Case Study Analysis
in an
Enhancing Education through Technology
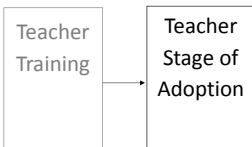**(EETT) Program Evaluation**

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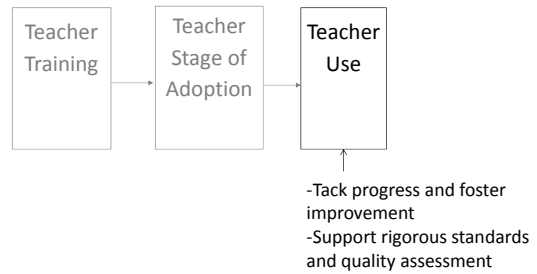Kathleen Barnhart, *Illinois State Board of Education*
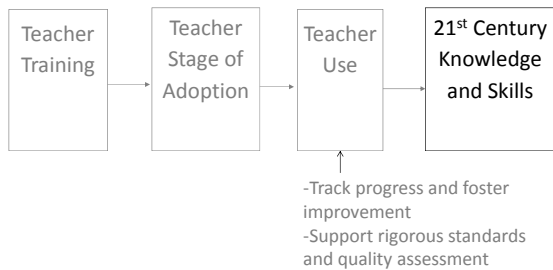

Technology Integration

Teacher Training

Technology Integration

Teacher Training → Teacher Stage of Adoption

Technology Integration

Teacher Training → Teacher Stage of Adoption → Teacher Use

-Tack progress and foster improvement
-Support rigorous standards and quality assessment

Technology Integration

Teacher Training → Teacher Stage of Adoption → Teacher Use → 21st Century Knowledge and Skills

-Track progress and foster improvement
-Support rigorous standards and quality assessment

Evaluation Study Questions

- **Access to and use of advanced technologies**

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- **Teacher effectiveness and student outcomes**
- **Technology systems to track student progress**
- **Technology-integrated strategies to improve school effectiveness**

Methods

- 9 EETT school districts

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- 2 case study evaluators

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- Data
  – Extant Data
  – Case Study Interview Protocol
  – TIMMS Technology Integration Classroom Observation

Teacher tech use	Yes/No	:00 -:05
Student tech use	Yes/No	
Tech complexity	1-Simple, 2-Mod Complex, 3-Advanced, 4-None	
Student tech integration	1-Prescriptive, 2-Some self-dir, 3-Guide/Shape, 4-None	
Topic integration	1-Low, 2-Moderate, 3-High, 4-None	
Technology used	Describe hardware/software	
Organization	1-Indiv, 2-Pairs, 3-Small Grp, 4-Whole Class, 5-Stu Present	
Management	1-None, 2-Few, 3-Repeated	
Cognitive level of activity	1-Receipt, 2-Applied, 3-Know Rep,4-Know Construct, 5-Other/Off task	
Interaction	1-Teacher, 2-Student, 3-Balanced, 4-Indiv Work	
Engagement	1-Low, 2-Mixed, 3-High	

Data Analysis
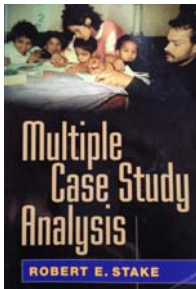
- Interpretive case study
- Coding schema for level of technology use, stage of technology adoption, and school supports and context
- Discussion to consensus
- Formal case study database

ACOT &Timms - Levels of Tech Use

ACOT	Tech Observ	
Adoption	Low	Simple teacher tech use. Prescriptive or no student use. Low topic integration.
Adaptation	Medium	Moderately complex teacher tech use. Somewhat self-directed student use. Medium topic integration.
Appropriation	High	Advanced teacher tech use. Students guide & shape learning with technology. High topic integration.

Stages of Adoption of Technology

1: Awareness	Aware that technology exists but have not used it /avoiding it. Anxious about prospect of using computers.
2: Learning the process	Trying to learn the basics. Sometimes frustrated. Lack confidence with computers.
3: Understanding & application	Beginning to understand process of using technology and can think of specific tasks in which it might be useful.
4: Familiarity and confidence	Gaining sense of confidence and starting to feel comfortable using computers.
5: Adaptation to other contexts	Think about computer as a tool and am no longer concerned about it as technology. Can use it in many applications and as an instructional aid.
6: Creative application to new contexts	Apply technology in classroom as an instructional tool integrated it into curriculum.

Support and Context MILE Guide Self-Assessment for PD and Assessment

	Early	Transitional	21st Century
Professional Development	Early	Transitional	21st century
Focus -improving instruction	< 25%	25-75%	>75%
Available regardless of time or place	< 25%	25-75%	Embedded, customized, collaborative, tech-infused
Focus on 21st century skills	Some	Available & showcased	Access to & use of learning communities, professional coaches; tech infrastructure & tools enhance mastery of 21st cent skills.
Assessment			
Classroom level assessment for 21st century skills	<25%	25-75% Capstone projects & portfolios	>75% Comprehensive, balanced approach supports student learning; access to assessment data to guide learning

Findings: Access & Tech Use

- Increased access to technology, with some limitations

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- Increased student and teacher access to technology
- Access to technology increased student proficiency
- Majority of districts used free software and Web-based resources

Findings: Technology Integration

- Student-led instruction more often observed in 1-to-1 computing situations

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- Student-led instruction more often observed in 1-to-1 computing situations
- Teachers' technology integration skills increased
- Inconsistent analysis of student skills

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Findings: Technology Support

- Peer networking

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- Peer networking
- Teacher leaders / train the trainer
- Hardware support, repair, and replacement
- Dedicated staff, and a system to analyze effectiveness of support

Findings: Professional Development

- Basic concepts
- Advanced, student-centered technology integration
- Research-based curriculum models
- Outcomes-based assessment
- Student-centered curricular units
- Personal growth plans

Findings: Systems to Track Progress

- Assessments and parent portals implemented prior to grant
- Online access to digital student products increased parental awareness and support
- Collaboration & learning communities on assessment and data tracking

Summary

- Plans implemented
- PD – existing courses, learning communities, peer support
- Technology support
- Increased integration skills but limited evidence of advanced technology use
- Effective leadership
- Amount of support