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November 15, 2002

The Honorable Jane Dee Hull
Office of the Governor
1700 W. Washington
Phoenix, AZ 85007

The Honorable Jim Weiers
Speaker of the House
1700 W. Washington
Phoenix, AZ 85007

The Honorable Randall Gnant
President of the Senate
1700 W. Washington
Phoenix, AZ 85007

Dear Governor Hull, Representative Weiers and Senator Gnant:

Attached please find a copy of the FY 2002 report for the Technology Assisted Project Based Instruction program. This program, authorized by A.R.S. § 15-808, seeks to “improve pupil achievement and extend academic options beyond the four walls of the traditional classroom.”

A.R.S. § 15-808 requires the JLBC Staff and the State Board of Education to collaboratively compile and evaluate information from participating sites and report their finds to the Governor, the Speaker of the House and the Senate President by November 15th of each year. The attached report fulfills this statutory requirement.

Please contact me at 542-5491 if you have questions.

Sincerely,

Steve Schimpp
Principal Fiscal Analyst

SSC:jb
Attachment

xc: Representative Laura Knaperek
Senator Ruth Solomon
Representative Linda Gray
Senator Ken Bennett
The Honorable Jaime Molera
Karla Phillips, House Policy Advisor

Mark Swenson, Senate Policy Advisor
Kimberly Yee, Senate Research Analyst
Kim Baker, Senior Research Analyst
Jennifer Daily, House Research Analyst
Brian Lockery, House Research Analyst

ANNUAL REPORT
TECHNOLOGY ASSISTED PROJECT-BASED INSTRUCTION
PROGRAM
2001-2002

Participants:

Dear Valley Unified District
Mesa Public Schools
PPEP TEC Charter School
Sequoia Choice Charter School

A.R.S. § 15-808

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November 2002

This report is mandated by A.R.S. §15-808, which requires each Technology Assisted Project-Based Instruction (TAPBI) program site to submit a report to the State Board of Education and the JLBC by June 30th of each year. The State Board of Education and the JLBC are required to collaboratively compile and evaluate the information that is submitted in the site's annual reports and report their findings to the Governor, the Speaker of the House and the President the House and the President of the Senate by November 15th of each year. This report was prepared by staff of the State Board of Education and the Joint Legislative Budget Committee.

Executive Summary

The TAPBI program was established by the Legislature in 1998 (Laws 1998, Chapter 224). The goal of the program is “to improve pupil achievement and extend academic options beyond the four walls of the traditional classroom.”

Two school districts and two charter schools currently participate in TAPBI: Deer Valley Unified, Mesa Unified, PPEP TEC Charter School (Tucson + 13 other sites) and Sequoia Choice Charter School (Mesa & Show Low). All four sites completed their third full year in TAPBI during FY 2002. Three of the four sites (excluding Mesa Unified) also participated in it during the second half of FY 1999. This report therefore reflects three years of TAPBI participation for Mesa Unified and three and one-half years of participation for the other three sites.

Based on written reports from the four participating sites for FY 2002 and on feedback that was obtained during site visits in previous years, the program appears to be achieving its goal of extending academic options beyond the four walls of the traditional classroom, at least on a limited basis. It is unclear, however, whether the program is also meeting its goal of improving pupils' academic achievement because most TAPBI sites are not reporting standardized test score data for program participants, as required by A.R.S. § 15-808(C3&4).

The program is extending academic options, in particular, for students who take TAPBI courses “on-line” from remote locations via the Internet. The latter group includes home schooled pupils and pupils from rural school districts and private schools. The program also extends academic options within the “4 walls” of traditional classrooms for pupils who physically attend school at a TAPBI site. It does so by providing them with access to self-paced computer-assisted courses that are not normally available in traditional classroom settings.

Pupils and parents who respond to TAPBI satisfaction surveys generally give the program high marks. Response rates on these surveys, however, tend to be very low, so these results may not be reliable. Pupils who do respond to the surveys generally indicate that their attitude toward learning either has improved or remains unchanged under the program and that the program generally has helped them to learn. Parents of TAPBI pupils generally indicate that the program has had a positive impact on their child's attitude toward learning and upon his or her academic progress.

A.R.S. § 15-808(C4) requires participating sites to report year-to-year progress for participating students in terms of “grade level equivalent” scores on the Stanford 9 test. This

is mandated in order to assess whether TAPBI pupils are making academic progress at a rate of at least one "grade equivalent" per year while in the program. Only one of the four participants (Sequoia Choice), however, is reporting evidence of improved pupil achievement on standardized tests in its annual self-reports. Deer Valley Unified reported that 15 of its home school pupils took pre/post California Achievement Tests, which are standardized norm-referenced tests, during FY 2002, but did not report those test results. Both Deer Valley Unified and Mesa Unified noted that most of their TAPBI pupils are home school students and that it is very difficult to get home school students to voluntarily take standardized tests. In addition, it should be noted that the state no longer administers Stanford 9 testing for pupils in Grades 10-12, which means that TAPBI sites would have to administer their own standardized testing program in order to meet TAPBI testing requirements for pupils in those grade levels.

Certain logistical factors likewise make it difficult for some TAPBI sites to use "grade equivalent" scores as measures of TAPBI success. This is because many students only participate in TAPBI courses for one year, so year-to-year academic progress data for them for time spent within the program do not exist. In addition, many TAPBI pupils take both TAPBI and non-TAPBI courses during any given year, so their annual academic progress cannot be attributed solely to TAPBI courses. For these various reasons, State Board of Education staff concludes that norm-referenced test scores will never be a useful measure of program effectiveness for TAPBI and therefore recommends that such test scores no longer be required for the program. Some sites point to successful completion of TAPBI courses (especially for former dropouts) as a more feasible measure of program effectiveness.

Detailed cost data from the largest TAPBI site (Mesa Unified) suggest that TAPBI programs can be cost effective if they have at least 140 students. This is because Mesa Unified reports that it has annual TAPBI costs of about \$600,000, including costs for continued development of Internet-based courses. Since the Basic State Aid formula currently provides about \$4,300 in funding per Average Daily Membership (ADM) pupil, this suggests that the "breakeven" program size for TAPBI (at least for Mesa Unified) is about 140 ADM pupils ($140 \text{ ADM} \times \$4,300 \text{ per ADM} = \$602,000$).

TAPBI sites in general, however, believe that the program may not be cost effective currently because participation is capped at 500 ADM pupils statewide (125 ADM average for each site). This limits the extent to which each site can recover its up-front costs for computer infrastructure and Internet-based courses. State costs would increase, however, if the current 500-pupil cap were lifted because more home schooled and private school students would be able to participate in the program. This would increase the statewide ADM count and, hence, total Basic State Aid costs.

The extent to which state costs would increase under an "uncapped" or "higher capped" TAPBI program would depend upon the number of additional home school, private school or other non-public school pupils who would attend TAPBI sites if the cap were raised or eliminated. Students who would attend public schools even without TAPBI, however, would not increase state costs under a higher TAPBI cap, since they would be included in the statewide ADM count even without the program.

One key administrative challenge of TAPBI at the state level involves ADM computation for home school participants. This is because current funding formula for public schools is based on "seat time" (physical presence) in classrooms, which is difficult to monitor in distance learning settings. One option would be to fund distance learning on the basis of successful course completion rather than on seat time. Doing so only for distance learning classes, however, might be considered unfair by school districts and charter schools that provide instruction only in traditional classroom (non-remote) settings. Funding all instruction based on a course completion rather than seat time, however, would radically change the way that public schools are funded in Arizona and would have an unknown effect on total state costs for K-12 education.

The remainder of this document consists of a compilation of self-reports from each of the four participants for FY 2002. Included in the summary for each self-report is a brief analysis of the report by State Board of Education and JLBC staff.

The information found in each site's TAPBI report is required by A.R.S. §15-808 and is self-reported. This information therefore has not been "audited" or validated in detail by State Board of Education or JLBC staff.

Based upon its review of the TAPBI self-reports for FY 2002, the State Board of Education recommends that the Legislature modify evaluation procedures for the program. It recommends that the program be required to have a sunset-type review every ten years instead of continuing to have annual evaluations by State Board of Education and JLBC staff. This is primarily because an annual report has been conducted for the program for each of the past four years and because report "findings" are no longer changing much from year to year.

In addition, both the State Board of Education and JLBC Staff note that this program is still authorized on a "pilot" basis, even though it is currently in its fifth year of implementation. The Legislature therefore may wish to establish the program on a permanent basis or eliminate it during the upcoming legislative session.

Finally, the State Board of Education and JLBC Staff note that the Legislature may wish to establish new criteria for evaluating whether the program is improving student academic achievement unless the program is discontinued. This is because the current criteria are based on standardized test scores and those scores are not available for most TAPBI pupils.

Summary of Self-Reports for FY 2002 Technology Assisted Project Based Instruction Program

Deer Valley Unified District

- 1. A description of the educational services that are offered under the program and that specifically relate to the depth and breadth of the curriculum choices offered by the school.**

Over the past 2 years (FY 2001 and FY 2002), the Deer Valley Unified School District TAPBI program has become focused on serving home school and nonpublic school students who work independently at home or in small study groups. As a result, the number of non-public school students participating in their program has increased from 89 in FY 2000 to 377 in FY 2002. Students participating in the program for FY 2002 enrolled in 767 courses, all of which were provided by Phoenix Special Programs and Academies, which is a distance learning school accredited by North Central Association.

The Deer Valley Unified TAPBI curriculum consists of Self-Paced Internet courses (SPI) that cover core classes of a high school diploma program, including interactive CD-ROM programs in mathematics, English, science, government, geography and history. Forty program titles were offered in FY 2002. The online services provided by SPI programs include items such as whole class and individual instruction, one to one and small group collaborations, testing and evaluation, instructor office hours, online library and door-to-door delivery of hard copy books and articles, academic advising, career counseling, program catalogs, admissions and registration, attendance reporting, course transcripts and grades and policies and procedures.

- 2. A description of the effects of media and technology on the delivery of specific educational services to specific pupil populations.**

As reported last year, Deer Valley School District states that the technology-based courses provide specific services to each population that they have targeted during their participation in the program. These services include over thirty instructional strategies with the ability to have Phoenix Special Programs and Academies customize each course. The district underscored convenience by the online access to admissions, library, academic counseling, career advising, bookstore, student union and all other services that typically are found on a traditional school campus. The report also states that a comprehensive Internet and on-campus training program can be provided for teachers and staff who are willing to receive experience with online courses.

3. A measurement of academic achievement of pupils in the programs, including academic advancement as measured by the increase in grade level equivalent scores each academic year on the nationally standardized norm-referenced achievement test prescribed in A.R.S. §15-741 and a summary of essential test scores, scores on the nationally standardized norm-referenced achievement test individual pupil portfolios and other assessment tools used by the district.

The assessment and measurement of students is based primarily on their success or failure with the coursework and issuance of credits. No information is available on academic advancement as measured by the nationally standardized norm-referenced test. Reported Deer Valley Unified data on TAPBI course completions for FY 2002 are difficult to interpret because the district reports that 299 of the 377 enrolled students from that year are still in the process of completing at least 1 course from last year.

For courses that were completed during FY 2002, 63 students earned .5 credits, 20 earned 1 credit, 7 earned 1.5 credits, 7 earned 2 credits, 2 earned 2.5 credits, 3 earned 3 credits, 3 earned 3.5 credits and 1 earned 5.5 credits. In terms of "letter" grades, 200 students received a "C" or higher, 29 received a "D" and 10 received an "F". Deer Valley Unified reports that 67 students withdrew from their TAPBI courses during FY 2002.

The district noted that students enrolled in their program's SPI courses made slow progress unless they were either self-directed or highly encouraged to complete courses according to strict timelines. It is also noted that all midterm and final written exams must now be proctored by an approved proctor and are no longer done at home online, which apparently was the practice in prior years.

4. Academic advancement as measured in grade level equivalents each academic year based on a standardized norm-referenced achievement test.

No scores were provided for FY 2002 because the State did not administer a norm-referenced achievement test to high school students and because home school students are not required to take the norm-referenced achievement test.

5. The results of a survey of pupil satisfaction with the program, including:

- (a) Pupils' attitudes about delivery modalities employed by the school
- (b) Changes in pupils' attitudes toward learning in general
- (c) Changes in pupil's attitudes about their own ability to learn and about their own academic progress
- (d) Pupils' attitudes about the school they attend

The results of the student survey (5-point scale) are summarized below. Only 20 out of 225 total students (2.2%) responded to the survey.

- (a) With a rating of 3.91, the survey indicated that students were generally pleased with the delivery methods and using technology in learning.
- (b) On average, students appreciated being able to continue their education with Internet courses as well as indicated that the individualized programs improved their attitudes about attending school. (The average rating was 3.35)
- (c) Students rated the self-paced format as a 4.0 (or good). They stated that they felt better about learning since they had an opportunity to use computer-based instruction. The majority of students indicated that they believed their scores improved using online learning.
- (d) Generally, students indicated that the Internet environment was conducive to learning and the courses met their needs. However, students did indicate insufficient help and instruction from the learning facilitators, rating the instruction at a 1.8 (unsatisfactory to fair). Overall, the average rating was 2.68 (ranging from fair to satisfactory) and the District noted confusion on the question.

6. The results of a survey of parental satisfaction with the program, including:

- (a) Parents' and their children's attitudes about the delivery modalities employed by the school.
- (b) Changes in their children's attitudes about learning in general.
- (c) Changes in their children's attitudes about their ability to learn and about their academic progress.
- (d) Parents' and their children's attitudes about the school that the child attend.

The results of the parent survey (5-point scale) are summarized below. Only 23 out of 225 total parents (10.2%) responded to the survey.

- (a) Overall parents rated their student's attitude about individualized self-paced classes on the Internet as a 4.10. Parents reported that their students were benefiting from the use of technology in learning and regarded immediate feedback on exams as a high priority.
- (b) Overall parents rated their student's attitude about learning in general at 3.75. Parents did not see much improvement in their student's attitude toward school attendance, rating it a 2.8 (fair/satisfactory).
- (c) Parents reported that their students felt better about learning since they had an opportunity to use computer-based instruction. Parents felt that the Internet coursework was appropriately challenging, but rated their student's chances of being successful upon returning to his/her home school at a 2.2 (fair).
- (d) Parents rated their student's entire school experience at a 3.37 (satisfactory). They found that the Phoenix Special Programs & Academies met their students' needs in a timely manner, however, they rated classroom teacher help at 2.6. Parents recognized that the staff, both at the school and Phoenix Special Programs and Academies, responded to questions and concerns adequately and with a courteous and caring manner. Few parents, however, found that their student's attendance rate improved or maintained, rating it a 2.2 (fair).

7. A description of the availability and equitable distribution of educational services provided under the program including specific descriptions of the effectiveness of technology tools and modalities used to address the needs of any underserved populations targeted by the school.

No information was provided on services specifically targeted for “underserved populations.” The district, however, reported that students involved in their program included ones with varying academic needs. All students received academic advising as they reviewed their transcripts in relation to the graduation requirements. When appropriate, career counseling was provided. Students also received one-on-one counseling and appropriate placement tests by Phoenix Special Programs staff.

8. A description of the operational and administrative efficiency of the program.

Deer Valley Unified reports that the home school students work in a variety of situations at varying times throughout the day and night. Parents assume responsibility for maintaining time logs that are sent to Phoenix Special Programs and Academies monthly. For FY 2002 the program implemented consequences for not maintaining time logs, including not refunding course deposits to parents, not providing the student with a course grade and not allowing students to enroll in a subsequent course until the logs are turned in.

9. A description of the cost effectiveness of the program.

Cost effectiveness was identified as not being the key factor for Deer Valley Unified in introducing the program. The primary objective defined by the district was to find alternative methods of helping students stay in high school and graduate. Nonetheless, the following cost considerations were identified by the school district:

- (a) The hardware system and management platforms are initially high cost no matter the number of students.
- (b) The translation from a traditional print-based teacher centered instructional course to the Internet is time consuming and detailed.
- (c) The validation of each designed and translated course takes additional time on the part of all parties and is costly.
- (d) The staffs assigned to facilitate and implement the online courses need to be provided in-service training.
- (e) The hardware required for the students’ use must be acquired and available for the students to use.
- (f) The staff required to facilitate student learning on the Internet needs to be provided.
- (g) The special facilities or space to operate the Internet is also a cost.
- (h) The assessment, evaluation and survey of students, parents and staff, as well as, the determination of increasing student academic achievement must be provided.

The district reported an estimated front-end cost of about \$400,000 in order to develop coursework and establish facilities and equipment for a K-12 distance learning site. This assumed a minimum of 3 classrooms at \$50,000 each and 35 computers per classroom (105 total). Continuing costs are estimated to be \$261.00 per student per course. The School district has partnered with the Phoenix Special Programs & Academies in order to reduce startup and continuing costs for their program.

Deer Valley Unified believes that school districts in general are not able to afford costs of both “regular” education and distance learning programs and recommends that the state fully fund both start up and continuing costs for TAPBI programs, which it believes was the intent when TAPBI was originally 4 years ago. The district did, however, indicate that funding from Proposition 301 and from the State Facilities Board currently is helping to fund distance learning.

Analysis of Report from Deer Valley Unified:

The Deer Valley School District has completed three and one half years of service to students in the following categories: long-term suspended by the Governing Board, students identified as needing to make up credits to remain on track for graduation, students needing advanced math courses not offered in their middle schools and home schooled students interested in taking courses they could not complete independently at home through funds and services provided by this program. The focus of the program during FY 2001 and FY 2002, however, has been home school and other nonpublic school students who work independently at home or in small study groups.

Since home school pupils would not be included in the statewide Average Daily Membership (ADM) count for computing K-12 Basic State Aid funding apart from the program, the TAPBI program increases overall costs for Basic State Aid. The Arizona Department of Education reports that Deer Valley Unified reported a total ADM count of 58 pupils for their TAPBI program for FY 2002. (This is fewer than the 377 pupils enrolled because most pupils participated in TAPBI on a part-time basis and many have not yet finished courses that they started during FY 2002.) Since Basic State Aid funding averaged roughly \$4,300 per ADM pupil in FY 2002, we estimate the Deer Valley Unified TAPBI program increased Basic State Aid costs for FY 2002 by about \$250,000 ($58 \text{ ADM} \times \$4,300 \text{ per ADM} = \$249,400$).

The Deer Valley Unified self-report for TAPBI for FY 2002 does not include data on Stanford 9 test scores as a measure of program effectiveness and this information is not likely to be available in the future, since the state no longer requires Stanford 9 testing for pupils in Grades 10-12. As a result, student achievement within the program can only be measured indirectly through data on courses completed and academic credits earned.

Feedback from parent and student satisfaction surveys for the program is generally positive, but the response rate for both surveys is less than 10%. The district acknowledges, and the reviewer agrees, that procedures for gathering participant feedback is difficult and needs continued refinement to be useful.

Mesa Unified District

1. A description of the educational services that are offered under the program and that specifically relate to the depth and breadth of the curriculum choices offered by the school.

The district now offers a complete basic high school curriculum over the Internet, including courses in English, Mathematics, Integrated Science, Algebra, Geometry, Trigonometry, Biology, Chemistry, Physics, World Studies, American History, Government and Economics. As of July 1, 2002, all of Mesa Unified's TAPBI courses have been developed "in-house" either from scratch or by customizing coursework that the district purchased during the first year of program for \$28,500 (one-time cost). All Mesa Unified TAPBI courses align with state and district academic standards and are "interactive" in nature, which means that computer feedback that TAPBI students receive while working on TAPBI courses depends on their responses to computer "prompts" (questions or instructions) within those courses. Each Mesa TAPBI course includes "direct instruction" video clips that are taught by Mesa Unified faculty members and that are "recorded" in a format ("video streaming") that allows them to be played back over the Internet "24/7." As of the start of FY 2003, all Mesa Unified TAPBI courses have been copyrighted by the district.

2. A description of the effects of media and technology on the delivery of specific educational services to specific pupil populations.

The district has concluded that it is too expensive to try to provide "distance learning" coursework through cable or satellite TV and therefore has based its TAPBI curriculum on an Internet-based delivery system. It has observed, however, that some students and parents require training on how to use the Internet before they can take TAPBI courses successfully, so the district provides training in Internet use as part of its overall TAPBI program. Mesa Unified believes that an Internet-based system for delivering instruction is very powerful because it allows courses to be assembled, packaged and delivered anyplace, anytime.

3. A measurement of academic achievement of pupils in the programs, including academic advancement as measured by the increase in grade level equivalent scores each academic year on the nationally standardized norm-referenced achievement test prescribed in 15-741 and a summary of essential test scores, scores on the nationally standardized norm-referenced achievement test individual pupil portfolios and other assessment tools used by the district.

The total enrollment for the 2001-2002 school year was 296 (51 students less than last year). Information presented in previous reports was based on very few responses and this year no testing data were provided. Although all students were contacted in various ways to inform them of assessment offerings (Stanford 9 and AIMS), no students responded. About two-thirds of the students taking Mesa Unified's TAPBI courses are home schooled, which apparently makes it more difficult to get them to participate in the Stanford 9 or AIMS test. Testing was not available for 4 students who participate in the Mesa Unified TAPBI program for FY 2002 but who lived outside of the United States during the year. (Note: Those students were not included in the program's Average Daily Membership count and therefore did not receive any state funding.) Final exams are given for all TAPBI courses and grades from those courses are included as part of Mesa Unified's regular grading system, but an analysis of those grades was not provided. TAPBI pupils are required to come to the district's TAPBI facility in order to take final exams for TAPBI courses, even if they took their TAPBI courses via the Internet.

4. Academic advancement as measured in grade level equivalents each academic year based on a standardized norm-referenced achievement test.

The district indicates that it cannot respond to this question because very few of its TAPBI pupils participate in Stanford 9 or AIMS testing. The district indicates that it makes many attempts to get parents of home school pupils to come into the TAPBI office for standardized testing, but that very few, if any, parents do so.

5. The results of a survey of pupil satisfaction with the program, including:

- (a) Pupils' attitudes about delivery modalities employed by the school
- (b) Changes in pupils' attitudes toward learning in general
- (c) Changes in pupil's attitudes about their own ability to learn and about their own academic progress
- (d) Pupils' attitudes about the school they attend

The district conducted an online survey and a survey that was sent to each home in order to answer these questions. Only about 14% of students responded to the online survey, while approximately 34% responded to the mailed survey. (Copies of the surveys were not provided in the self-report.)

- (a) If assigned a letter grade, 87% responded A, 13% responded B.
- (b) "This school encourages my students to learn." (90% agree, 10% disagree)
- (c) "I think my classes are helping me to learn." (99% strongly agree, 1% neutral)
- (d) "I'm proud of my school." (78% strongly agree or agree, 22% neutral)

6. The results of a survey of parental satisfaction with the program, including:

- (a) Parents' and their children's attitudes about the delivery modalities employed by the school.
- (b) Changes in their children's attitudes about learning in general.

- (c) Changes in their children's attitudes about their ability to learn and about their academic progress.
- (d) Parents' and their children's attitudes about the school that the child attend.

The results of a parent survey are summarized below. Most responses were from a TAPBI survey that was conducted over the Internet. Some, however, were from a district-wide survey called the "Mesa Schools Quality Review." (Copies of the surveys were not provided in the district's self report.)

- (a) "Has distance learning provided your child with the necessary tools to learn?" (93% yes, 7% no)
- (b) "Has attending a distance learning program affected your child's attitude toward schooling?" (83% enjoys school more, 17% no change)
- (c) "Does your child feel that he/she has been successful in his/her distance learning courses?" (90% yes, 10% no)
- (d) "The overall quality of your child's school." (95% A or B, 5% neutral)

7. A description of the availability and equitable distribution of educational services provided under the program including specific descriptions of the effectiveness of technology tools and modalities used to address the needs of any under served populations targeted by the school.

This program is available to any family, anywhere. Mesa has received calls from many other districts inquiring about its TAPBI program. Calls also have been received from schools wanting to start their own distance-learning program.

This program is open to all areas and all groups. The target population, however, is school age students not enrolled in the public school system. Mesa has discouraged school districts from using this program for alternative students, as they believe the rigorous coursework is too difficult. A note made by the district was that many parents of home school children are interested and participating because their students are considered "slow learners." Mesa stated that the program seems to work very well for this population and parents have stated that this program allows their children to progress at their own rate and be successful.

8. A description of the operational and administrative efficiency of the program.

Prior to FY 2003, the program used about 1,000 square feet of off-site space located in a strip mall. With the addition of personnel, the space became inadequate and the district found a larger facility to house the program this year. The Superintendent has agreed to add personnel to speed up the development of the courses for the coming summer and next school year. Currently, most of the staff assumes several responsibilities, which increases administrative efficiency. The staff consists of:

- 1 ¼ time administrator
- 1 full time secretary/technician
- 1 full time secretary/registrar

- 5 full time distance learning specialists
- 15 part time teachers
- 1 part time counselor

Teachers in this program teach in addition to their regularly scheduled classes in the Mesa School District. They are provided with laptop computers so they can continue to serve students in the evening, on vacation and during the day. The specialists and the secretary/technician spend much time teaching parents and students how to use their home computers. The specialists also do programming to keep a database for each student enrolled, coordinate and train the Internet teachers and handle technical computer issues. The counselor works with families to ensure students are taking the right courses to earn a high school diploma. The administrator sets the vision and goals, meets with the Superintendent and evaluates the personnel making sure that all tasks are completed and the standards of the district are maintained.

9. A description of the cost effectiveness of the program.

The cost of a distance learning system depends upon the technology chosen for providing instruction. Mesa Unified has concluded that it is cheaper to provide distance learning via the Internet than through cable or satellite TV. It also has concluded that it is cheaper for it to develop its own Internet-based courses than to pay fees for courses from outside vendors, which the district estimates would cost about \$150,000 per year. The district indicates that its current budget for the program is about \$600,000 per year and that after all coursework is completely developed that the program budget will drop to about \$500,000. This suggests that the district is currently spending about \$100,000 per year to continue to develop and refine its distance learning courses, which is less than the \$150,000 cost that it estimates would occur if it paid annual fees for coursework from outside vendors. Based on these numbers from the district, it appears that its plan to develop coursework "in-house" is cost effective.

The Arizona Department of Education reports that Mesa Unified had 223 ADM pupils in its TAPBI program in FY 2002. Since state funding averaged about \$4,300 per pupil for FY 2003, the district's program generated about \$958,900 in total funding. This compares with total reported expenditures of about \$600,000 for the program for FY 2002. The program therefore appears to be generating a positive cash flow for the district.

Analysis of Report from Mesa Unified District:

Mesa Public Schools has completed 4 years providing services under this program. The district appears to be developing a high-quality curriculum for its TAPBI program in a cost-effective manner and students and parents seem pleased with the program. It is difficult to make definitive conclusions regarding the effectiveness and quality of the program, however, because standardized test scores are not available for program

participants and because only 35%-45% of students and parents responded to program satisfaction surveys.

The Arizona Department of Education reports that Mesa Unified had 223 ADM pupils in its TAPBI program in FY 2002 and the district reports that about 65% of its pupils were formerly home-schooled. This suggests that about 145 ADM pupils from the program (223 ADM X 65% = 145 ADM) would not be in public schools apart from TAPBI and therefore would not be receiving Basic State Aid funding apart from it. This suggests that the Basic State Aid costs for the Mesa Unified TAPBI program were about \$623,500 (145 ADM X \$4,300 per ADM = \$623,500) for FY 2002. Non-home school pupils who participate in TAPBI do not increase Basic State Aid costs above what they would be apart from the program because those pupils would be included in the statewide public school ADM count even without the program.

Based on self-reported budget information, the program appears to be generating a positive cash flow for the district. Reported budget information, however, may not include some district-level costs for TAPBI students that are not specifically related to the TAPBI program.

The Mesa Unified self-report recommends that A.R.S. §15-808 be amended to allow each pilot site to serve at least 250 ADM pupils per year. Under current law, each of the 4 TAPBI sites is limited to 125 ADM pupils per year, although individual sites can serve more than 125 ADM pupils if others do not use their entire ADM allotment. Increasing each existing site's allotment to 250 (or more) ADM would increase the collective statewide cap for TAPBI from 500 ADM currently to 1,000 ADM total. If the proportion of home school pupils in TAPBI remained the same under the higher proposed cap, state General Fund costs for home school pupil participation in TAPBI for all 4 sites (not just Mesa Unified) would roughly double from its current level of about \$875,000.

PPEP TEC Charter High School

1. A description of the educational services that are offered under the program and that specifically relate to the depth and breadth of the curriculum choices offered by the school.

This program is in its third year of development at PPEP TEC Charter High School. The entire PPEP TEC program provides an individualized, self-paced curriculum utilizing distance-learning technology. PPEP TEC provides services to approximately 1,000 students targeting dropouts, students at risk of academic failure, single and teen parents and children of migrant workers in 13 sites in Central and Southern Arizona. PPEP TEC has also partnered with Phoenix Special Programs to provide distance-learning opportunities for students who are unable to attend school at one of PPEP TEC's 13 sites. In FY 2001-2002, 22 students took advantage of acquiring high school credits from home through this partnership.

The PPEP TEC Charter High School states that their courses are closely aligned with the Arizona State Academic Standards to meet the standards measured by AIMS. Information is not included on the number of courses provided, but they do report that the curriculum includes core academic courses, technical training courses and career software. It is noted that PPEP TEC has introduced proprietary curriculum software from Advanced Learning Systems.

2. A description of the effects of media and technology on the delivery of specific educational services to specific pupil populations.

In 1999, PPEP TEC conducted a survey to determine the key reasons parents and students chose their school. The primary reason identified was the flexible schedule that allows students to work while getting a high school diploma. PPEP TEC believes that distance-learning opportunities increase student options to stay in school in many rural areas, where the distance to a traditional public school may be prohibitive.

PPEP TEC is continuing to develop video capacities that will allow multimedia programs to be broadcast to all sites. PPEP TEC has purchased equipment that will allow teleconferencing and interactive digital videotaping. In order to protect students from obscenity over the Internet an extensive firewall system has been installed through the Virtual Private Network as well as a web and e-mail filtering system to control unwanted access.

3. A measurement of academic achievement of pupils in the programs, including academic advancement as measured by the increase in grade level equivalent scores each academic year on the nationally standardized norm-referenced achievement test prescribed in A.R.S. §15-741 and a summary of essential test scores, scores on the nationally standardized norm-referenced achievement test individual pupil portfolios and other assessment tools used by the district.

The report did not include any specific academic data. The following information was included:

“Student achievement is measured in several ways. The first is the performance on the Stanford 9 and AIMS. Students are also assessed at the beginning and upon completion of each AIMS- tested course and through a rubric graded essay written at the beginning of the year and at the end of the year. PPEP TEC is continuing to develop assessments that can measure the academic achievement of our unique population.”

4. Academic advancement as measured in grade level equivalents each academic year based on a standardized norm-referenced achievement test.

The report does not indicate specific data measuring academic advancement. According to last year's report, data was to be collected for the 2000-2001 calendar year and submitted this year.

5. The results of a survey of pupil satisfaction with the program, including:

- (a) Pupils' attitudes about delivery modalities employed by the school
- (b) Changes in pupils' attitudes toward learning in general
- (c) Changes in pupil's attitudes about their own ability to learn and about their own academic progress
- (d) Pupils' attitudes about the school they attend

PPEP TEC has collaborated with the Kellogg Foundation for the last three years to provide an annual evaluation by outside evaluators from the University of Arizona. There was no information provided on the response rate to the surveys or how they were administered. PPEP TEC's self-report included the following findings, which either are unchanged from the prior year or are prior year data:

- 86% felt they had learned a lot; 14% felt they had not learned a lot in the PPEP TEC Program.
- 79% felt they had learned the skills to attend college or a trade school after graduating PPEP TEC.
- 63% feel they had access to the latest technology.
- 68% feel they had learned computer and technology skills at PPEP TEC.

6. The results of a survey of parental satisfaction with the program, including:

- (a) Parents' and their children's attitudes about the delivery modalities employed by the school.
- (b) Changes in their children's attitudes about learning in general.
- (c) Changes in their children's attitudes about their ability to learn and about their academic progress.
- (d) Parents' and their children's attitudes about the school that the child attend.

The PPEP TEC self-report did not directly answer the questions listed above, which are required by A.R.S. § 15-808.C6. Instead PPEP TEC provided the following information from a survey of parents that the school conducted in collaboration with the Kellogg Foundation and the University of Arizona and which either are unchanged from the prior year or are prior year data (except for the response regarding "access to teachers"):

- 93% of parents rated their satisfaction as "high" or "very high;" 3% were not satisfied.
- 97% rated their access to teachers as "high".
- 94% rated their child's academic progress as "high" or "very high".

7. A description of the availability and equitable distribution of educational services provided under the program including specific descriptions of the effectiveness of technology tools and modalities used to address the needs of any under served populations targeted by the school.

PPEP TEC's self-report indicates that its student population is diverse, including students who are dropouts, at risk of academic failure, single and teen parents and children of migrant workers. It cites former Assistant Secretary, National Telecommunications and Information Administration, Larry Irving, as reporting that the increase of computers in the home is continuing to rise across all demographics but the gap between access for the Hispanic, rural, low income student and other students is widening. PPEP TEC identifies the majority of their student population in the category most likely to be left behind in the digital divide are benefiting from their distance-learning program.

8. A description of the operational and administrative efficiency of the program.

There was no information provided in the report from PPEP TEC.

9. A description of the cost effectiveness of the program.

There was no information provided in the report from PPEP TEC.

Analysis of the Report from PPEP TEC:

PPEP TEC's Technology Instruction Program (TIP) is in its third year of development. Once again, there is some evidence of accountability derived from this report but not all of the categories specified in the statute have been addressed. The results of the evaluations submitted to the Kellogg Foundation need to be available in time to include in the annual report. There is no information available to document student test scores. PPEP TEC's annual report was submitted to the State Board of Education after the statutory deadline.

Unlike the Deer Valley Unified and Mesa Unified TAPBI programs, the PPEP TEC program does draw students from the home school population. The Arizona Department of Education, in fact, reports that PPEP TEC only claimed 0.6 ADM pupils total for its TAPBI program for FY 2002. This would have generated only about \$2,580 in total funding for the program last year (0.6 ADM X \$4,300 per ADM = \$2,580). The remaining 822 ADM pupils that PPEP TEC served during FY 2002 physically attended a PPEP TEC charter school and therefore were funded through their charter school ADM counts rather than through TAPBI. The TAPBI program, therefore, does not provide significant funding to PPEP TEC. Our understanding is that PPEP TEC is interested in TAPBI primarily because its curriculum and instruction have always been technology intensive and because it hopes to expand its "distance learning" offerings in the future to migrant students who cannot always physically attend school at a PPEP TEC site.

Sequoia Choice Charter School

- 1. A description of the educational services that are offered under the program and that specifically relate to the depth and breadth of the curriculum choices offered by the school.**

Students have access to computer-assisted learning, virtual classrooms and laboratories, electronic field trips, e-mail, virtual tutoring and chat sessions. Additional non-computer activities are provided to enrich the educational program. Curriculum choices extend from approximately the 1st grade through post-secondary classes. Advanced as well as uniquely challenged students are given a variety of opportunities to succeed. Sequoia states that their curriculum and high school course selections are too lengthy to list but can be found on their website: scazdl.org. A quick review of this site showed 51 courses available and 55 courses available in English as well as other courses available in a variety of subjects.

- 2. A description of the effects of media and technology on the delivery of specific educational services to specific pupil populations.**

Sequoia Choice states that their program allows for the individualization of education and allows them to consider each individual student to be a unique population. The report states that all student populations can benefit from technology delivered education. Technology delivered education allows for students to be able to learn at their own pace and to have flexibility to continue their education for populations such as unwed mothers.

- 3. A measurement of academic achievement of pupils in the programs, including academic advancement as measured by the increase in grade level equivalent scores each academic year on the nationally standardized norm-referenced achievement test prescribed in A.R.S. §15-741 and a summary of essential test scores, scores on the nationally standardized norm-referenced achievement test individual pupil portfolios and other assessment tools used by the district.**

The Stanford 9 test was used as the primary source for illustrating student achievement. Sequoia Choice provided a chart to illustrate the average increase in grade equivalent scores for students who took the Stanford 9 in April 2001 and those who took the test in April of 2002. They summarize the following average increases in scores: 2.6 in reading, 2.4 in math and 2.3 in language. The Stanford 9 achievement test was not administered by the State in grades 10-12 so no information is available for those grades.

- 4. Academic advancement as measured in grade level equivalents each academic year based on a standardized norm-referenced achievement test.**

The Stanford 9 test was used as a primary source for determining grade equivalent for participants. The Stanford 9 Test was not administered by the State to 10th, 11th and

12th graders. According to a chart on Reading, Mathematics and Language scores that was provided in the self-report, students in Grades 2 & 3 generally tested at grade level, students in Grades 4 through 7 generally tested above grade level, and students in Grades 8 & 9 generally tested below grade level for those 3 subjects.

5. The results of a survey of pupil satisfaction with the program, including:

- (a) Pupils' attitudes about delivery modalities employed by the school
- (b) Changes in pupils' attitudes toward learning in general
- (c) Changes in pupil's attitudes about their own ability to learn and about their own academic progress
- (d) Pupils' attitudes about the school they attend

The report did not contain written survey results. The following findings are based on our interpretation of a chart in the self-report:

- (a) Approximately 50% of students strongly agreed that delivery modalities were good, approximately 40% agreed that delivery modalities were good and the rest were not sure or disagreed.
- (b) Approximately 50% of students strongly agreed that they had better attitudes about learning in general, 40% agreed that they had better attitudes and the rest were not sure or disagreed.
- (c) Approximately 60% of students strongly agreed that their attitude about their own ability to learn had improved, 30% agreed that their attitude had improved and the rest were not sure or disagreed.
- (e) Approximately 55% of students strongly agreed that they had a positive attitude about their school, approximately 30% agreed that they had a positive attitude about their school and the rest were not sure or disagreed.

6. The results of a survey of parental satisfaction with the program, including:

- (a) Parents' and their children's attitudes about the delivery modalities employed by the school.
- (b) Changes in their children's attitudes about learning in general.
- (c) Changes in their children's attitudes about their ability to learn and about their academic progress.
- (e) Parents' and their children's attitudes about the school that the child attend.

The report did not contain written survey results. The following findings are based on our interpretation of a chart in the self-report:

- (a) Approximately 30% of parents strongly agreed that they and their children had a good attitude about delivery modalities employed by the program; 55% agreed; the rest were not sure or disagreed.
- (b) Approximately 40% of parents strongly agreed that their children's attitude toward learning in general had improved; 50% agreed; the rest were not sure or disagreed.

- (c) Approximately 60% of parents strongly agreed that their child's attitude about their ability to learn had improved and that they had improved their academic progress; 10% agreed; the rest were not sure or disagreed..
- (d) Approximately 40% of parents strongly agreed that their child's attitude about the school had improved; 50% agreed; the rest were not sure or disagreed.

7. A description of the availability and equitable distribution of educational services provided under the program including specific descriptions of the effectiveness of technology tools and modalities used to address the needs of any under served populations targeted by the school.

Sequoia Choice reported that the implementation of technology permits individualized delivery in such areas as curriculum choice, level of curriculum unique to the subject or across multiple subjects, one-on-one tutoring and peer tutoring. It also reported that technology use increases the quantity and types of access that a student has to course materials and other resources. Sequoia Choice also reported increased teacher-student interaction because of TAPBI. Sequoia Choice continues to make TAPBI courses available statewide.

8. A description of the operational and administrative efficiency of the program.

This program continues to rely on a distance learning approach for TAPBI instruction, which reduces costs for physical facilities. The program reports that this increases the amount of funding is available for funding instruction. Sequoia Choice also reports that the use of online servers creates administrative efficiencies that result in better service and increased responsiveness to families.

9. A description of the cost effectiveness of the program.

Sequoia Choice reports that the majority of expenses for this program are fixed costs. This includes costs pertaining to securing bandwidth, servers, technology, administration, and physical facilities. Variable costs include costs pertaining to on-line instructors and counselors, which vary depending on student enrollment. Sequoia Choice notes that the ability to amortize the fixed costs over more students greatly increased operational efficiencies for the program.

Analysis of Report from Sequoia Choice:

Sequoia Choice reports that the program has enabled it to expand its curriculum and provide individualized instruction for students with widely varying educational needs, including gifted and remedial students. The Sequoia Choice self-report did not provide much detail regarding its operating budget, which limited the analysis that we could do on the cost effectiveness of its TAPBI program. It also would be helpful if the Sequoia Choice self-report included more detail (instead of just graphs) on student enrollment, test scores and satisfaction survey results. The State Board of Education received the self-report from Sequoia Choice after the statutory deadline.

The Arizona Department of Education reports that the Sequoia Choice TAPBI program had an ADM count of 117 students for FY 2002. Based on feedback from the school, we estimate that about 10% of this total consisted of home school pupils. This suggests that the Sequoia Choice TAPBI program had a Basic State Aid cost of about \$51,600 in FY 2002 (12 ADM pupils X \$4,300 per ADM = \$51,600). Under this assumption, the remaining 90% of TAPBI students at Sequoia Choice would have attended the charter school even without TAPBI and therefore would have received Basic State Aid funding even without the program.