





REFLECT Initiative

Researching Electronic portfolios: Learning, Engagement, Collaboration through Technology

Researching and Developing a Continuum of E-Portfolios for Tomorrow's Teachers

Research Project Sponsor

- TaskStream
- Comprehensive Internet-based toolset for Standards-Based Curriculum Planning and Assessment, Electronic Portfolios
- States' Career Clusters has approved TaskStream to facilitate a turn-key, Web-based infrastructure for the competency-based career pathways or programs of study.




The Universal Toolset for Demonstrating Learning Achievement

Competency Assessment & Reporting

Align skills, standards, and other performance indicators with learner evidence. Manage, aggregate, and analyze assessment results.

Electronic Portfolios

Create Presentation, Learning, and Resource portfolios to be shared for feedback, publication, and utilized for competency assessment.

Standards-based Instruction

Utilize the Standards Manager, Rubric Wizard, and instructional management tools to facilitate the development and tracking of instruction.

Resource Management & Communications


Harness powerful local publication capabilities and extensive communication channels for effective sharing and collaboration.

Markets Served

- INDIVIDUALS
- HIGHER EDUCATION
- SECONDARY & ELEMENTARY SCHOOLS
- CONTENT PROVIDERS
- BUSINESS & INDUSTRY
- HEALTH & GOVERNMENT
- NOT-FOR-PROFITS

Why The Reflect Initiative?


- Empirical evidence on effectiveness of e-portfolios in secondary schools
- Use portfolios to complement standardized tests
- Conduct a meta-study made of many smaller studies



The Goal:

- To collect data and draw conclusions about the impact of electronic portfolio on:
 - student learning
 - Motivation
 - Engagement


...in secondary schools



What is a Portfolio in Education?

A portfolio is a purposeful collection of student work that exhibits the student's efforts, progress and achievements in one or more areas *[over time]*.

(Northwest Evaluation Association, 1990)



What is a Portfolio in Education? (2)

The collection must include:

- student participation in selecting contents
- the criteria for selection
- the criteria for judging merit
- evidence of student self-reflection

(Northwest Evaluation Association, 1990)



Definitions

- **Artifact:** a piece of student work
- **Captions:** brief explanatory reflection on a piece of work in a portfolio
- **Evidence of Learning in a Portfolio**
 - Artifact
 - + Reflection (Student's Rationale)
 - + Validation (Teacher's Evaluation)



Why use Portfolios?

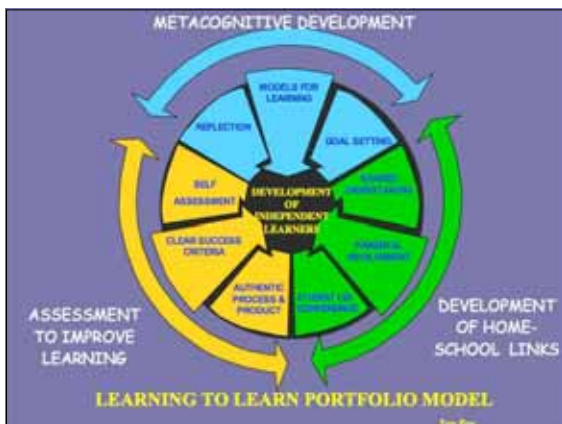
- provides a richer picture of student performance than can be gained from more traditional, objective forms of assessment



Parent Questionnaire Ratings of the Usefulness of Different Types of Information for Learning about Their Child's Progress in School

Type of Information	How Useful					
	Not at all		Very		Blank/Missing	
	1	2	3	4		5
Report Cards	2	2	20	33	43	
My child's teacher talking about his or her progress	0	2	4	17	77	
Standardized tests	6	15	41	22	14	2
Seeing graded examples of my child's work	0	0	10	30	60	

Source: After Shepard & Bliem, 1995, p. 27



Purpose & Goals for the portfolio

- Multiple purposes:
 - Learning/Process
 - Marketing/Showcase
 - Assessment



Purposes for Assessment

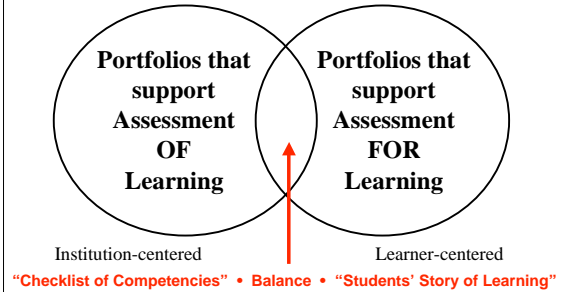
Assessment
OF
Learning
=
Summative
Assessment

Assessment
FOR
Learning
=
Formative
(Classroom-based)
Assessment



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Overlap of Assessment Types



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The Vision of REFLECT

To provide the teachers with the training and the students with the tools:

- To tell their *stories* with *pride*!
- To put *heart* and *soul* and *voice* into their portfolios!

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What participants receive:

- Free web-based software for all student participants
- Free regional workshops (Aug-Sept. 2005)
- Onsite visits (one a year)
- Online professional development for all teacher participants

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How Were Schools Chosen?

- Schools submitted a proposal for their project in Spring 2005
- All participating organizations needed to send at least one representative to the Inaugural meeting (Philadelphia just prior to NECC 2005)
- Students must participate (and be supported) for the length of the entire program (2 years)

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Research Project Factors



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Timeline



Some Key Research Questions

- How do e-portfolios provide evidence of deep learning?
- Under what conditions can e-portfolios be successfully used to demonstrate assessment for learning and assessment of learning?
- Under what conditions do students take ownership of their e-portfolios?
- What are the benefits of developing e-portfolios as perceived by students, teachers, administrators, and/or parents?
- What are perceived obstacles to implementing e-portfolios with secondary school students and how can they be overcome?
- How do paper portfolios differ from e-portfolios?

Summary of Research Protocols

- Pre:** Fall 2005 (Dec-Jan)
 - Online surveys of students and teachers (UNT)
- Ongoing:** through Online PD & Teacher Journals (blogs)
 - Sample student ePortfolio reviews
- Site Visit observations:** Winter 2005/Spring 2006
 - Focus on introduction and implementation by teachers
- Mid:** Spring 2006 (May)
 - Online surveys of students and teachers
- Site Visit observations:** Fall 2006/Spring 2007
 - Add Student Focus Groups
- Post:** Spring 2007 (March-May)
 - Online surveys of students and teachers
 - Student ePortfolio reviews
 - Teacher journals & professional portfolios

Overall Cohort

- 10 Active Projects
 - Arizona (2)
 - New Jersey
 - California (3)
 - Maryland
 - Brazil
 - Tennessee
 - New York
- Started with 26 Schools
 - 6 in Arizona DOE Project
 - 4 in New Jersey DOE Project
 - 1 Elementary School
 - 1 Intermediate School
 - 23 High Schools
 - 2 Private Schools
 - 1 International School
- ~60 Active Teachers
- ~2400 Students completed one or more survey out of ~3100 active students

Arizona Teacher Education Project

- Creating a continuum of e-portfolios
 - High school → Community College → University
 - Who is utilizing e-portfolios in AZ
 - Part of the teacher education career pathway
 - Student Career Plans

AZ Teacher Education Project

Education Professions

- Education Professions is an Arizona Department of Education, Career and Technical Education program for high school students who have an interest in pursuing a career in the field of education. "2+2+2"
 - Lead by Jan Brite – Education Specialist – ADE & Ray Ostos, Maricopa Community Colleges' National Center for Teacher Education
 - Over 60 schools and 900 students
 - 8 active schools in REFLECT; 150 students
- Presentation H67 - Wednesday 9:20 AM - "Paving the Way: Creating a Teacher Education Career Pathway"

Template DRFs created for Ed Professions Program

For more details on TaskStream:
Session G57
Wednesday, 8:00-9:00 AM
"Managing and Assessing Career Clusters Programs
Utilizing TaskStream's Web-Based Tools for
Demonstrating Learning Achievements"

National Study Data from Teachers

With Student Data from Active Sites Only

Teacher Demographics

Male	18	33%
Female	36	67%

Bachelors Degree	24	44%
Masters Degree	20	37%
Ed. Specialist Degree	2	4%
Doctoral Degree	4	8%

Student Demographics (AZ CTE only)

Male	13	18%
Female	60	82%

- Goals (How far do you think you will go in school?)

Will not finish HS/ or GED		
High School Diploma	1	1.4%
Associates Degree	1	1.4%
Bachelors Degree	30	41.1%
Masters Degree	29	39.7%
Doctoral or Advanced Degree	9	12.3%
Don't know	3	4.1%

Computer Access at Home - Teachers

- 96% have a computer at home
- 93% have Internet access at home
- How many hours do you use computers and the Internet at home?

Hours using at home	Computers	Internet
0 hours per week	7%	13%
1-4 hours per week	24%	31%
5-10 hours per week	33%	35%
10-20 hours per week	26%	13%
More than 20 hours per week	9%	7%

N=54

Computer Access at Home - Students

- 95% have a computer at home
- 90% have Internet access at home
- How many hours do you use computers and the Internet at home?

Hours using at home	Computers	Internet
0 hours per week	14%	15%
1-4 hours per week	37%	42%
5-10 hours per week	23%	21%
10-20 hours per week	18%	15%
More than 20 hours per week	8%	7%

N=73

Computer Access at School - Teachers

- How many hours do you use computers and the Internet at school?

Hours using at school	Computers	Internet
0 hours per week	0%	2%
1-4 hours per week	15%	48%
5-10 hours per week	24%	28%
More than 10 hours per week	61%	22%

N=54



Computer Access at School - Students

- How many hours do you use computers and the Internet at school?

Hours using at school	Computers	Internet
0 hours per week	25%	25%
1-4 hours per week	68%	70%
5-10 hours per week	7%	5%
More than 10 hours per week	0%	0%

N=73



C-BAM - Stages of Implementation

Stage 1: Awareness - I am aware that _____ exists but have not used it. - perhaps I'm even avoiding it. I am anxious about the prospect of using _____.

Stage 2: Learning the process - I am currently trying to learn the basics. I am sometimes frustrated using _____. I lack confidence when using _____.

Stage 3: Understanding and application of the process - I am beginning to understand the process of using _____ and can think of specific tasks in which it might be useful.

Stage 4: Familiarity and confidence - I am gaining a sense of confidence in using _____ for specific tasks. I am starting to feel comfortable using _____.

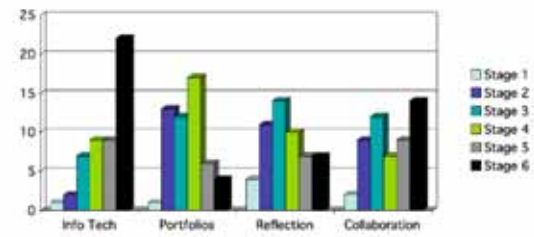
Stage 5: Adaptation to other contexts - I think about _____ as a tool to help me and my students and am no longer concerned about it as _____. I can use it in many applications and as an instructional aid.

Stage 6: Creative applications in new contexts - I can apply what I know about _____. I am able to use it as an instructional tool and integrate it into the curriculum.

n=44



C-BAM - Stages of Implementation



n=44



C-BAM - Levels of Use

Level 0: Non-Use - I have little or no knowledge of _____, no involvement with it, and I am doing nothing toward becoming involved.

Level 1: Orientation - I am seeking or acquiring information about _____.

Level 2: Preparation - I am preparing for the first use of _____.

Level 3: Mechanical Use - I focus most effort on the short-term, day-to-day use of _____ with little time for reflection. My effort is primarily directed toward mastering tasks required to use _____.

Level 4 A: Routine - I feel comfortable using _____. However, I am putting forth little effort or thought to improve _____ or its consequences.

Level 4 B: Refinement - I vary the use of _____ to increase the expected benefits within the classroom. I am working on using _____ to maximize the effects with my students.

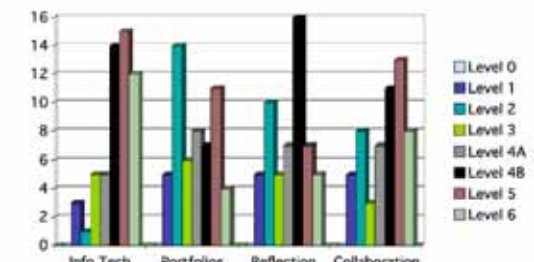
Level 5: Integration - I am combining my own efforts with related activities of other teachers and colleagues to achieve impact in the classroom.

Level 6: Renewal - I reevaluate the quality of use of _____, seek major modifications of, or alternatives to, present innovation to achieve increased impact, examine new developments in the field, and explore new goals for myself and my school district.

n=44



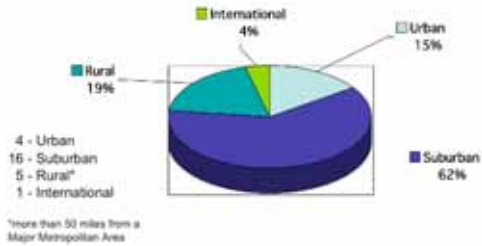
C-BAM - Levels of Use



n=44



School Demographics



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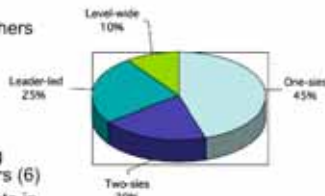
Site Visits - REFLECT Year 1

- 1 day classroom observation + conversation with teachers
- 4-8 page report with these topics:
 - Observation of Technology and TaskStream Use by Students
 - Rolling it Out: Planning and Early Implementation
 - General use of/or goals for TaskStream in this implementation
 - Computer Environment in the School
 - Implementation of Research Requirements
 - School Environment
 - General feelings about TaskStream and ePortfolios from teachers
 - Professional Development Needs
 - Review of Project Goals from the original Proposal
 - Observations and Comments on the Progress of Implementation

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Who is Implementing? (from 20 Site Visits)

- "One-sies" - Single teacher in a school (9)
- "Two-sies" - Two teachers in a school (4)
- Leader-led - tech coordinator supporting more than two teachers (6)
- Level-wide - all students in a grade level, multiple teachers (2)



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Level of Implementation (from 20 Site Visits)

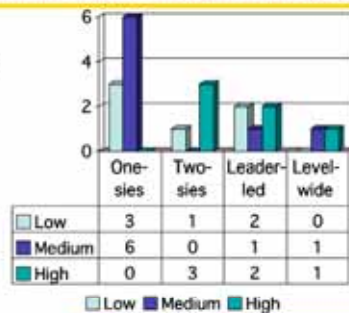
- Low**
 - students using TaskStream primarily as online storage
 - little or no interactive feedback (teacher-to-student)
 - little or no reflection
- Medium**
 - promising, emerging use of TaskStream tools
 - many using DRF - course-based work flow management
 - some interactive feedback (primarily teacher-to-student)
 - some reflection on work
- High**
 - creative use of TaskStream, wide-spread integration into curriculum
 - use of multimedia or other tools (i.e., Inspiration)
 - high levels of interactive feedback (including student-to-student)
 - emphasis on reflection

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Level of Implementation (from 20 Site Visits)

By Who is Implementing

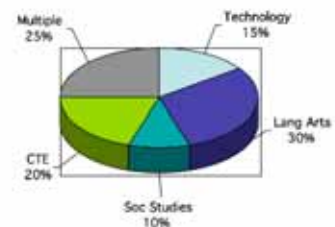
- Low (6)
- Medium (8)
- High (6)



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Curriculum Areas (from 20 Site Visits)

- Technology (3)
- English/Language Arts or Foreign Language (6)
- Social Studies (2)
- Career & Technical Education (CTE) (4)
- Multiple disciplines (5)

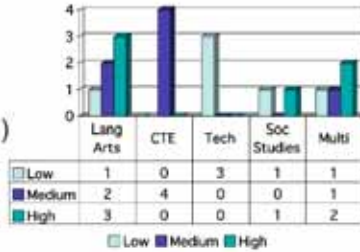


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Level of Implementation (from 20 Site Visits)

By discipline

- Low (6)
- Medium (8)
- High (6)



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How was TaskStream used?

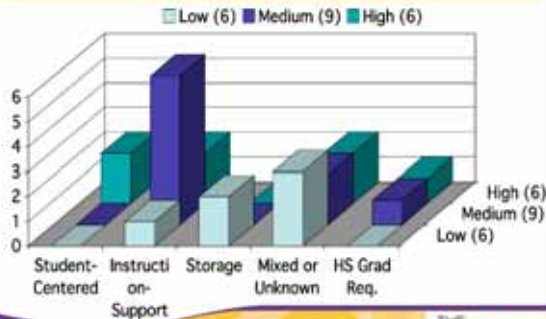
- Most of the sites used TaskStream as an instructional management system (assignments graded in a DRF)
- A few sites provided a template for student-centered portfolios
- None of the sites used TaskStream for high stakes assessment - only a few students used the Standards Manager

- Student-centered
- Instructional support
- Storage of student work
- Mixed or unknown
- HS Graduation Requirement



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By Type of Implementation (from 20 Site Visits)



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What Type of Portfolio?

Presentation Portfolio

- Gives student ownership
- Flexible structure

Presentation Portfolio submitted to an Assessment Portfolio

Give the students the benefit of the presentation portfolio while the organization gets the benefits of the assessment portfolio.

Assessment Portfolio (DRF)

- Provides rigid structure
- Provides school with evaluation data

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Initial Observations from Year 1 Site Visits

- Teacher's role is critical
 - Dual learning curve
 - Learning TaskStream (prior experience in TED program)
 - Using portfolios with students (prior paper portfolio experience)
 - Understanding reflection and metacognition
 - Using Assessment FOR Learning strategies (quality feedback)
 - Technology integration strategies
 - Support system or close collaborator
- Access to technology is also critical
 - Home access by students
 - Classroom access impact on in-school use (scheduling)

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Findings from Year 2 Student Focus Groups

- Students...
 - liked using TaskStream - helped them keep **organized**
 - liked access from home - no access to school networks from home
 - said it helped them do their assignments (especially those sites using a DRF)
 - most planned to use portfolios after they graduate
 - compared to MySpace - saw different purpose - about the same ease-of-use
 - wanted more individuality and creativity in TaskStream
 - perceived purposes: college applications, keeping work organized, seeing growth over time,
 - both **reflection** and **feedback** in the portfolio helped their learning
- Audio Quotes
 - Dobson High School 12/4/06

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Questions about E-Portfolios						Teachers	
Instructions: Select how you feel about your students' portfolios with each statement. Working with e-portfolios.							
Item	Total	1	2	3	4	Average	SD or D: SA or A
1. Has been fun for my students.	47	0%	17%	53%	19%	2.0	38% 74%
2. Made my students more interested in their work than they were before.	47	0%	30%	49%	19%	2.4	34% 64%
3. Has taken up too much of my class time.	47	13%	43%	38%	11%	2.2	74% 38%
4. Has taken up too much of my time outside of class.	47	19%	39%	39%	4%	2.1	74% 28%
5. Is good to do with other teachers.	47	4%	36%	49%	11%	2.1	40% 68%
6. Tells me about what my students are learning.	47	0%	23%	53%	24%	2.4	30% 59%
7. Helps me think more about learning in general.	47	0%	30%	47%	23%	2.4	35% 64%
8. Gives me all enough space to share materials.	47	2%	17%	62%	19%	2.0	19% 81%
9. Makes my students take more care with their work.	47	0%	36%	49%	15%	2.4	43% 57%
10. Helps my students be better organized in their work.	47	2%	30%	43%	25%	2.4	38% 62%
11. Helps my students to show others what they are really good at.	47	0%	19%	49%	32%	2.1	11% 89%
12. Gives me all new ways of presenting my work using technology.	47	0%	8%	42%	50%	2.3	6%
13. Helps my students to be creative.	47	2%	17%	53%	28%	2.1	11% 89%
14. Helps my students feel confident.	47	0%	28%	51%	21%	2.1	34% 66%
15. Helps me judge how my students have progressed over time.	47	0%	30%	53%	17%	2.4	30% 70%
16. Helps my students show their progress to other people.	47	0%	19%	50%	31%	2.2	13% 87%
17. Has helped my students understand their school work better.	47	0%	30%	51%	19%	2.4	34% 66%
18. Was a learning experience for me.	47	0%	4%	53%	43%	2.3	9%
19. Is something I will continue to do.	47	0%	17%	49%	34%	2.4	25% 74%
20. Has helped my students to learn.	47	0%	30%	44%	26%	2.4	32% 68%
21. Has been fun for my students.	47	0%	19%	54%	27%	2.1	32% 68%
22. Gives my students more responsibility for their learning.	47	0%	34%	49%	17%	2.4	26% 74%
23. Has helped me to give feedback on other's work.	47	0%	17%	53%	30%	2.1	32% 68%
24. Has helped me to give feedback on each other's work.	47	0%	17%	53%	30%	2.1	32% 68%

Questions about Your E-Portfolio						AZ Ed Professions Students	
Instructions: Select how you feel about your portfolio with each statement. My e-portfolio...							
Item	Total	1	2	3	4	Average	SD or D: SA or A
1. Has been fun to do.	17	0%	24%	53%	19%	2.4	29% 71%
2. Has made me more interested in my work.	17	0%	41%	47%	12%	2.7	41% 59%
3. Has taken up too much time in class.	17	3%	35%	35%	27%	2.0	82% 18%
4. Has taken up too much time outside class.	17	41%	41%	18%	0%	1.8	82% 18%
5. Is good to do with other students.	17	6%	35%	59%	0%	2.0	18% 82%
6. Tells me about what my friends are learning.	17	3%	35%	35%	27%	2.0	59% 41%
7. Helps me think more about my own learning.	17	18%	24%	35%	24%	2.7	41% 59%
8. Gives me enough space to share all the stuff I want.	17	6%	18%	65%	11%	2.0	24% 76%
9. Makes me take more care with my work.	17	12%	29%	41%	18%	2.7	41% 59%
10. Helps me to be better organized in my work.	17	6%	18%	53%	24%	2.2	4%
11. Helps me to show people what I'm really good at.	17	0%	29%	53%	18%	2.0	29% 71%
12. Gives me new ways of presenting my work using technology.	17	0%	12%	59%	29%	2.2	12% 88%
13. Helps me to be creative.	17	12%	29%	53%	6%	2.4	35% 65%
14. Helps me to feel confident.	17	12%	24%	47%	15%	2.7	35% 65%
15. Helps me to judge how my progress over time.	17	6%	29%	53%	12%	2.7	35% 65%
16. Helps me judge whether I have progressed over time.	17	6%	24%	59%	11%	2.4	29% 71%
17. Is good for showing my progress to other people.	17	6%	18%	59%	17%	2.1	18% 82%
18. Has helped me understand my work better.	17	6%	29%	47%	18%	2.4	35% 65%
19. Has made me interested with my program.	17	6%	29%	47%	18%	2.4	35% 65%
20. Is something I would like to do again in the future.	17	12%	12%	53%	24%	2.4	24% 76%
21. Has helped me to learn.	17	0%	18%	47%	35%	2.4	35% 65%
22. Was easy to do because teachers helped me.	17	6%	18%	53%	24%	2.2	4%
23. Found out a lot things that teachers don't know about for me.	17	12%	35%	35%	18%	2.2	71% 29%
24. Has helped me to give feedback on each other's work.	17	6%	12%	53%	29%	2.1	18% 82%

Looking Back


Success factors

- Content areas: Language Arts, Social Studies and multi-disciplinary
- School-wide or leader-led (at minimum, a pair of teachers)
- Strong principal support
- Suburban schools
- Student-centered philosophy of use
- Teacher leadership



Recommendations for Future R & D

- Support and follow students in one or two schools for the full four years of high school
 - Collect data on high school graduation portfolio development (more longitudinal)
- Develop a different model of training teachers in high schools
 - Two days of hands-on "Training of Trainers" in the summer is not enough for most high school teachers
- Develop a different model of supporting high school students (since a lot of the hands-on work happens at home)
 - Online video tutorials
- Focus on multiple schools in a single state, with the same statewide assessment requirements



If you want to implement ePortfolios...

- Don't go it alone - need a community of practice
- What's your purpose? Audience?
- Questions to ask
- NETS Essential Conditions Rubric
- Web page for conference presentation



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