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Evaluation of Traditional Labs As Effective Content Delivery In A High-Enrollment IPLS Course. (G)*

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Recent studies have suggested that structured laboratory activities may not be the most effective way of teaching content and concepts to first year physics majors. We examine and extend that investigation to a high-enrollment Introductory Physics for the Life Sciences course. Using a varied laboratory curriculum, we correlate quiz marks, exam marks, and student attitudinal data to determine whether specific concepts were reinforced by laboratory activities. We also attempt to ascertain what additional skills are delivered by labs; whether they should be considered conceptual instruction tools, focused on practical skills, research or data analysis skills, a hybrid of all, or something else entirely. Initial results suggest that a highly scaffolded lab that limits inquiry in favour of specific content instruction may not be the most effective tool for content reinforcement.

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