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March 11, 2003

TO: Senator Raggio & Finance Committee Members

FROM: Ray Bacon

SUBJECT: SB182 - Testing Using Technology

Classroom Technology now exists that would allow multiple versions of a test or different order of test items on the same test question to be in use in the same test room at the same time. This technology would have the students use a remote keypad to enter their response to each multiple choice type question without a security risk for the test questions. The technology system would only need to know which version of the test each student has and the answer key for each version. The test would continue to be the paper versions that exist today.

The paper test would not be used in scoring, so they could be counted, confirmed and destroyed the same day to drastically reduce the possibility of having test items compromised. The technology system would provide scoring information within minutes thus eliminating the student and faculty anxiety of waiting weeks for results. During the current waiting period, students are typically not engaged in remedial classes that might prove helpful for those that may require re-testing in order to graduate.

The units are portable and can be moved and used easily for not only the high stakes HSPE required for graduation, but for all other multiple choice testing at all grade levels with the same rapid accurate results information for schools teachers parents and students. When not in use for testing the units could be used in classrooms at any level to facilitate teaching. The units put an IR keypad into the hands of each student in the classroom, so that every student answers every question. As teachers close each question they immediately see the overall class performance without individual student attribution. The teacher has immediate feedback on whether the majority of the students are on track with the instruction or not. After the class, the individual student data is available so a teacher knows each student's strengths and weaknesses immediately. Teachers can link questions to the Nevada Academic Standards, export them to grade books and create custom report for each student. This is a real productivity gain for teachers in the areas of administration that most teachers dislike the most.

The \$3 million will purchase approximately 1,000 classroom units and the projectors needed to augment existing classroom computers to make a function system. That should be enough to provide one for each high school testing classroom statewide. I own 5 units, the state already has about 30 units and that added to the roughly 1000 would give us enough to test about 33,000 students at one time. That means we could do any statewide multiple choice tests at the same of the same day. If we want to do spring testing, we could do all classes and have the results in minutes during about ten days in May. This fits with the presentation of the school board and school administrators on SB191.

The non-testing days would be available for classroom use or other test administration. If we have 16 testing days to do all the statewide test or 17 or even 20 days, the units would be available for classroom use about 160 days a year plus summer schools where I would expect 100% usage. The Value of Classroom use is - to steal from Mastercard - Priceless. It however does not have a measurable ROI, whereas we believe the testing component has a direct cost savings.

The cost of the technology should be mostly offset by reductions in the test contracts for grading and scoring. I cannot give you the exact ROI of investing in this technology because we don't know how much we could reduce the cost of testing by only getting an answer key from the test providers. It would also depend on the actual hardware selected and other related cost. However, I believe that it is possible that just the savings in testing could pay for the units in direct saving in 2-3 years. The non-multiple choice portions of the test, primarily the writing sample will continue to be scored as currently done. Fortunately, the failure rate on that portion of the HSPE test is much lower than the other portions. This change would require a change to the existing testing contract. It would likely require about a half day of PDC training for at least one person per school to insure proper operation of the system. One product (CPS) is from eInstruction in Texas, but other competitive products exists.

The biggest reason to do this is the educational feedback change. Each test question COULD be linked to the Academic Standard that is being tested - even without the test questions being loaded into each classroom computer. At the end of the test, the technology system would be able to provide reports for each school, each testing location, each district and perhaps most important to each student on their performance to the Academic Standards. If remediation is required, the remediation could be focused, effective and begin immediately. This would get Nevada a direct link on performance to Academic Standards that few other state are doing and perhaps more important would get us ahead of the curve on NCLB compliance. We could prove that we are testing to the Academic Standards and NOT teaching to the test. That shuts off the debate on fruitless rhetoric and helps us focus on student improvement - our real goal.