

REPORT HIGHLIGHTS PERFORMANCE AUDIT

Subject

The Technology Assisted Project-Based Instruction (TAPBI) pilot program was created by the Legislature in 1998 to "improve pupil achievement and extend academic options beyond the four walls of the traditional classroom." In fiscal year 2006, TAPBI provided Internet-based instruction to more than 15,000 Arizona students.

Our Conclusion

The TAPBI Program was overfunded by about \$6.4 million because of the way some students were counted. On average, TAPBI Program per-pupil costs were lower than traditional schools' because transportation, food services, and classrooms do not have to be provided. The Program's effect on student achievement cannot be measured at this time.



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TAPBI overfunded by about \$6.4 million

Distance-learning programs are operated in each of the 50 states. Arizona is 1 of 26 states that provide K-12 online learning through individual schools rather than through the state department of education. Currently, Arizona statutes allow seven school districts and seven charter schools to operate TAPBI programs.

TAPBI student enrollment has increased from 500 students in 2001 to more than 15,000 in 2006.

The TAPBI schools provide instruction through Internet-based applications that allow schools to create and deliver learning content, such as online reading materials, interactive exercises, discussion forums, video clips, and quizzes.

TAPBI funding based on ADM—

TAPBI schools are provided state and local funding using the same per-pupil method as other K-12 public schools. This funding is based on Average Daily Membership (ADM), which for traditional schools is calculated using student attendance for the first 100 days of school. However, because TAPBI programs operate year-round, the Arizona Department of Education (ADE) calculates their ADM based on the number of instructional hours provided throughout the calendar year.



Student hours cannot be validated—A significant problem with using the ADM funding method for TAPBI is that it is based on students self-reporting the hours spent completing the classwork. This information cannot be verified for accuracy or reasonableness. For example, while the computer system may record the time the student is logged on to the computer, this does not mean the student is actually there performing related schoolwork. Further, even though required by statute, one TAPBI charter school did not require its students to track the hours for their classes.

Costly errors in applying ADM to the TAPBI Program—

Statute does not provide for students in a TAPBI program to be funded at more than 1.0 ADM. Therefore, when students enroll in a TAPBI class, funding for their traditional schools should be reduced in proportion to the hours for the TAPBI class.

Based on ADE's records, auditors estimate that 40 percent of TAPBI students in FY 2006 were concurrently enrolled in a brick-and-mortar school. Although the ADM for these students should have been split between the schools, ADE's computer system cannot

perform the allocation. Instead, ADE provided the traditional schools full funding for the students and then provided the TAPBI schools funding based on the number of TAPBI classes the students took. As a result, about 6,800 TAPBI students were funded at an average of 1.17 ADM each. This represents an additional cost to the State of about \$6.4 million.

Although current literature does not identify an ideal funding method for distance-learning programs, Arizona's funding approach is common among states. However, some other states using similar methods have additional requirements, such as course completion,

to obtain funding. Using a full-time equivalent method may address some of the problems with the ADM method as it would be based on the number of courses taken rather than instruction hours reported by students.

Six schools exceeded statutory enrollment limits—Statute requires that 80 percent of new TAPBI enrollments must be students who attended public schools the previous year, that a new kindergarten student must have a sibling already enrolled in TAPBI, and that total enrollment cannot increase by more than 100 percent of prior year enrollment. Six TAPBI schools did not comply with one or more of these statutory requirements. The additional funding for TAPBI as a result of this noncompliance was about \$88,000.

Recommendations

The Arizona Department of Education should:

- Ensure that its system is programmed to properly calculate funding for students concurrently enrolled in TAPBI and traditional schools.
- Ensure that TAPBI schools comply with statutory enrollment requirements.

TAPBI schools' operations cost less, but more savings may exist

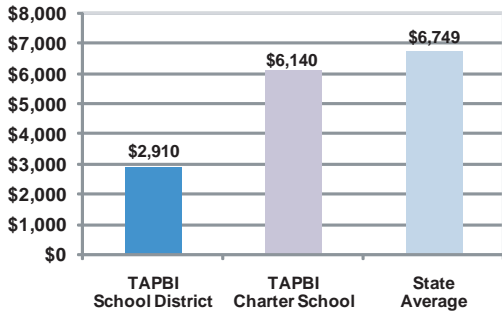
TAPBI schools can achieve cost savings over brick-and-mortar schools because they do not provide transportation and food services, and they have lower plant operation and maintenance costs because they do not have facilities such as classrooms, cafeterias, and athletic fields. In addition, TAPBI schools have lower special education costs due to fewer special needs students and less severe needs.

TAPBI costs below state average—On average, in FY 2006, TAPBI schools spent \$5,526 per pupil compared to a state average for brick-

and-mortar schools of \$6,749 per pupil, a savings of \$1,223 per pupil.

However, costs differ significantly between TAPBI charter schools and TAPBI school districts. Charter schools spent \$6,140 per pupil, on average, while school districts averaged \$2,910. Administrative costs for TAPBI charter schools were much higher at \$1,372 per pupil compared to the state average of \$701 and TAPBI school districts' average of \$562. One cause appears to be higher salaries and benefits for charter school administrators.

Cost Per Pupil Fiscal Year 2006



Software and management agreements—Almost all TAPBI schools lease their learning management software from vendors. In FY 2006, annual learning management system costs ranged from \$8,400 to \$2.5 million per year. The \$2.5 million system cost the school an average of \$3,535 per pupil,

which represents over 56 percent of its total instructional costs of \$6,277 per pupil. By contrast, one school district developed its own learning management system and is able to avoid these high lease costs.

Similarly, management agreements increase costs. One charter school paid 94 percent of its revenue to a related company to operate its program. However, two school districts lowered their costs by entering into intergovernmental agreements with another district to provide their programs.

TAPBI schools do not accurately capture and report costs—

Although statute requires TAPBI schools to annually report their cost-effectiveness, TAPBI schools generally do not accurately identify and categorize their costs. Some schools are not properly allocating shared costs, such as administration and plant operations.

Recommendations

The state education boards should ensure that TAPBI costs are allocated appropriately and that cost categories are aligned with the Uniform Chart of Accounts.

Student achievement measures and practices can be improved

Arizona relies on standardized tests to measure student achievement. The tests used are TerraNova and AIMS (Arizona Instrument to Measure Standards). Students enrolled in a TAPBI program are generally required to take the same standardized tests as non-TAPBI students. However, several factors limit the usefulness of these tests for assessing the effectiveness of TAPBI schools:

- A large majority (70 percent) of TAPBI students attend multiple schools, making it difficult to determine which school affected the standardized test scores.

- TAPBI students often have a short tenure. About 40 percent of TAPBI students in FY 2005 did not re-enroll in FY 2006.
- High school students take the AIMS exam starting in 10th grade. Once they meet or exceed the state standards, they no longer have to take the exam. As a result, students may not even take the AIMS while they are enrolled in a TAPBI school. In FY 2006, 10,045 (67 percent) of TAPBI students were in grades 10 through 12.

National studies are inconclusive on how online/distance learning is affecting student achievement.

TAPBI schools can better support student achievement

TAPBI students have little or no face-to-face contact with teachers or other students. To support student achievement in the online environment, four practices appear to be necessary:

- Ensuring that the number of instructional hours meet required minimums
- Ensuring academic integrity by requiring students to take tests in-person in a proctored environment to receive course credit
- Ensuring adequate student/teacher communication
- Providing teacher training specifically related to online teaching

One of the 14 TAPBI schools did not implement any of these practices, and another 4 implemented only 1 practice.

Minimum hours—None of the schools ensure that the minimum number of instructional hours required by statute is met. Of the records sampled, 435 of 1,396 students received an average of 18 percent fewer instructional hours than required.

TAPBI students minimum instruction hours

	Grades 9-12	Grades K-8
Students sampled	153	1,243
Students with fewer than minimum instruction hours	97	338
Percent of hours below minimum, on average	48%	9%

Testing students—With limited, if any, face-to-face contact between students and teachers, ensuring academic integrity is a challenge. Two methods of ensuring such integrity are to have in-person proctored exams and require students to pass course exams. Only 6 of the 14 TAPBI schools have both of these practices in place.

Communication—Frequent online or phone communication appears to be important for supporting student achievement. Most TAPBI schools had a policy or practice in place regarding communication.

Teacher training—Another important practice to support student achievement is to provide training specifically for online teaching. However, 3 TAPBI schools offered no training and 4 schools offered only a brief orientation or limited topics, such as the policy manual and how to use the learning management system.

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Ann Orrico

Recommendations

ADE should ensure that TAPBI schools provide the required minimum number of instruction hours.

The state education boards should:

- Consider ways to more accurately measure student achievement.
- Evaluate whether TAPBI schools implement practices necessary to support student achievement in an online environment.