Considerations for Next Generation Assessments: A Roadmap to 2014

Step 3 “Ensuring Interoperability”
Step 4 “Communicating Proactively” and
Step 5 “Anticipating Ongoing Change”

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Overview

- Introductory comments
- Five-step roadmap for transitioning to online assessments
- Step 3: Ensuring Interoperability
- Step 4: Communicating Proactively
- Step 5: Anticipating Ongoing Change
- Questions
Introduction – Paper to Online Assessments

- Recurrent theme in next generation assessment strategies
- Leveraging advances in technology for greater efficiency, flexibility, and potential cost savings
- Benefits increasingly apparent
  - Opportunities for more effectively assessing student understanding and performance
  - Faster turnaround of scores
  - Improved security model
  - More efficient method of test delivery
  - Student motivation

- But... How to make such a large, complex transition?
Five Step Roadmap for Transitioning to Online Assessments

1. Conduct a Needs Analysis
2. Develop a Realistic Transition Strategy & Plan
3. Ensure Interoperability
4. Communicate Proactively
5. Plan for Ongoing Change

The full roadmap and additional resources, including the first webinar covering Steps 1 and 2, are available online at:

www.PearsonAssessments.com/NextGenRoadmap
3 – Ensure Interoperability

- Interoperability *(wikipedia)*
  - Interoperability is a property of a product or system, *whose interfaces are completely understood*, to work with other products or systems, present or future, without any restricted access or implementation
  - You can have an interoperable system that is proprietary

- Standard *(dictionary.com)*
  - Something considered by an authority or by general consent as a basis of comparison; an approved model
  - Standards are typically used to define the “*whose interfaces are completely understood*” in the above definition – i.e. an “interoperability standard”

- Open Standards, Open Interoperability Standards
  - In this context, “open” generally refers to standards that are free to use without restriction (such as licensing)
  - Do not confuse “open standards” with “open source” – You can have open source that is proprietary and not standards-based
3 – Ensure Interoperability

• Evaluate your interoperability needs
  – Content (items, test definitions, meta-data, statistics, etc.)
  – Registration, personal accessibility needs, enrollment, etc.
  – Results (score) data
  – Distribution / exchange (serialization, transport, security, etc.)

• Actively participate in defining interoperability standards
  – Open standards require active participation by the community (users, organizations, vendors)
  – IMS, SIF, PESC, and other organizations provide standards that can define some aspect of assessments
  – Open standards are generally funded by membership, grants.
Content Interoperability

Key considerations
- Separation of content and presentation
- No specific technology restrictions
- Allow for accessibility options
- Support all media (online, paper, mobile)

Elements
- Item content
- Shared content (ex: passages, art)
- Tool identification (ex: ruler, calculator)
- Alternate representations (accessibility)
- Scoring information
- Test form maps /definitions
- Adaptive algorithms
- Structure (ex: sections, navigation, timing, review options, tools available)

Standards
- IMS QTI/APIP (most robust)
- SIF (good reporting structures)
Registration Interoperability

Key considerations
• Data to support reporting
• Accountability – snapshot of data
• Links to teachers
• Accessibility data

Elements
• Student identifiers and demographics
• School enrollment
• Course data
• Teacher identifiers
• Program participation data
• Accessibility profile

Standards
• SIF (supports data and transport)
• IMS PNP (supports accessibility profile and mapping to APIP)
• CEDS (SLDS requirements)

SEA may collect data on behalf of LEAs prior to loading registration data.
Results (and Distribution) Interoperability

Key considerations
- Security (right group receives the right data)
- Timing (how fast?)
- Preliminary and final scores
- Resend (rescore – never happens right?)

Elements
- Returns all registration data
- Raw scores, scale scores, etc.
- Performance levels
- Total, strand/sub-test
- Links to standards, instruction
- Item details
- Summary data (class/school/LEA/SEA)
- Feedback

Standards
- SIF (supports data and transport)
- PESC (transcripts)
- IMS LIS (emerging)
- Ed-Fi (metrics, dashboards)
- CEDS (SLDS)
3 – Ensure Interoperability

Unbridled Innovation

New item types, simulations, gaming

Strict Adherence to Standards

Creative Tension

• Standards, by their very nature, impose limits
• Standards cannot define or anticipate everything
• Standards generally allow for custom or user-defined “extensions”
• Custom or user-defined extensions immediately reduce the level of interoperability
3 – Ensure Interoperability

- Work with existing standards to enhance / advance them
- Proliferation of multiple standards confuses the market and complicates interoperability
- Where standards overlap or “compete” encourage collaboration
4 – Communicate Proactively

- Partnership & Collaboration is crucial
- Create and be involved in forums for technical knowledge sharing
- Provide a training plan for both assessment and technology staff – together, whenever possible
- Engage across districts and across states
Developing a Communication & Training Plan

• What is the preferred mechanism or forum within the state to best facilitate knowledge sharing?
  – Inter-district and inter-state discussions
  – Existing groups vs. new groups or structures

• What are the best opportunities to communicate out to the different stakeholder groups within the state?
  – Administrators, teachers, parents, students
  – Breadth of audience & input – eg, post-secondary and workforce representatives, CIOs, advocacy organizations
  – Existing communication pathways or strategies vs. new ones

• Does the training plan sufficiently encourage joint collaboration between both assessment and technology staff members?
  – Security/policy training for technology staff
  – Technical training for assessment staff
  – Use of assessment data for student/instructional improvement
  – Trial runs and “dress rehearsals” to establish readiness and build confidence prior to online administrations
5 – Plan for Ongoing Change

- A transition to technology-based assessments is not a one-time change

- Technologies, markets, platforms, and capabilities grow and evolve – the testing environment will, too
  - Incremental updates: OS’s, browsers, Flash, Java, HTML
  - New hardware & devices: netbooks, tablets, smartphones
  - New architectures: thin clients, virtualization, cloud computing
  - New human/computer interfaces: speech recognition, motion-controlled interaction (ala Wii and Kinect gaming)

- Key to managing this change – stay close to what is happening at the district & school level
  - Plan for recurring technology “readiness” assessments

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Considerations for Ongoing Changes

• How should you balance current “readiness” efforts against future needs or technology changes?
  – Current requirements vs. future needs and/or capabilities
  – “Trends” vs. “fads,” & determining appropriate support thresholds
  – Data collection – balancing statewide information needs against burden on local staff; determining what constitutes “actionable data”

• What is the right level of information to provide districts with guidance about future statewide needs for near-term and long-term technology upgrade plans?
  – Realistic hardware/software/platform options (looking one, three, and five years out)
  – Pathway for districts to provide guidance up to the state

• How can psychometric research stay ahead of a changing technology market?
  – Paper/online vs. device/capability comparability
  – Balancing comparability needs against ongoing tech-driven improvements

• What state-level funding initiatives or sources should be considered?
  – Potential to use or redirect funds from broader instructional-improvement efforts to which online assessments are aligned?
Recommendations for States & Districts

• Encourage active engagement between state/districts/schools and others

• Forge partnerships between assessment and technology groups
  – Both across and within states

• Consider funding needs and potential sources
  – Note savings and efficiencies as testing shifts from paper (e.g., materials handling & management)

• Consider/revisit policies that may impact testing window, testing platforms, and technology infrastructure

• Encourage & support assessment/technology research
Questions?

NOTE: Slides from the presentations, as well as the recording of the webinars, can be found at: www.PearsonAssessments.com/NextGenRoadmap

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Step 2 “Developing a Transition Strategy”

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