

Qualitative Validation Summary

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1 Introduction

The following presents a catalog of validation experiments to date, the type of class the students were taking, and the number of students involved. For discussion of the qualitative validation process, see the Validation Framework document in the Theory section of the website.

2 Summary

2.1 Qualitative Validation Experiment - WVU-1

The following items were tested with 16 students in Calculus-based physics classes.

KD1-1 - Outcome: revision

KD1-2 - Outcome: passed

KD1-3 - Outcome: discontinued

KD1-4 - Outcome: passed

KD1-5 - Outcome: revision

KD1-6 - Outcome: revision

KD1-7 - Outcome: passed

KD1-8 - Outcome: passed

KD1-9 - Outcome: passed

KD1-10 - Outcome: passed

KD1-11 - Outcome: revision

KD1-12 - Outcome: passed

KD1-13 - Outcome: revision

KD1-14 - Outcome: passed
KD1-15 - Outcome: revision
KD1-16 - Outcome: passed
KD1-17 - Outcome: revision
KD1-18 - Outcome: revision
KD1-19 - Outcome: revision
KD1-20 - Outcome: revision
KD1-21 - Outcome: passed
KD1-22 - Outcome: revision
KD1-23-v2 - Outcome: revision
KD1-24 - Outcome: passed
KD1-25 - Outcome: passed
KD1-26 - Outcome: passed
KD1-27 - Outcome: passed

2.2 Qualitative Validation Experiment - WVU-2

The following items were tested with 17 students in Calculus-based physics classes.

KD1-1-V2EC - Outcome: passed
KD1-2 - Outcome: passed
KD1-5-V2EC - Outcome: passed
KD1-6-V2EC - Outcome: passed
KD1-28 - Outcome: passed
KD1-11 - Outcome: passed
KD1-13-V2EC - Outcome: passed
KD1-15-V2EC - Outcome: passed
KD1-16 - Outcome: passed
KD1-17-V2EC - Outcome: passed
KD1-18-V2EC - Outcome: passed

KD1-19-V2EC - Outcome: passed

KD1-20-V2EC - Outcome: passed

KD1-22-V2EC - Outcome: passed

KD1-23-V3EC - Outcome: passed

KD1-29 - Outcome: passed

KD1-30 - Outcome: passed

KD1-31 - Outcome: passed

KD1-32 - Outcome: passed

KD1-34 - Outcome: passed

KD1-35 - Outcome: passed

KD1-36 - Outcome: passed

KD1-37 - Outcome: passed

KD1-38 - Outcome: passed

KD1-39 - Outcome: passed

KD1-40 - Outcome: passed

2.3 Qualitative Validation Experiment - WVU-3

The following items were tested with 14 students in Calculus-based physics classes.

KD1-41 - Outcome: passed

KD1-42 - Outcome: passed

KD1-43 - Outcome: passed

KD1-44 - Outcome: passed

KD1-45 - Outcome: passed

KD1-46 - Outcome: passed

KD1-47 - Outcome: passed

KD1-48 - Outcome: passed

KD1-49 - Outcome: passed

KD1-50 - Outcome: passed

KD1-21 - Outcome: passed
KD1-10-V3EC - Outcome: passed
KD1-39-2 - Outcome: passed
KD1-35-2 - Outcome: passed
KD1-22-V2EC - Outcome: passed
KD1-23-V3EC - Outcome: passed
KD1-26 - Outcome: passed
KD1-30 - Outcome: passed
KD1-31 - Outcome: passed
KD1-32 - Outcome: passed
KD1-45 - Outcome: passed

2.4 Qualitative Validation Experiment - WVU-4

The following items were tested with 19 students in Calculus-based physics classes.

KD1-50 - Outcome: revision
KD1-6-V4EC - Outcome: passed
KD1-7 - Outcome: passed
KD1-11-V6EC - Outcome: passed
KD1-12 - Outcome: passed
KD1-38-V6EC - Outcome: passed
KD1-13-V4EC - Outcome: revision
KD1-15-V2EC - Outcome: passed
KD1-16 - Outcome: passed
KD1-17-V2EC - Outcome: passed
KD1-19 - Outcome: passed
KD1-51 - Outcome: passed
KD1-20-V2EC - Outcome: passed
KD1-22-V2EC - Outcome: passed

KD1-23-V2 - Outcome: passed
KD1-24 - Outcome: passed
KD1-28 - Outcome: passed
KD1-32 - Outcome: revision
KD1-31 - Outcome: discontinued
KD1-37 - Outcome: passed
KD1-52 - Outcome: passed
KD1-41 - Outcome: passed
KD1-42-V6EC - Outcome: passed
KD1-43-V5EC - Outcome: passed
KD1-44-V6EC - Outcome: passed
KD1-46 - Outcome: passed
KD1-47 - Outcome: passed
KD1-48 - Outcome: passed
KD1-10-V6EC - Outcome: revision

2.5 Qualitative Validation Experiment - WVU-5

The following items were tested with 13 students in Algebra-based physics classes.

KD1-V3 - Outcome: passed
KD1-10-V7EC - Outcome: passed
KD1-5-V4EC - Outcome: revision
KD1-6-V3 - Outcome: passed
KD1-8-V4EC - Outcome: revision
KD1-11-V6EC - Outcome: passed
KD1-12 - Outcome: passed
KD1-13-V5EC - Outcome: passed
KD1-14-V3 - Outcome: passed
KD1-15-V2EC - Outcome: passed

KD1-17-V2EC - Outcome: passed

KD1-V2EC - Outcome: passed

KD1-18 - Outcome: passed

KD1-48 - Outcome: passed

KD1-19-V3 - Outcome: passed

KD1-20-V2EC - Outcome: revision

KD1-22-V2EC - Outcome: passed

KD1-23-V2 - Outcome: revision

KD1-32-V5EC - Outcome: passed

KD1-44-V6EC - Outcome: revision

KD1-40-V4EC - Outcome: passed

KD1-41 - Outcome: revision

KD1-42-V6EC - Outcome: revision

KD1-38-V3AH - Outcome: passed

KD1-18-V5EC - Outcome: passed

KD1-52 - Outcome: revision