KEN Applications Subcommittee
Work Group on Online Testing & Assessment

Charge:
The Online Testing and Assessment group will review the issues surrounding development, delivery and analysis of online testing and assessment for the partners in the KEN network. The group will evaluate all of the likely participants, purposes and methods of online assessment. The group will identify legal issues surrounding the assessment process, privacy, security needs, and assess the preparation needed by each agency to participate, develop the primary goals of online assessment, and establish a basic timeline for the project.

Scope: Discussions will include web-based testing, assessment systems and software limited to applications that will run on the KEN network.

Timeline: July 18, 2007 – Mid-project progress report to the KEN Applications Subcommittee
September 1, 2007 - Recommendations due to the Subcommittee

Work Group Members:

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Education	Joe Morgan *	Keith Parsons
EPSB	Chela Kaplan	Jamie Rice
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K12 School	Bob Rodosky (JCPS)	
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Where We Are in the Use of This Application:
Current assessment applications are primarily "static" testing formats, which include few graphics, audio or video components.

P-20

1. Students take several industry assessments online: CompTIA A+, Cisco CCNA, NIMS, ASE, NCCER
2. KOSSA – KY Occupational Skill Standards Assessment
3. WorkKeys (ACT, Inc) 2007-2008 school year
4. Assessment data reporting is an important aspect of the state's assessment agenda.
5. KyEducators.org is a large online professional development resource for educators. It includes the Ky Principal online test.

K12

1. Customized in district testing
    a. Example- Jefferson Co. uses proctored testing for it's E-school of online courses & course recovery
2. CATS (Commonwealth Accountability Testing System)
    a. Including General and Special Student Populations

3. End of Course Assessment
    a. Academic and Technical content areas
    b. District creations and vendor sources
4. World Languages STAMP test (MS & HS)
5. NAEP – National Assessment for Educational Progress – Writing Grades 8 and 12
6. National Norm Referenced Test (Elementary)
7. EPAS (ACT, Inc – EXPLORE, PLAN and ACT
8. World Languages Noella test (ES)
9. Limited English Proficiency
10. KCCT Special Populations Additional Enhancements

Post-secondary

1. Documented student learning outcomes is a significant part of the postsecondary education accountability system and individual colleges and universities have already begun developing assessment systems to monitor student learning outcomes for institutional improvement.
2. Testing is viewed as a component of overall assessment. Assessment includes both direct and indirect strategies, i.e. National Survey of Student Engagement (NSSE).
3. Multiple assessment techniques and supporting technologies are utilized in response to regional accreditation and state regulations.
4. Currently – the majority of testing and assessment is not conducted online
5. The assessment process is decentralized within institutions.
    a. The collection of assessment results is centralized for reporting purposes.
        i. KCTCS – data resides in Peoplesoft and can be accessed across campuses.
        ii. UK – Test scores are collected in the central student information management system, SAP
            1. Individual colleges are investing in database management systems that can link with SAP.
        iii. UK and KCTCS are increasing requirements for students to demonstrate competencies via multiple assessments, which are driven by program accreditation.
        iv. CPE – requires reporting of aggregated student engagement survey scores.
6. Responsibility for assessment varies
    a. Examples:
        i. KCTCS – Placement testing is via COMPASS and test scores are downloaded centrally into Peoplesoft.
        ii. Statewide math placement group is piloting an online math placement test
        iii. KCTCS and UK – course level online testing decisions are made by the instructor or department and may include national certification or licensure prep exams, i.e. ExamMaster or Nursing's NCLEX
        iv. UK – General Education learning outcomes may use online test, i.e. Rand's Collegiate Learning Appraisal

Where We Want to Go in the Use of This Application:

P-20 expects the scope and volume of online assessment to increase.
P-20 expects greater functionality and increased applications to support increased enrollments.
- Course management systems alone are limited in their analysis and reporting features.
- This creates a niche for specialized software, which may or may not integrate well with CMS or other tools.

Where We Want to Go in the Use of This Application: (cont.)

1. **Dynamic testing formats**
    a. Formative assessment is missing from the various assessments given in KY
        i. Benchmark's an example – i.e. JCPS computer skills test
        ii. Thinklink Predictive Assessment is an example of an online formative assessment KY uses
    b. Interim Assessments (school/district wide assessments)
    c. Virtual processes, Examples: Science and Industrial processes
2. **Single sign on**
    a. One entry of student info regardless of application
    b. Data should come from the student info system.
    c. All applications should cut down on teacher workload – repetitive task.
    d. Ideally have just one platform or at least a standard that all applicants comply with.
3. **Support for historical and contemporary data,** i.e. EPAS scores and WorkKeys, for recruiting, skill development and counseling
4. **Common set of attributes**:
    a. Student record level data collection and warehousing in a single location with cross agency access
    b. System maintenance and upgrades should be included in the adoption of any application
    c. The delivery system can tolerate network problems and/or power outages. Infrastructure with the ability to handle high volume interaction and capture individual student progress on assessments so students can continue the assessment process in the event of system failure. (It is critical to be able to start testing and forward data through the network as testing proceeds. It creates too much of a bottle neck to wait until the assessment is finished and you have several locations sending data at the same time. The current infrastructure necessitates locating the assessment server within the local district for K-12 to maintain performance for high levels of network traffic. This issue would also hinder the desired data warehousing configuration.)
    d. Compliance with SIF standards , see http://www.sifinfo.org/
    e. Rapid reporting of student progress, performance diagnosis and feedback to the student.
    f. Standardized application tool sets, i.e. calculator, spell check, etc. should be capable of administering not only multiple-choice question
    g. Ability to handle incorporate audio, video, and virtual processes
    h. Flexible is the delivery system with respect to differences in school-level computer infrastructure
    i. Include items that can be scored in multiple categories, such as essays and other constructed response item types
    j. Also should support less common item types such as text formula input, clicking on "hot spots", graphing item types and text entry and drawing solutions. In addition, various tools should be available to assist students in answering items as needed, such as rulers, protractors, calculators, highlighting capability, and drawing tools. Finally, the delivery system should be capable of calling items or performance tasks that contain applets or compiled executables.
    k. Items administered for accountability purposes must be developed to measure grade-level standards
    l. The delivery system provide sufficient testing accommodations
    m. Ability to monitor the progress of all students assigned to a test session via the Session Details. For example, the color-coded words in the Status column after each student's name indicate the student's real-time test status:
5. **Non-education state agencies**
    a. Ongoing staff training and assessment needs
    b. Desire open LMS options and not require the use of Blackboard.

6. **Important considerations:**
    a. Will the assessments be linear or computer adapted? What is the underlying information technology (hardware, software systems ,etc)?
    b. How will item pools be managed and what algorithms will be used for item administration from the pools? Whose items will be used, with attention to intellectual property and security?
    c. What are the latest security assurances programs (high stakes vs. low stakes)?
    d. Will there be the capacity (computers, etc) for fair and consistent administration across KY schools (including standard interfaces)? How will results of the "Online Readiness Survey (2005) of the KDE be used?
    e. Are the APA guidelines and policies being adopted? What group will be constituted to oversee and assure fairness?
    f. Will the programs be built with KY higher education expertise or by outsourcing? How will be universities in the various regions be involved with the system and the K-12 user groups?
    g. Will content specialist teams be created to include the K-12 teachers (with professional development)?
    h. Will assessment be an actual component of instruction with standards-based alignment (like project 2061 for science) of a separate quality assurance with alignment?
    i. Delivery systems should be built concomitantly with the online assessments. What is the plan to ensure that this is done?
    j. Special attention needs to be given to subgroup performance issues. For example: How will differential item function (DIF) be done as a part of the pre-testing protocol?
    k. How will the tests be scored and by whom? How will they be analyzed and communicated to the teachers and schools? Are the recipients appropriately trained to interpret the scores?
    l. Is Universal Test Design and ADA compliance being considered in selection of vendors?

How We Are Going to Get There:

1. **A comprehensive statewide plan** to direct a shift to online testing and assessment.
    a. Include common needs and technologies that support assessment functions.
    b. Due to the complexity of online testing, a coordinated effort by personnel who work with testing, technical and training support and management is required.
2. **Life Expectancy** - Review and consider the life expectancy of applications before finalizing = It will cost us to change in the future whether it is a chosen change or necessity.
3. **Bandwidth** was an often repeated barrier to desired applications. Not all districts or schools have equal access to bandwidth. The result is reduced functionality during peak assessment or other application periods. The group suggests establishing a minimum bandwidth standard for schools or districts based on student numbers or other criteria.
    a. Although KEN is **increasing bandwidth to the district, does not increase the bandwidth within the district.** Moving all state assessments to online delivery should produce a savings to the state from reduced time, postage, travel and printing cost.
    b. **Identify KEN bottlenecks all the way down to the end user** and open them up
4. **Enhanced options** - At best, the current state of the bandwidth may support electronic versions of traditional assessment methods. However, it is not viewed as being capable of supporting desired audio, video, virtual processes, or high volume data transfer, storage and retrieval.
5. **Flexible** test scheduling
6. **Training** - Teachers will need additional training to monitor and assist students during the testing process. This will be necessary to assure testing procedure compliance and to help resolve technical issues that may arise during the testing process.
7. **Continuous evaluation** of the program

8. **Formative assessment:** A technique to be considered by the district is an online assessment center where teachers can learn to judge various forms of student work and ask colleagues for opinions and advice about assessing their own students' work.
9. **Samples of assessment related software** is attached and can be accessed via www.wcet.info/home.asp

Impact on Teaching and Learning:
Describe how the implementation of these recommendations can have impact on teaching and learning from the statewide perspective with measurable outcomes.

1. Students seem to be able to maintain better focus and completion rates on assessments given electronically, provided they are comfortable with the technology.
2. Written assessments completed electronically are of better quality and easier to score than hand written responses.
3. Immediate score reporting/rapid reporting to schools
4. Decreased administrative burdens on school district personnel as each system matures
5. Improved test security through encryption and other procedures
6. Increased security of testing material.
7. Improved state and local management of the testing program
8. Flexible accommodations for students including disabled students and other student populations
9. Greater ability to share instructional resources
10. Opportunities to integrate technology into instruction
11. For teachers: immediate feedback, accurate data, data and resources for differentiated instruction
12. For district administrators: insight into curriculum , monitor district wide progress, quickly identify larger areas of need and monitor progress toward AYP
13. For school administrators: quickly see grade-wide issues, identify learning trends, better focus PD to teachers and monitor progress toward AYP
14. For state administrators: monitor alignment of standards, monitor district progress, quickly identify larger areas of need, and monitor progress toward AYP
15. Shifts to online testing and assessment are evident throughout postsecondary education because of the significant and positive impact on teaching and learning. Three examples are provided:
    a. Use of online assessment leads to greater use of technology in other aspects of teaching:
        - KCTCS: Advanced technology has provided new alternatives for instructional methods (e.g., 3-D Visualization) and calls for greater emphasis on professional development for faculty.
        - KCTCS: Student familiarity with technology in their daily lives has raised the bar on expectations for use of technology in the learning environment.

    b. Student preparation tools allows for better performance on online tests:
        - KCTCS: Because online tests are increasingly adaptive, it is critical for students to have access to and the opportunity to learn how to take tests. Many health-related disciplines use practice tests to reduce anxiety but also to familiarize students with the testing method itself.

    c. System wide electronic portfolios are emerging as a valuable assessment technique that provides benefits both to faculty and students. Faculty members must develop appropriate rubrics for assessing portfolio content that supports consistency and efficiency, particularly among graduate teaching assistants, of feedback to students. Students develop the essential skill of collecting evidence to demonstrate learning that will transfer to the workplace.