

Abstract Submitted
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Synthesis of multiple pedagogical modalities SAAMI SHAIIBANI,
Instruction Methods, Academics Advanced Scholarship (IMAAS) — The inter-
relationship between concepts in kinematics and their counterparts in calculus is
such that a poor grasp of the latter can compromise student understanding of
the former, and vice versa. One reason for this difficulty is the overreliance on
a single preferred teaching method, coupled with a tendency to underemploy other
approaches that are not as comfortable for the instructor. An alternative strat-
egy has been developed in this research from the comprehensive combination of
all of the standard individual instructional techniques, which are described sepa-
rately elsewhere[1]. Optimum integration of these various modalities[2] is achieved
in a progression of stages: content is introduced with a verbal method, and then
enhanced by graphical and numerical methods, before the traditional emphasis on
an analytical method is presented. The successful outcomes experienced here are
particularly noteworthy in courses with diverse levels of student ability[3]. [1] for
example, courses offered by College Board; [2] manifested in eponymous construct;
[3] <http://meetings.aps.org/link/BAPS.2017.APR.H2.7>

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