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TEXAS EDUCATION AGENCY
Standard Application System (SAS)
Technology Applications Readiness Grants for Empowering Texas
(TARGET)
School Year 2002-2003
SCHEDULE #4B--
Program Description- Part 1
Program Requirements

188-950 _____
County District No.

Amendment No. _____

Limit to 5 pages, front side only, font size not less than 9 point.

1. Strategies for improving academic achievement and teacher effectiveness – (see page 18)

A third grade student in region 16 has a favorite saying, "Face your fears." A fear to be faced in Texas schools by *all* third graders and soon all fifth graders, is the new Texas Assessment of Knowledge and Skills (TAKS) test. This test requires that students meet minimum standards before promoting to the next grade level. This TARGET partnership grant, the Panhandle Academic Advancement in Literacy and Math (PAALM) grant, will enable the students of region 16 to "face their fears", and empower students, teachers and parents by:

- improving student academic achievement through the use of technology in elementary schools;
- assisting students in crossing the digital divide by improving the technological literacy of each participating student; and by
- encouraging the effective integration of technology into the curricula.

PAALM teachers of 3rd, 4th and 5th grade students will attend professional development to learn about how to integrate handheld digital devices in their classrooms. After the initial summer professional development, and with on-going professional development during the school year, these teachers will implement the integration of technology using handheld digital devices. They will utilize Texas Essential Knowledge and Skills (TEKS)-based lesson plans created during professional development. Students will use handheld digital devices and software that is aligned to the TEKS, and will participate in the lessons the teachers created. Throughout the year, teachers will collaborate with one another, with the PAALM Instructional team and with other community members through e-mail, bulletin boards, PAALM collaboration teams and face-to-face or videoconference meetings. This collaboration will build a community of knowledge for technology integration.

2. Goals

Enacted by the 76th Texas Legislature (1999), the Student Success Initiative "mandates new passing requirements beginning in school year 2002-2003 for the reading test at Grade 3 and beginning in school year 2004-2005 for the reading and mathematics tests at Grade 5." The Region 16 partnership TARGET PAALM grant goals will focus on reading in grades 3, 4 and 5 and on math in grade 5.

Goal #1: All participating students in grades 3 through 5 will pass the TAKS reading test.

Goal #2: All participating students in grade 5 will pass the TAKS math test.

3. Steps to increase accessibility – (see page 10)

At the present, no PAALM grant campuses have classroom sets of any handheld digital devices for elementary grades. During Year 1, classroom sets of handheld digital devices will be acquired for 3rd, 4th and 5th grade reading classes. Each 3rd, 4th and 5th grade reading teacher will be furnished a handheld digital device, a carrying case, a collapsible keyboard and a projector adaptor device. During Year 2, the same equipment will be provided for 5th grade math classes and math teachers.

To leverage existing resources, each PAALM campus has committed some of their Title II, Part D technology "formula technology funds" to furnishing each PAALM teacher's classroom with an infrared capable printer and other equipment. Some grant funds will be provided to each campus to acquire additional projection devices, computers or additional software most appropriate for completing the project on their campus. The purchase of that equipment or software will be based upon local needs, existing equipment, and the input of the PAALM teachers, the appropriate campus administrator and the grant administrator.

Each PAALM campus will supply teachers with access to a laptop computer for the professional development that will be offered in the summer and in the evenings via the Region 16 videoconferencing network (region16.net). Many of these laptops were purchased from either previous TIF or TIE grant funds. PAALM campuses have committed to support the PAALM grant's goals and objectives with their "formula technology funds" and with state technology allotment money.

a. High-need PAALM campuses will receive a classroom set of handheld digital devices for each teacher. This allows 100% on-demand access to the new technology for the students and teachers. The non-high need PAALM campuses will share classroom sets of the handheld digital devices; one set for every two teachers.

b. All PAALM teachers will participate in professional development to use and integrate handheld digital devices. The professional development classes are designed to meet requirements for "sustained, high-quality, on-going professional development." Teachers will attend four days of face-to-face professional development during the summer at Region 16 ESC. The curriculum for the professional development includes:

Day 1 – an introduction to the handheld digital device, use of the Operating System (OS), use of built-in software, synchronization with the computer and other "handhelds"

Day 2 - the use of TEKS-based assessment software

Day 3 – the integration of subject-specific software and the writing of a TEKS-based integration lesson plan

Day 4 - continuation of Day 3 and availability of free software downloads

Each PAALM teacher will be required to submit a lesson plan by the end of professional development on Day 4.

During the school year, PAALM teachers will attend two half-day professional development sessions held in the evenings each semester. The sessions will be conducted via the region16.net. During these sessions, the PAALM teachers will:

- ✓ self-evaluate the effectiveness of the lesson(s) that they taught utilizing the handheld digital devices
- ✓ submit these evaluations to the PAALM Instructional Team
- ✓ share and collaborate about the effectiveness of student learning with the handheld digital devices
- ✓ learn new software
- ✓ create and submit a new TEKS-based lesson plan that integrates the handheld digital devices
- ✓ evaluate the current effectiveness and progress of the PAALM grant's goals and objectives

4. Promotion of curricula and teaching strategies that integrate technology – (see page 18,24)

Region 16 ESC has successfully implemented two TIE Grants that effectively integrated technology into the curriculum. The past successes and knowledge gained from the TIE Grants will be the basis for professional development. A three-step approach will be used in the professional development:

- ✓ professional development for the teachers
- ✓ teachers implementing the new techniques into their lessons and
- ✓ evaluation of the lessons

As stated in the goals, the curricula focus will be reading and math for grades 3, 4 and 5. This decision was based upon the new TAKS test and its passing standards for students, along with the Campus Texas STaR Chart results. The 2003 reading TAKS test for 3rd grade will be the “benchmark” year for scores. Benchmark scores will be compared with those for 2004-2005 after the first year of the project. Although there are always many factors that influence test scores, it is expected that the use of this new, emerging technology tool will assist in increasing the passing rates for students. This expectation is based upon the following items of research regarding handheld digital devices and technology integration in the classroom:

- English students used a flash card program to enter vocabulary words and definitions and track right and wrong answers. “I’m not going to tell you that it’s because the Palm is better than flash cards, but it’s brand new for the kids, and the delight of working with new technology caused them to learn a lot of the things I wanted them to learn.” *Edutopia: Success Stories for Learning in the Digital Age*
- The Palm Education Pioneer (PEP) program awarded more than \$23 million for use of Palm handhelds and software in K-12 classrooms. An independent January 2002 study by SRI International draws upon the 100 PEP projects. The study sought to explain the handheld digital device’s impact on behavior, motivation, class activities and the productivity of students and teachers. Key findings include:
 - ✓ 96% agreed that handheld digital devices “are an effective instructional tool for teachers”
 - ✓ 95% agreed that the use of handheld digital devices in learning activities “has a positive impact on students’ learning”
 - ✓ 93% agreed that “having a classroom set of handheld digital devices had a positive effect on my teaching”The study also reported that the biggest benefits to students were that “students gained a great deal of productivity from the handheld digital devices as an instructional tool” and the “positive motivational effect that handheld digital devices have on students proved to be quite strong. This impacted students’ behavior, resulting in an enthusiasm that helped to drive individual academic progress.” *Education in Hand, April 2002*
- In an 8 year longitudinal study of SAT performance, the integration of technology with curriculum and professional growth of teachers increased student achievement. *Bain & Ross, International Journal of Education Reform, 1999.*
- Curriculum objectives for basic skills development in reading and math were integrated with instructional software and teacher instruction. Achievement tests were used to evaluate student performance. Gains in student test scores were attributable to the alignment of the targeted curriculum objectives. *Mann, Shakeshaft, Becker, Kottkamp; Milken Exchange on Educational Technology, 1999.*
- Teachers need time to design, experiment with, and receive feedback regarding the strengths and weaknesses of lessons involving technology. They also need time to observe each other trying out new kinds of activities. *Means & Olson, Office of Educational Research and Improvement, Dept. of Education, 1997.*

5. Professional development – (see page 18,24)

In the March 6, 2001, issue of *From Now On, The Educational Technology Journal*, Jamie McKenzie states, “After two decades of providing software classes to teachers, we need to explore different approaches – those honoring key principles of adult learning while placing both curriculum and literacy ahead of software and technology.” He continues, “The clearest way to contrast adult learning (often called “andragogy”) with pedagogy (instructor directed learning) is to note that adult learning usually involves the learner in activities that match that person’s interests, needs, style and developmental readiness. The fundamental beliefs are:

- 1) **The learner may make choices** from a rich and varied menu of learning experiences and possibilities.
- 2) **Learners must take responsibility for planning, acting and growing.**”

The professional development plan for the PAALM grant has been structured to encompass these ideas. It will accommodate different styles of adult learning, will place the main emphasis on technology integration into the curriculum and will allow the PAALM teacher to be responsible for planning, acting and growing. This will give the teachers the competencies they need to transfer new tools and skills into daily practice.

Optimum learning cannot occur when the teacher is not present in the classroom; therefore, teachers will not miss instructional time to participate in the PAALM grant. There will be four days of professional development during the summer, with an additional two after-school sessions each semester, for a total of four full days and four half-days for the year. The PAALM teachers will be active participants, responsible for their own learning. They will submit lesson plans to be implemented during the school year. After implementing a lesson, they will be responsible for assessing it and making recommendations for improvement. As on-going communication, discussion and collaboration tools, PAALM teachers will:

- ✓ be subscribed to a listserv;
- ✓ have access to a bulletin board program with a chat component; and
- ✓ be grouped into "PAALM collaboration teams."

PAALM teacher input will be very important during the grant implementation. They will have the opportunity to learn from and share with fellow teachers of the same grade level and subject area, and they will also have choices in the purchase of software. During the summer professional development, the PAALM teachers will be given the opportunity to research software programs and to make recommendations on what programs should be purchased.

During the school year, each PAALM collaboration team will be required to find at least one free instructional program, write a lesson plan to utilize it in the classroom, implement the lesson and share the outcomes with the rest of the PAALM teachers.

The PAALM Instructional Team will include Instructional Technology Specialists and Communications Technology Instructional Specialists employed by Region 16 ESC. The summer professional development will be done on-site at Region 16 ESC, and the school year professional development will be offered via the region16.net after school. In advisory roles, the Region 16 Instructional Services content specialists for reading and math will attend professional development during the summer and school year, will be members of the listserv and will have access to the bulletin board. Involvement of these specialists will help focus more on the integration of technology in the curriculum and less on the technology itself.

6. Technology type and costs – (see page 24,6)

To meet the Campus Texas STaR Chart needs of the schools, to enable the reading students of the Panhandle to "face their fears," and to address the need to supply new and emerging technology into today's classrooms, the hardware selected for the TARGET PAALM Grant will be Palm OS handheld digital devices. Each teacher handheld digital device will be approximately \$330 and each student handheld digital device will be approximately \$210. Each teacher will also receive:

- ✓ a projector adaptor for approximately \$160;
- ✓ a collapsible keyboard for approximately \$83; and
- ✓ a carrying case for approximately \$16 that will accommodate both the keyboard and the handheld digital device.

Earphones will be purchased for every handheld digital device at \$1.50 a pair. Approximately \$90 will be spent on software for each handheld digital device. To leverage existing resources, each PAALM campus has committed some of their Title II, Part D technology "formula technology funds" to furnishing each PAALM teacher's classroom with an infrared capable printer and other equipment. Some grant funds will be provided to each campus to acquire additional projection devices, computers or additional software most appropriate for completing the project on their campus. The purchase of that equipment or software will be based upon local needs, existing equipment, and input of the teachers, the appropriate campus administrator and the grant administrator. To implement this PAALM grant, the total cost per student will be \$269.83. None of the high-need PAALM campuses could have spent this amount per student due to insufficient Title II, Part D Formula Technology Funds. Refer to per student dollar amounts shown in Column E of Schedule 4A for each high-need campus

7. Coordination with other resources – (see page 21,29)

The PAALM campuses will support the PAALM grant in a variety of ways. Each campus has committed to provide an infrared capable printer for each classroom, or an infrared adapter for each participating classroom with local or with Title II Part D formula technology funds. The PAALM campus will also provide the PAALM teacher a computer with a USB port for the evening videoconference sessions and for classroom use. In many cases, these computers will have been acquired from previous TIF or TIE grant funds. Existing T1 lines and existing videoconference systems will be utilized for the professional development during the school year. All districts have committed not to REAP their "formula technology funds" and/or to dedicate them to technology equipment and professional development beginning in the 2003-2004 school year.

8. Integration of technology with curricula and instruction – (see page 18,24)

Integration of technology into the curriculum is the focus of all PAALM teacher professional development. In the summer of 2003, the PAALM teachers will participate in professional development to operate handheld digital devices, how to download software from the Internet and how to integrate the handhelds into the curriculum. The PAALM teachers will create lesson plans integrating the handheld devices and software into the TEKS. These lesson plans will be submitted to the PAALM Instructional Team and posted on the PAALM Website. Before the first videoconference professional development session in the fall, all PAALM teachers must implement at least one lesson utilizing the handhelds. PAALM teachers will be encouraged to integrate the technology on a weekly basis. This use will be tracked throughout the year.

During the fall and spring semester of the school year 2003-2004, professional development and collaboration will continue. As new software is acquired, the PAALM teachers will share their lessons and results via email, bulletin board posts and the videoconference sessions. During the year, each PAALM collaboration team will be responsible for investigating websites that offer free and/or low cost software for the handheld digital devices. The PAALM collaboration team will then present the strengths and weakness of the particular piece of software to other PAALM teachers. The websites and software will be posted on the Region 16 ESC TARGET PAALM Grant website for all teachers to view. Before each videoconference session, each teacher will submit at least one lesson plan for posting and will implement it. There are 133 reading teachers participating for Year 1. By the end of the school year 2004, there will be about 532 lesson plans posted on the Region 16 ESC,

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PAALM Grant website for integrating handheld digital devices into the reading curriculum for 3rd, 4th and 5th grades. This will obviously be a valuable resource for any other campus that wishes to replicate this endeavor.

9. **Innovative delivery strategies** – (see page 18,24)

There are two aspects of delivery strategies for this program. One aspect is to deliver professional development to the PAALM teachers, and the other aspect is to deliver instruction to the students (by the PAALM teacher). PAALM teachers will receive some professional development via the region16.net. Because of the existence of this system, evening professional development for geographically distant teachers is possible. Of the sixteen districts partnering in the grant, twelve have videoconference sites. Districts that do not have videoconference sites will have no further than thirty miles to travel to attend evening professional development sessions. This makes it possible for teachers in Childress, 105 miles from Amarillo, as well as teachers from Follett, 127 miles from Amarillo to participate. Another delivery strategy for professional development of the PAALM teachers is communication via email and bulletin board postings. The grant will purchase a bulletin board software program that will be hosted on a server at Region 16. The bulletin board will enable PAALM teachers and the PAALM Instructional Team to communicate and collaborate in a new and unique way. Although most teachers in the region now use email to some extent for home and school use, there are many who still do not understand how a listserv works, how to attach files, or even how to create folders. PAALM Instructional Team members will assist any teachers that need help to be successful listserv participants. Teachers will also be made aware of web-based tutorials.

“Handheld computers have the potential to finally fulfill the promise of technology in education.” *Education in Hand, April 2002*

The second aspect of delivery strategy focuses upon the student use of the handheld devices. This innovative method of teaching and learning is best related through the second report of the PEP grants that were discussed in section 4.

- A large majority (73%) of teachers indicated that handhelds had the advantage over desktop and laptop computers in the following ways:
 - ✓ Easy to integrate into class
 - ✓ Usable in many places
 - ✓ Easy to share
 - ✓ Convenient to access
- The PEP teachers also reported a wide range of benefits of handhelds for teaching and learning. (Actual teacher comments are in quotes.)
 - A large proportion of the teachers stated that the primary benefit of handhelds is that they are portable, giving student access to digital information and computing power in a wide variety of contexts and activities. “[They provide a great] opportunity for students to have their own work station, and to have technology immediately available to them without waiting to go to a computer lab.”
 - Teachers also reported the motivational effects of handhelds as a key benefit. Students brought greater enthusiasm to the handheld version of tasks than to the paper-and-pencil version. “Enthusiasm and motivation abound with the use. All learners are able to work with them and really get engaged.”
 - Another benefit seen was facilitation of collaboration and communication. The beaming function available in handhelds was an effective tool for sharing and comparing information in learning activities and for coordinating classroom work. “The ability to communicate easily and quickly and the ability to share information with others promotes the sharing of ideas.... It can give instant feedback to solve/check for learning.”
 - Many teachers reported that handhelds were incorporated into learning activities and classroom tasks in ways that were unplanned. Teachers reported that additional uses were innovated by students, who found ways of integrating handhelds into instructional activities and organizational tasks. “Students spontaneously collaborate on tasks, as well as supporting each other’s exploration of [handhelds’] functions and software.”
 - Another benefit was that students independently explored various uses of handhelds to enhance learning, and this exploration was associated with a high level of engagement in school tasks and activities. Some independent student activities included: finding specific software or online information, doing deeper analyses of data gathered and organizing data and information for presentations. Teachers of these students reported that the students were developing a sense of ownership of their learning and a mastery of the technology.

10. **Parental involvement** – (see page 18,24)

Each PAALM campus will share with parents and community members how the handheld digital devices are being used in the classroom. Communication between the campus and parents can be achieved through a variety of means: newsletters, school website, phone calls, teacher notes and newspaper announcements. Each campus will have some type of parent technology night where the PAALM teachers and students can demonstrate to the parents and other community members how the handheld digital devices are being integrated into the curriculum.

11. **Collaboration with adult literacy service providers – Not Applicable.**

12. **Accountability measures** – (see page 32)

PAALM teachers will have a variety of accountability measures. During the summer professional development, each PAALM teacher will submit a lesson plan to be implemented during the first six weeks of school. During the videoconference sessions, PAALM teachers will have an evaluation form to complete to self-assess the lesson they taught. PAALM teachers will also be required to continue to submit lesson plans throughout the school year that integrate the handheld digital devices into the curriculum. An on-line assessment of the teacher's technology skills and level of use of integration will be administered in a pre- and post- evaluation model.

The students will be assessed throughout the year through the use of TEKS-based assessment software. There will be an official benchmark assessment at the beginning of the school year and a final evaluation sometime during the last six weeks of school. In the 3rd grade, the TAKS reading scores will be compared to the benchmark first year scores of the previous years' class and analyzed to determine how this grant made a difference in student learning and achievement. Since the grant can be funded for three years, the data from the 3rd grade reading students will be tracked for all three years. The TAKS reading scores of the 3rd grade students from Year 1 will be compared & analyzed to their TAKS reading scores in Year 3 when they take the 5th grade reading TAKS test.

At the end of the school year, the PAALM teachers will complete a comprehensive evaluation of the grant program. The evaluation will cover all aspects of the grant from professional development, to student achievement, to management, and to parent and community involvement.

13. **Supporting resources** – (see page 21)

The PAALM teachers will be supported with a listserv for communication between teachers and the PAALM Instructional Team. The teachers will also have access to a dedicated bulletin board site for posting of questions, lesson ideas and outcomes. There will be software provided in the grant that will be used in the integration professional development, including TEKS-based assessment software. Additional printed materials and on-line materials will be available to teachers and the PAALM Instructional Team to use in integration of the handheld digital devices. The PAALM Instructional Team will be available for support through phone, email and on-site visits.

The grant is also supported through the existence of the region16.net network. These units were all installed through a TIE 1998 grant, a TIE 2001 grant or TIF funds. Each site is equipped with a phone and fax in the videoconference room. All campuses involved have T1 lines for Internet and videoconference connectivity, which are discounted through E-rate. All classrooms have teacher and student computers with Internet connectivity. At least one computer in each classroom will have a USB port, which is needed for the synchronization of the handheld digital device. Each PAALM teacher's classroom will also be supplied with an infrared printer or an adapter to allow "beaming" of information to the printer from the handheld digital devices.

External consultants will be utilized via video conferencing to share their individual experiences on handheld digital device integration during professional development.

The PAALM Instructional Team will continue to research print, on-line and media resources to support the PAALM teachers and their students. The Region 16 ESC Instructional Services consultants will be available for advice regarding the specific TEKS, recommendations on appropriateness of software and for general instructional methodology.