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Personalized System of Instruction (PSI), or Keller Plan, Materials

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

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AAPT Summer Meeting, 2005

(overhead slides of the presentation)

The Personalized System of Instruction (PSI), or Keller Plan 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 "Good-bye Teacher..." J. Applied Behavior Analysis <u>1</u>, 78-89, 1968.
- 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
 "A Guide to What, How, Why and Why Not of PSI"
- 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 <u>44</u>, 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