The Personalized System of Instruction (PSI), or Keller Plan, Thirty Years Later

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(PSI),
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Thirty Years Later

by
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What Are the Essential Features of PSI?

• individually, self-paced - flexible pacing

• mastery based

• repeatable testing
  using proctors, for immediate feedback

• peer tutoring

• stress is placed on the written word
  explicitly stated behavioral learning objectives
  on-demand course content

• lectures for motivation (or abandoned)
  not for critical information
Spread of PSI in Physics

• **Initial paper:** Fred S. Keller

• **Summer, 1971 – AAPT talks**
  AJP article by Ben Green
  “Teaching Physics by the Keller Plan at MIT” AJP, 39, 764- 775, 1971.

• **Fall, 1971 and beyond, Keller Plan workshops**
  ERC, MIT

• **Center for Personalized Instruction**
  Georgetown University

• **film PSI: An Alternative – UNL, 1972**

• **CBP Modules, 1975 – sold to physics teachers**
Was PSI any good?

• Over 350 studies between 1924 and 1965 – no difference in college student learning, no matter what the teacher did.

• PSI results – WOW!
  • 28 out of 28 independent comparisons favored PSI using student performance of course exams!
    T.C. Taveggia, AJP 44, 1028-33, 1976

PSI favored significantly:
• End-of-course - 34 out of 39 studies
• Retention of course content – 9 out of 9 studies
• Transfer of knowledge – 4 out of 5 studies
• Overall evaluation – 7 out of 9 studies
  Kulik, Kulik & Smith, Prog.Learn. & Ed. Tech., 13, 23-30, 1976
Why has it disappeared from physics?
• Institutional reasons
  - flexible pacing - incompatible
  - reward system for faculty
  - reward system for average students
• Personal reasons
  - more work
  - no external reward for improvements in student learning.
Message for today

• Focus on student behaviors

• Provide frequent, repeatable, immediate feedback

• Offer a positive learning environment

• Provide information on-demand