

ICAP: How to Promote Deeper Learning by Engaging Students Cognitively

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ICAP is a theory of active learning that differentiates students' engagement based on their behaviors within the learning environment. ICAP postulates that *Interactive* engagement, demonstrated by collaborative dialogs, is superior for learning than *Constructive* engagement, indicated by generative behaviors. Both kinds of engagement exceed the benefits of *Active* or *Passive* engagement, marked by physically manipulative and attentive behaviors, respectively. This paper describes two five-year projects that attempted to translate ICAP into a theory of instruction for K-12 teachers, assessing both teachers' understanding, teachers' implementation, and students' learning. We show the limitation of teachers' overall knowledge transfer, and postulate why it is difficult to implement optimal co-constructive ways of collaborative or *Interactive* engagement. Ideas for how to salvage lecturing in college instruction will also be discussed.