategies when aiming to achieve good grades. The current constructivist teaching program may need further modifications to facilitate the abandonment of superficial learning strategies.