

High-Stakes Testing Isn't the Answer

Study compares AIMS test scores for different student populations

By Susan McGinley

In the scramble to improve public education in Arizona, high-stakes testing has been implemented to “weed out” failing students and possibly prevent them from graduating from high school until they can pass a standardized test such as the Stanford 9 or the more recent AIMS (Arizona’s Instrument to Measure Standards). In particular, career and technical education (CTE) students have typically scored lower than academic students on the AIMS and the Stanford 9. Does this mean the curriculum they study doesn’t prepare them to graduate? Should all high school curriculum be geared toward “teaching to the test”?

Jack Elliot and Jim Knight answer both of these questions with a resounding “No.” Knight is head of the Department of Agricultural Education at the University of Arizona. Elliot, a professor in that department, is a current member of the State Board of Education Career and Technical Education Advisory Committee. He is the university representative on the Arizona Council of Occupational and Vocational Administrators, and just completed his term as Arizona Cooperative Education president.

After statistically analyzing the test scores and sociological data of 10,000 seniors from Arizona high schools over the past four years, Elliot and Knight conclude that raw score comparisons between groups of students are inappropriate because the groups are different.

“A ‘chicken or the egg’ scenario explains the inappropriateness of raw score comparisons,” Elliot says. “Students with a predominant kinesthetic or hands-on learning style are naturally attracted to career and technical education courses because scientific principles and math

concepts are applied in real-life, ‘hands-on’ activities. Yet, these same students do poorly on standardized tests because the tests tend to reward students who are visual or auditory learners. Therefore, what comes first, the chicken or the egg? In this case, what comes first, the kinesthetic learners, or the CTE courses?”

“There is a genius in every student,” says Elliot. “The problem is the AIMS test can only find the genius in *certain* students.” Statistics show that these students tend to be those who come from higher income brackets, who are white, who are primarily visual (learn by seeing) learners and who are enrolled in academic versus vocational (CTE) curriculum. Elliot and Knight wanted to compare in particular the performance of CTE students with non-CTE students to see if their curriculum choice accounted for the differing test scores, as many public education critics believe.

With school board approval, one rural, one urban and three suburban Arizona high schools participated in the study, funded by the Arizona Department of Education, CTE division. The demographic range for Arizona high school students included ethnicity, socioeconomic level, and other factors. The study began in 1999, when the Stanford 9 test was still in effect, and continued through 2000, 2001 and 2002. The researchers collected data from three sources:

- High schools furnished results of a learning styles assessment developed by UA faculty and administered to each senior. Students received a rating for each of the three major learning styles, visual, auditory (learn by hearing) and kinesthetic.
- Individual Vocational Education Plan (IVEP) information was collected for students in the “special populations” eligibility categories: handicapped/disabled, limited English proficiency, economically disadvantaged, academically disadvantaged (students below a 2.0 grade point average or in the bot-

tom 25th percentile), and being a single parent, including pregnant mother.

- The State Department of Education gave the researchers permission to obtain annual records of Stanford 9 and AIMS test scores for academic and career and technical education students.

The research focused on whether or not a student’s choice of curriculum — academic or vocational/technical — was correlated with lower test scores after other extraneous variables were controlled for, including gender, race, ethnicity, special populations listed above, and the three learning styles. The researchers compared the two groups statistically through a multiple regression analysis, a standard statistical measure used in survey research.

More than 60 percent of the students were white, about 13 percent were Hispanic, and smaller percentages were Asian, black, American Indian or multiracial. Gender was divided evenly between male and female.

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Elliot, Knight and Augusta Zimmerman, an agricultural education graduate student, found that all five “special population” areas were significantly associated with lower test scores and were predominantly found in the CTE population, as were kinesthetic learners. Thus the economically disadvantaged; handicapped; black and Hispanic males; Hispanic fe-

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Comments on Standardized Testing

"We say we need standardized tests so we can tell how both children and schools are doing. But we also say we want creativity and innovation in schooling so that we can find better ways of doing things and give parents real choices. But a standardized testing and evaluation regime almost certainly will reduce creativity and innovation in schooling. Standardized testing produces a distinct set of school incentives. It encourages schools to organize like factories: systems that can reliably produce one thing."

"It turns out to be difficult to correlate success on standardized tests with success in college or success in business or success in life. Isn't it ironic that at the same time that universities are broadening their admissions criteria, looking for more comprehensive measures of ability and learning, questioning the utility of the SATs or even throwing them out (as a number of leading universities are considering doing), schools are narrowing *their* performance criteria? The two major components of American education are seriously out of synch with each other. The most successful system of higher education in the world is increasingly convinced that mandatory, standardized testing predicts little and is of only limited use, while the public schools, about which so many people seem to despair, are being told that mandatory, standardized testing is the solution to their problems. Something's wrong with this picture."

Stephen Cornell, professor of sociology and of public administration and policy at the University of Arizona, where he also directs the Udall Center for Studies in Public Policy. From Proceedings of the Forum on "Toward the Well-Being of Teachers, Schools & Students," March 9, 2002.

males; and kinesthetic (learn by doing) learners attained consistently lower test scores overall on these tests. On the other hand, students in the higher scoring group had a predominance of visual and auditory learners.

After controlling for all of these influences, Elliot found there was no difference between academic and CTE students. This means that CTE and non-CTE students are just different groups of people and a raw score comparison of these two groups is not an appropriate comparison.

"What wasn't associated with higher or lower test scores was curriculum choice," Elliot says. This means students in CTE courses will not improve their scores by enrolling in a heavily academic curriculum. They take those courses because they suit their learning style best. (It should be

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noted that students who study vocational agriculture in high school perform academically just as well as students who did not study vocational agriculture, according to research.)

Because the state of Arizona has working curriculum standards (competencies) for CTE programs, these competencies enable the teacher to identify attainment of specific skills that are required for the students. This form of testing omits the pressure of the high-stakes testing procedures, Elliot says. "This type of instruction leads to more instructionally relevant assessment versus irrelevant policy-driven evaluation." (The Arizona Department of Education has not provided validity data for the AIMS test.)

"We don't oppose standardized testing or even testing, but we do oppose high-stakes testing because no single event should decide a student's life," Knight says. "Everybody wants a number. It's okay to be accountable, but it's so pedantic and narrow. We know about different

learning styles and yet we force all students to take the AIMS test according to one learning style. If that's our method for ensuring that 'no child will be left behind,' that's almost exactly what will happen."

Instead, he and Elliot advocate a more rounded approach to student assessment that includes more than a test score. They believe the rationale for evaluations should be based on the decades of research that promote an awareness of learning styles, and other factors that show potential for success.

"To me, a better assessment scenario would involve a continuing student portfolio, that would document student achievements in addition to grades and test scores — results of a science competition, a music audition, speeches, projects designed and built," Elliot says. "Students could be taught to put together an entire CD of these accomplishments — just think of all the skills that would be involved with this type of documentation and assessment." He also suggests that teachers be assessed and rewarded based on their interaction with students, especially in advising.

"Let's make it really significant in terms of advancement," he says. "Let's get away from the 9:00 to 2:00 teachers and reward the ones who get out there and encourage students. We need to quit putting hobbles on teachers and let them do what they do best, and that is teach our youth."

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