Using Electronic Portfolios for Student Assessment

90th Annual NYSSBA Convention, New York City
October 15, 2009
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Kevin Turner, IBM Global Business Services
Janice A. Smith, Ph.D., Three Canoes
Introductions

- **Joseph P. Dragone, Ph.D.**
  - Superintendent
  Ballston Spa Central School District (BSCSD)

- **Kevin Turner**
  - Associate Partner
  Public Sector Education, IBM Global Business Services

- **Janice A. Smith, Ph.D.**
  - Three Canoes Sakai / Open Source Portfolio (OSP) Consultant
Pair Share

- Turn to someone you do not know and introduce yourself
- Share one reason you chose to participate in this session
- Identify one question you have about ePortfolios
- Be ready to share with the larger group
Session Agenda

- Overview of the Ballston Spa Central School District (BSCSD)
- Key Innovation Drivers at BSCSD
- Description of the BSCSD Competency Mapping Project
- Introduction to the BSCSD Curriculum Map with linkages across:
  - 5th and 9th grade-level curricula
  - BSCSD Graduate Competencies
  - NYS Learning Standards and Performance Indicators
- Tour of the BSCSD portfolio workflow using Sakai and the Open Source Portfolio (OSP)
- Lessons Learned to Date
- Q&A
Overview of the Ballston Spa Central School District (BSCSD)
Who we are:

- Located in the heart of Tech Valley, approximately 20 miles north of Albany and 5 miles south of Saratoga Springs
- Board of Education that strongly supports new thinking and 21\textsuperscript{st} Century teaching and learning
- 4400 students, K-12
- 4 Elementary Schools, 1 Middle School, 1 High School
- Deliberate focus on public sector innovation and collaboration with business, industry, higher education and government.
Who we are:

- Regional Leaders in progressive STEM programming:
  - Nanotechnology and Nanoeconomics
  - Sustainable Design and Green Technology
  - Biomedical program
  - Video Game Design

- Focus on integrating technology on all fronts:
  - Building organizational and instructional capacity
Key Innovation Drivers at BSCSD
Authentic Learning for Students and Teachers:

- Desired future state: Assess student achievement of the Ballston Spa Graduation Competencies:
  - Sustain district mission, vision and core values
  - Focus on Authentic Assessment
  - Using student work to guide the teaching and learning process
  - Reinforce strong implications regarding ePortfolios from higher ed.
  - Logistical: Ability to integrate a solution; avoid “one more thing”
Authentic Learning for Students and Teachers:

- Desired future state: Create a Collaborative Learning Environment for teachers free of space and time constraints:
  - “Collaboratory” space for sharing information
  - Redefine Professional Development:
    - Sustainability: a routine part of professional practice
  - Break down learning silos and isolation for staff
  - Warehouse for best practices
  - Living resource as opposed to “shelf art”
Authentic Learning for Students and Teachers:

- Solution: Use an Open Source environment as a holistic application to achieve both outcomes:
  - Avoids point solutions for each separate issue
  - Creates long term fiscal efficiencies
  - Focuses on building organizational systems for sustainable solutions
  - Supports logistical objectives and district goals and priorities:
    - Transitions between grade levels and to post-secondary
    - Strengthen formative assessment
    - Focus on increasing teacher efficiency
BSCSD
Competency Mapping Project
Overall Project Goals

- Organize, guide, and measure student learning in relation to BSCSD Graduate Competencies
- Map BSCSD Graduate Competencies to NYS Learning Standards and Performance Indicators
- Map NYS Learning Standards and Performance Indicators to BSCSD grade-level curricula
- Implement Sakai and the Open Source Portfolio as a means of organizing, guiding, and measuring student learning in relation to standards and competencies
Project Background / History

- IBM Innovation Retreat in Albany in 2007
- October 2008 IBM Open Education Services Briefing
- December 2008 RINET Site Visit
- Phase I: Spring 2009 BSCSD Curriculum Mapping Project
- Phase II: Summer 2009 BSCSD Sakai/Open Source Portfolio Implementation
- Future / TBD – Staff Professional Development Using Sakai/OSP
# Ballston Spa Competency Mapping Project & Beyond: High Level Project Plan (Ahead of Schedule!)

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Project Months 2009 - 2010</th>
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<tr>
<td></td>
<td>Mar - April</td>
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<tr>
<td>Preparatory: a) gather information; b) determine work plan and responsibilities; c) perform mapping activities</td>
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<tr>
<td>On-site Mapping Activity meetings</td>
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<td>Follow-up activities for finalization and delivery of Competency Mapping Report</td>
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<th>Phase II</th>
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<td>Requirement Gathering</td>
<td>Mar - April</td>
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<td>OSP Design and Customization Reports</td>
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<tr>
<th>Phase III</th>
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<tr>
<td>Documentation and Creation of Training Materials</td>
<td>Mar - April</td>
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<tr>
<td>On-site Function and Technical Training</td>
<td>Mar - April</td>
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<tr>
<th>Phase IV</th>
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<tr>
<td>Follow-on Support</td>
<td>Mar - April</td>
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<tr>
<td>On-site Mapping Activity meetings</td>
<td>Mar - April</td>
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Phase I Project Outcomes – Spring 2009

- Mapping BSCSD Graduate Competencies to NYS 9th Grade ELA Performance Indicators
- Mapping NYS 9th Grade ELA Performance Indicators to BSCSD 9th Grade ELA curriculum
- Planning for assessment of BSCSD 9th Grade ELA curriculum
- Introducing Sakai/OSP to BSCSD
- Generalizing the process to the 5th Grade
- Preliminary Sakai / OSP requirements
- Delivering a Competency Mapping Project Report
Phase II Project Outcomes – Summer 2009

- BSCSD site visit for requirements gathering
- OSP Requirements Report
- Designing and customizing OSP data structures according to requirements
- Configuring the rSmart CLE 2.5 on a Ballston Spa server
- Setting up OSP data structures and workflow on the Ballston Spa server
- Developing train-the-trainer materials
- Conducting on-site training and user acceptance testing
Possible Future Phase Activities

- Evaluation of current teacher and student usage
- Evaluation of assessment data for
  - Validating current instructional strategies
  - Considering possible BSCSD innovations in teaching, learning, and technology
- Revisions to “proof of concept” portfolio implementation based on results of initial project
- Additional reports on student learning
- Expansion to additional grade levels
- Facilitation of teacher collaboration and development
BSCSD Graduate Competencies

NYS Learning Standards and Performance Indicators

BSCSD Curriculum Maps
Ballston Spa Graduate Competencies
Core Value: Academic Excellence

**Long Range Goal** - Each student reaches his/her maximum potential in all nine Graduate Competencies

**Relevant Sub-Goals**
- Recognizing individual talents and abilities
- Holding students accountable to high standards of performance
- Benchmarking student intellectual growth with formative and summative assessments
- Evaluating results by comparison to performance standards
- Program review based on assessment data
- Embracing technological innovation in preparing students for the 21st century
- Developing metrics to assess student achievement in the Nine Graduate Competencies

Excerpted from Ballston Spa Central School District *2008-2009 Goals and Priorities*
Finalized BSCSD Graduate Competencies:

BSCSD Graduates are:

- **Effective Communicators:**
  - ...who utilize and are responsive to a variety of methods and mediums (written, oral, and electronic) to express knowledge, thoughts, feelings and perceptions, and can persuasively and appropriately react to an array of purposes and audiences.

- **Academically Skilled:**
  - ...who have the ability to interpret learning objectives, create and sustain a general knowledge of and appreciation of varied disciplines, and can use a variety of resources to search out, acquire, and apply information.

- **Critical Thinkers:**
  - ...who can critically think from multiple perspectives to inform and guide the decision making process.

- **Skilled Information Managers:**
  - ...who are able to identify, extract, manipulate and evaluate information, and demonstrate the effective use of a variety of technological and informational resources.

- **Productive Workers:**
  - ...who have the ability to contribute individually or as a member of a team for a positive outcome, take responsibility for behavior in relation to workplace expectations, and demonstrate the skills needed to succeed professionally

- **Personally and Interpersonally Skilled:**
  - ...who are able to recognize, value, and appreciate the perspectives and strengths of self and others, and show the ability to work cooperatively and independently in an effective manner.

- **Responsible Citizens:**
  - ...who are civically engaged in their community, nation, and world, aspire to create an ongoing positive impact in their immediate and surrounding environment, and can demonstrate understanding of and respect for the worth and dignity of all individuals.

- **Self-Directed Learners:**
  - ...who are independent, confident, and persistent in the pursuit of knowledge and experiences and take responsibility for their own learning.

- **Physically and Mentally Healthy:**
  - ...who have an awareness of self and the ability to pursue healthy choices and activities, and acquire habits necessary for a healthy lifestyle.
NYS ELA Learning Standards and Core Curriculum

http://www.emsc.nysed.gov/ciai/ela/elarg.html
Sample 5th and 9th Grade Performance Indicators

From 5th Grade Reading Standard I

- 1.1 Locate and use school and public libraries, with some direction, to acquire information.
- 1.2 Use tables of content and indexes to locate information.
- 1.3 Read to collect and interpret data, facts, and ideas from multiple sources.
- 1.4 Read the steps in a procedure in order to accomplish a task such as completing a science experiment.

From 9th Grade Reading Standard I

- 1.1 Locate and use school and public library resources for information and research.
- 1.2 Use specialized reference sources, such as glossaries and dictionaries.
- 1.3 Read and follow written, complex directions and procedures to solve problems and accomplish tasks.
- 1.4 Demonstrate task awareness by employing flexible strategies.
### Sample Section: BSCSD 9th Grade ELA Curriculum Map

<table>
<thead>
<tr>
<th>Assignment Name</th>
<th>Instructions</th>
<th>Assessments</th>
<th>Resources</th>
<th>Performance Indicators</th>
<th>Graduate Competencies</th>
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<tr>
<td>ANTHOLOGY/POETRY:</td>
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<tr>
<td>Listening 1</td>
<td>&quot;All Summer in a Day&quot; discussion</td>
<td>Original poetry; Poetry analysis; Poetry test</td>
<td>Sonnets; Dramatic; Narrative; Epic;</td>
<td>Listening S2.3, Listening S2.6</td>
<td>Academically Skilled, Critical Thinkers</td>
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<td>ANTHOLOGY/POETRY:</td>
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<tr>
<td>Reading 1</td>
<td>Conflict/literary terms worksheet/journal entries</td>
<td>Original poetry; Short story analysis; Short</td>
<td>&quot;All Summer in a Day&quot;</td>
<td>Reading S2.3</td>
<td>Academically Skilled, Critical Thinkers</td>
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<tr>
<td>ANTHOLOGY/POETRY:</td>
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<td>story test</td>
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<tr>
<td>Reading 2</td>
<td>Cinquain, Creating &amp; sharing a circle poem;</td>
<td>Original poetry; Poetry analysis; Poetry test</td>
<td>Sonnets; Dramatic; Narrative; Epic;</td>
<td>Reading S2.4, Reading S2.6</td>
<td>Effective Communicators, Academically Skilled,</td>
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<td>ANTHOLOGY/POETRY:</td>
<td>creating and sharing a found poem, &quot;Oranges&quot;</td>
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<td>Critical Thinkers</td>
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<td>Speaking 1</td>
<td>close; &quot;Poetry Rocks&quot;</td>
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<td>ANTHOLOGY/POETRY:</td>
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<tr>
<td>Writing 1</td>
<td>&quot;All Summer in a Day&quot; discussion</td>
<td>Original poetry; Poetry analysis; Poetry test</td>
<td>Sonnets; Dramatic; Narrative; Epic;</td>
<td>Speaking S2.3</td>
<td>Effective Communicators, Productive Workers,</td>
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Question and Answer

- Does your district already work with portfolios or ePortfolios?
- What purpose do curriculum maps serve in preparing for an ePortfolio implementation?
- What do you see as the primary purpose for an ePortfolio in your district?
- What questions do you have so far?
The BSCSD Implementation of Sakai/OSP
An ePortfolio is a…

- Digital collection of artifacts and reflections
- Representation of an individual’s learning and accomplishments
- Set of items to be shared with others
ePortfolios have two faces, according to Helen Barrett:

http://electronicportfolios.org/balance/

**Private Face**
- Primary Purpose: Learning
- Private workspace
- Reflective blog entries
- Chronological organization
- Feedback from
  - Instructors
  - Social Network

**Public Face**
- Primary Purpose: Accountability
- Showcase
- Retrospective reflection
- Thematic organization
- Evaluation from
  - Instructors
  - Decision makers
ePortfolio Archetypes

Examples from the rSmart CLE Portfolio Showcase, http://www.rsmart.com/portfolios
ePortfolios for Personal Representation

- Have a developmental focus
- Guide students in collecting information about themselves
- Assist students and professionals in
  - Managing their virtual identity
  - Explaining and predicting their individual development
- Examples include:
  - Resumes
  - Professional Portfolios
  - “Freeform” Portfolios
ePortfolios for Teaching and Learning

- Have an educational focus
- Guide students in creating and submitting portfolio-worthy evidence
- Evidence is linked to and evaluated according to standards, outcomes, objectives
- Examples include:
  - General Education Portfolios
  - Disciplinary Portfolios
  - Co-Curricular Transcripts
ePortfolios for Assessment

- Focus on assessment data
- Usually combined with portfolios for teaching and learning
- Reports
  - Aggregate and analyze assessment data
  - Identify representative artifacts of learning
- Examples include portfolios for:
  - Assessing institutional outcomes
  - Assessing disciplinary outcomes
  - Combination of the above
The BSCSD portfolio implementation uses these Sakai tools:

- Portfolio Worksites
- Project Worksites
- Assignments
- Goal Management
- Resources

- Forms
- Matrices
- Evaluations
- Portfolios
- Reports
BSCSD ePortfolio Workflow

Goal Management

Grade-Level Assignments

Submit for Evaluation

Reflection Form

NYS Learning Standards and Performance Indicators

BSCSD Graduate Competencies

Grade-Level Matrix

Submit for Evaluation

Evaluation Form

Form Parser

External Reporting Engine

Share Portfolio

Portfolios

Evaluations

Submit for Evaluation

External Reporting Engine

Evaluations
Sakai Worksites

Portfolio Sites
- One for each class of students
- Contain
  - Assignments linked to goals
  - A Matrix auto-populated with
    - Submitted assignments
    - Reflection forms for students to reflect on their work in relation to Graduate Competencies
    - Evaluation forms for teachers to determine whether students work meets Graduate Competencies
  - An Evaluation tool for evaluating matrix cell submissions
  - A Portfolio for each student to share the content of their matrix

Project Sites
- One for each grade level
- Contain goals in the form of NYS Performance Indicators for that grade level
Assignments

Assignments are:

- Defined by the grade-level curriculum map
- Preloaded into the Assignment tool in grade-level portfolio sites
- Linked to NYS performance indicators specified in the curriculum map
- Further fleshed out and posted by teachers
- Completed and submitted by students
- Evaluated by teachers
Goal Management

NYS Learning Standards and Performance Indicators are:

- Listed in an expandable hierarchy in the Goal Management tool
- Linked to individual assignments according to the curriculum map
Resources

Resources allow users to:

- Upload and organize multi-media files in folders
- Drag and drop files from desktop
- Add portfolio “forms” for structured data
- Create live URLs
- Create html and simple text documents
Matrix

- Presents a workflow relating BCSCD Graduate Competencies to NYS ELA Standards
- Cells auto-populate with relevant assignments that students have submitted for evaluation
- Assignments appear in cells according to specification of curriculum map
- Students add additional evidence as applicable and use form in last column to reflect upon their work in each Graduation Competency
- Submitted reflections are evaluated by teachers using a rubric scale of 1-4

![9th Grade ELA Learning Matrix](image-url)
Reflection Form

Students

- Examine the submitted assignments that auto-populate the matrix row for each Graduate Competency
- Complete a reflection form describing their progress on the Graduate Competency
- Submit the matrix cell containing the reflection form for evaluation by their teachers
Evaluation Form

- Evaluation forms are accessed via:
  - A drop-down menu of student matrices
  - The Evaluations tool in the portfolio site
- Teachers use a rubric scale (1-4) to evaluate student work in relation to each Graduate Competency
- Students view evaluation results in their copy of the matrix
Portfolios

- Students can choose to convert their learning matrix into a portfolio presentation to share with other users.
- The template for the portfolio presentation displays district colors and provides navigation between pages.
- Students add their names, a date, and an optional introduction.
- The portfolio displays each assignment the student has submitted for evaluation in relation to:
  - Relevant BSCSD Graduate Competencies
  - Associated NYS Learning Standards and Performance Indicators
Reports

- A Form Parser allows the system admin to access and export data from Evaluation forms.
- The system admin uses an external reporting engine to aggregate, analyze, and display reports on evaluation form data to indicate student progress in mastering Graduate Competencies.
- Additional reports may be constructed in future versions of the BSCSD implementation.
Tour of the BSCSD portfolio workflow using Sakai and the Open Source Portfolio (OSP)
Lessons Learned to Date

- Focus on people and process; do not let the technology become a distracter, but rather keep it as an opportunity to enable and leverage human capital
- Stay true to the “proof of concept”
- District leadership is critical
- Keep the focus on teaching and learning
- Avoid one more thing on the plate actually becoming the plate
Questions and Answers

- What aspects of this project seem the most promising to you?
- What problems might BSCSD anticipate in the future?
- What aspects of this project would you choose to implement differently?
- How might you go about implementing an ePortfolio for your district.
- What questions do you have for the project leaders?
References & Contact Information

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  (651) 642-9069

- [http://www.bscsd.org](http://www.bscsd.org)
- [http://sakaiproject.org/portal](http://sakaiproject.org/portal)
**District Overview**

The Ballston Spa Central School District (BSCSD) currently serves close to 4,400 students from pre-kindergarten through grade 12. The area has been growing throughout the last ten years, both in the number of housing units and population, with over 22,000 people now living within the 65 square miles of the district’s boundaries. A diverse socio-economic population resides within the growing suburban district, which encompasses portions of the Towns Of Milton, Malta, Ballston, and Charlton and also includes the Village of Ballston Spa. Over 140,000 people live within 15 minutes of Ballston Spa, supporting and working at over 5,500 businesses. The district is 30 minutes away from the Capital District with a vast array of educational and cultural opportunities available.

**Project Purpose**

This project was designed to build a proof of concept for an electronic student portfolio assessment tool to measure student learning in relation to New York State (NYS) standards and to Graduation Competencies identified by the Ballston Spa Central School District. The strategic focus content areas are 9th grade and 10th grade English Language Arts (ELA). Curriculum for these content areas were mapped and then aligned in a framework that is used by school personnel in the instructional decision-making process. The project is also a direct response to U.S. government No Child Left Behind legislation.

**The Solution**

BSCSD’s electronic student portfolio is based on the eSmart Collaborative Learning Environment (CLE) 2.5 code for Sakai/OSP. The Sakai CLE is a flexible, enterprise application that supports teaching, learning and scholarly collaboration in either fully or partially online environments. Sakai also has a robust and full-featured online portfolio system built-in. The Sakai CLE is distributed as free, open-source software, which offers the ultimate in flexibility and avoids the risks of vendor lock-in and escalating license costs. Sakai is developed, tested and used primarily by educators who work actively in educational institutions worldwide to meet their own teaching, learning and administrative needs.

**The Benefits**

To date, BSCSD has implemented portfolio designs and concepts for 9th grade and 10th grade ELA. Also, with the use of the CLE, BSCSD is starting down a blended learning path. Ultimately, the goal will be to enhance student learning experiences both inside and outside of the classroom, improve test scores, and better align curriculum and assignments with BSCSD’s Graduation Competencies to produce graduates with 21st Century skills.

**Contacts**

Key contacts to learn more about this project:
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