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ABSTRACT

The Utah, Colorado, Arizona, New Mexico-Rural Systemic Initiative (UCAN-RSI) supports systemic improvement in science, technology, and mathematics education for all rural students in the four states, focusing on schools that enroll large numbers of American Indian and Hispanic students. This document contains a report on UCAN's 4th year (September 1998-August 1999) and its strategic plan for year 5. UCAN's 4th-year efforts aimed to accelerate implementation of standards-based curricula in focal schools. New partnerships and additional funding increased support for teacher professional development, educational capacity building, and community engagement. At the beginning of the program year, UCAN's Navajo Nation Coalition was funded as a separate RSI, and its data are excluded from this report. Part 1 of the annual report presents data on science and mathematics achievement for New Mexico and Arizona students in UCAN-targeted schools, UCAN-eligible but nontargeted schools, and other schools. Part 2 provides data on teacher professional development and number of students impacted. Part 3 describes activities related to UCAN's six overarching goals: leadership training for systemic reform; school data use as an educational planning tool; school-community networks; modeling and mentoring among UCAN schools; multistate, multijurisdictional cooperation; and community outreach focused on standards-based education. Part 4 highlights activities and outcomes for specific schools and coalitions. The 5th-year strategic plan focuses on further strengthening reform structures of school and community networks and discusses each of UCAN's six main goals in terms of the UCAN legacy and sample coalition plans. (SV)

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UTAH * COLORADO * ARIZONA * NEW MEXICO

UCAN
A FOUR-STATE
RURAL SYSTEMIC INITIATIVE

Year Four

Annual Report

September 1, 1999

Dr. Vicente J. LLamas, Principal Investigator
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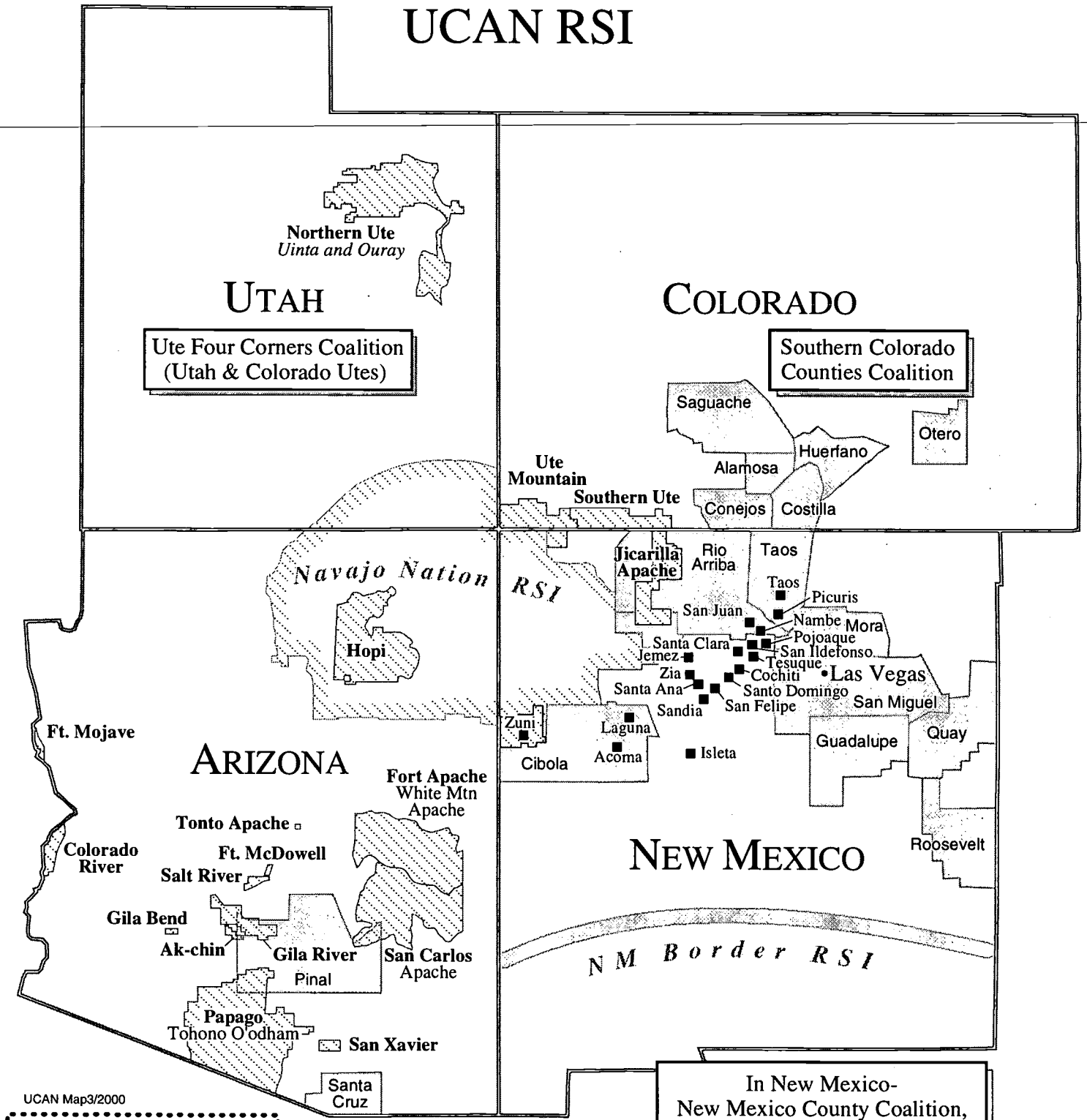
UCAN RSI



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INTRODUCTION

As UCAN entered its fourth year of operation, its efforts were focused on the support needed to accelerate the process of implementation of a standards based curriculum in its focal schools. To support this focus, UCAN leveraged its existing partnerships, established new partnerships, and brought in new funding in support of UCAN fourth year goals. In UCAN's 4th reporting year, leveraged funds from all non-NSF RSI sources amounted to $9,576,348.

New partnerships include significant contributions by the Smithsonian/National Academy of Sciences through their Leadership and Assistance for Science Education Reform (LASER). Existing partnerships have been particularly supportive in the areas of teacher professional development, educational capacity building, and to some extent, community engagement.

At the beginning of UCAN's 4th year, the Navajo Nation Coalition was funded by NSF as a separate RSI now called the NN RSI. Our data represented in this report excludes the schools and students from the NN RSI, except where UCAN and the NN RSI are collaborating.

The following graphics and discussions document UCAN's efforts throughout year four. Part I will focus on the GPRA goals referring to Student Achievement, Closing the Gap, and Implementation of Standards Based Curricula in UCAN classrooms. Part II will focus on student impact and professional development, and Part III will focus on UCAN's 4th year goals. This will be followed by a discussion of the six NSF drivers.

PART I: GPRA GOALS – A UCAN WIDE PERSPECTIVE

I a.) STUDENT ACHIEVEMENT

As was pointed out in our February 1999 PER, UCAN states, the BIA and other non-state controlled schools have been using numerous student assessment schemes resulting in UCAN-wide student achievement comparisons to be problematic at best. However, in some of UCAN's coalitions and statewide in New Mexico and Arizona, student performance/achievement data are now available. The following graphics and tables offer data based on tests that have been developed to reflect these states' mathematics and science standards.

New Mexico Terra Nova Test Results

New Mexico administered the CTBS 5 Terra Nova Survey Plus assessment for the second time in the spring of the 1998-99 school year. The assessment, which is administered to grades 4, 6 and 8, includes norm-referenced, criterion-referenced and proficiency level scores.

Initial results, as reported in Table 1, indicate that schools that have actively participated in UCAN for 4 years are more likely to have increases of five or more mean Normal Curve Equivalent (NCE) scores in math than other UCAN schools or noneligible schools in the rest of the state. In mathematics, 39% of 36 UCAN schools had NCE gains of five or more compared to 26% of 551 public schools gaining five or more NCEs.

Table 1: NM Mathematics and Science Terra Nova
Change of 5 or More Mean NCEs from Spring 1998, to Spring 1999

School Type	Number of Schools (Students)	% of Schools with Increase of 5 or more in Mean NCE	% of Schools With No Change (+/-<5 NCE)	% of Schools with Decrease of 5 or More Mean NCE
UCAN Targeted, Participating 4 Years	36 (6,707)	39%	42%	19%
UCAN Targeted, Less than 4 Years Participation	53 (12,328)	25%	54%	21%
UCAN Eligible, Nonparticipating	22 (6,996)	23%	50%	27%
Statewide	551 (217,498)	26%	62%	12%
SCIENCE				
UCAN Targeted, Participating 4 Years	36 (6,707)	19%	59%	22%
UCAN Targeted, Less than 4 Years Participation	53 (12,328)	26%	57%	17%
UCAN Eligible, Nonparticipating	22 (6,996)	23%	72%	5%
Statewide	551 (217,498)	19%	70%	11%

Arizona Stanford 9 Standardized Test Results by Grade

The state of Arizona utilizes the Stanford 9 Achievement Test Series as their state assessment. This assessment includes both norm-referenced and criterion-referenced components, and was developed in alignment with NCTM, AAAS and other standards-based criteria. The state utilizes the Abbreviated Battery which includes Word Study Skills, Word Reading, Reading Vocabulary, Reading Comprehension, Mathematics, Mathematics: Problem Solving, Mathematics: Procedures, and Language. A Science test is not available with the Abbreviated Battery.

Table 2 presents the results for the Math subtest from the second administration in Arizona of the Stanford 9 assessment (Spring, 1998 and change in % from Spring, 1997) by grade for 20 UCAN Targeted and 21 UCAN eligible but not targeted schools in Arizona. These assessment results are positive for UCAN Targeted schools, with the exception of grade 9. Targeted schools in grades 3, 4, 8, 11, and 12 demonstrated a greater gain than eligible, non-targeted schools in the percent of students scoring at or above the 50th percentile rank (PR). The gain in Targeted schools in grades

6, 7, and 10 was equal to that of non-targeted schools. These gains represent increased student attainment as well as a greater familiarity of teachers and students with the assessment. However, UCAN targeted school scores are still below the national norm (50%), ranging from 19% to 28%.

Table 2
1997-98 Arizona Stanford 9 Math Results
UCAN Participating Schools and Eligible (Non-Targeted) Schools

At or Above the 50th Percentile in 1997-98 and Change in Percent Since 1996-97		
Grade	**Targeted Schools**	**UCAN Eligible (Non Targeted)**
	% (Change in %)	% (Change in %)
3	25% (+3)	17% (-1)
4	28% (+2)	22% (-1)
5	27% (+1)	25% (+5)
6	23% (+2)	22% (+2)
7	20% (+4)	21% (+4)
8	21% (+6)	21% (-5)
9	23% (-2)	38% (+1)
10	21% (+3)	31% (+3)
11	19% (+3)	31% (-1)
12	26% (+3)	30% (-1)

I b.) CLOSING THE GAP

Students in schools that have been with UCAN for four years, in general, are doing better than those students in schools having less UCAN support. Although the gains in UCAN schools are as good or better than schools statewide, there still exists a gap although this gap is narrowing for Hispanic students as shown below. Native American student numbers in UCAN RSI New Mexico public schools are so small, that achievement data are problematic. Caution should be used in interpreting the Anglo students in UCAN targeted schools due to their small numbers.

Table 3 shows that students in schools that have actively participated in UCAN for 4 years are more likely to have increased their math mean Normal Curve Equivalent (NCE) scores than other UCAN schools or noneligible schools in the rest of the state. In Table 4, data indicate that students in UCAN schools show no significant change in Science.

Table 3
Spring, 1999, New Mexico Terra Nova Math Results by Ethnicity

Mean NCE in 1998-99 and Change since 1997-98			
Ethnicity	UCAN Targeted, Participating 4 Years (Change)	UCAN Schools with <4 Years Participation	Statewide (Change)
4th Grade			
Anglo	*** n=67	58 (0) n=375	60 (+2) n=7,404
Hispanic	46 (+2) n=404	46 (0) n=1,291	49 (+2) n=9,264
Native American	*** n=56	43 (-3) n=208	39(-1) n=2,171
6th Grade			
Anglo	60 (+5) n=107	53 (-2) n=302	57 (+2) n=7,102
Hispanic	45 (+3) n=439	43 (-1) n=1,213	45 (+2) n=9,611
Native American	36 (-2) n=105	42 (+1) n=167	38 (-1) n=2,013
8th Grade			
Anglo	55 (0) n=148	53 (+1) n=337	58 (+1) n=7,490
Hispanic	44 (+2) n=359	40 (+1) n=1,256	43 (+1) n=9,304
Native American	33 (+1) n=130	36 (-1) n=169	38 (-1) n=2,038

Table 4
Spring, 1999, New Mexico Terra Nova Science Results by Ethnicity

Mean NCE in 1998-99 and (Change since 1997-98)			
Ethnicity	UCAN Targeted, Participating 4 Years (Change)	UCAN Schools with <4 Years Participation	Statewide (Change)
4th Grade			
Anglo	*** n=67	59 (+1) n=377	61 (+1) n=7,420
Hispanic	45 (0) n=405	43 (-1) n=1,294	46 (0) n=9,306
Native American	*** n=57	38 (0) n=210	36 (0) n=2,180
6th Grade			
Anglo	62 (-1) n=107	58 (-2) n=302	62 (+1) n=7,131
Hispanic	47 (+1) n=440	46 (0) n=1,214	47 (+1) n=9,662
Native American	38 (-1) n=108	41 (0) n=167	39 (0) n=2,024
8th Grade			
Anglo	60 (+1) n=149	57 (0) n=337	60 (0) n=7,474
Hispanic	44 (-1) n=358	43 (0) n=1,261	45 (0) n=9,326
Native American	37 (-1) n=132	41 (-1) n=170	39 (-2) n=2,075

I c.) IMPLEMENTATION OF STANDARDS IN THE CLASSROOM

The following table represents the percent of math/science teachers that have implemented a standards based curriculum in UCAN RSI targeted schools as reported by coalition leaders.

Table 5
UCAN Wide Levels of Implementation of Standards Based Curricula
UCAN Targeted Schools

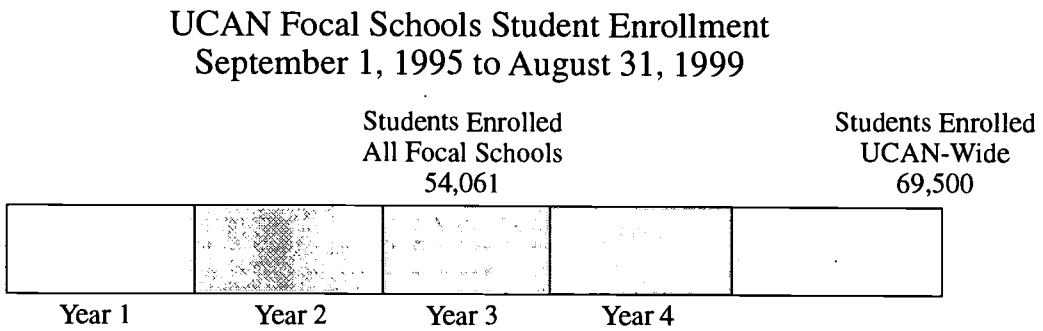
Category	Number of Schools	% of targeted schools
Less than 25% of teachers	11	4.4
Between 25-75% of teachers	133	53.2
Greater than 75% of teachers	106	42.4

PART II: STUDENTS IMPACTED & PROFESSIONAL DEVELOPMENT

II a.) NUMBER OF STUDENT IMPACTED

The following graphic shows the increase in the student population impacted by UCAN's efforts since inception.

Graphic I:



Students impacted by UCAN at the end year 4 represent 78% of total targeted students.

II b.) PROFESSIONAL DEVELOPMENT

Critical in our efforts to establish a sustainable reform process in our communities is the understanding and commitment of administrators, teachers, and the community at-large. Professional development for these targeted audiences continues to be an important emphasis for UCAN as illustrated in the next graphic.

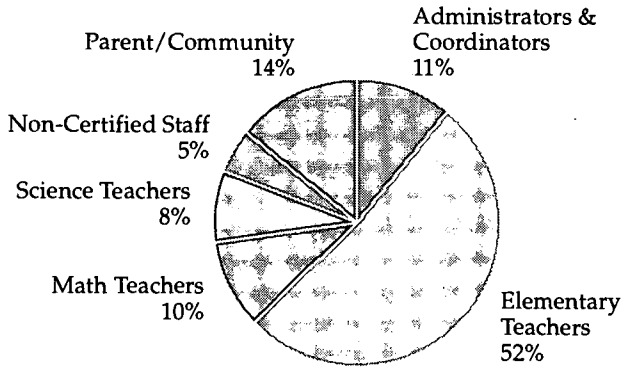
The professional development offered through UCAN and its many partners were primarily offered to our focal schools as their needs were critical in this time of standards implementation. The following graphic illustrates our efforts in year four.

Graphic II:

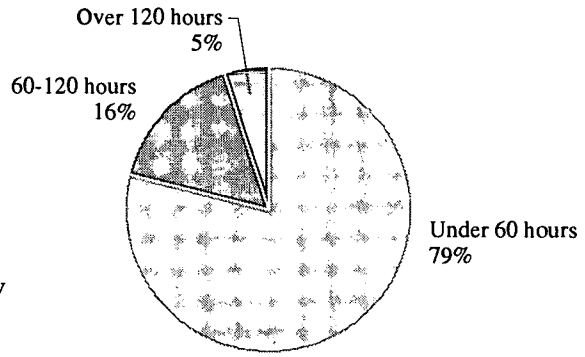
UCAN-wide Professional Development

September 1, 1998 – August 31, 1999

Participants by Position



Amount Received



N = 2,870

Included in UCAN's professional development effort, parents and community members (>400) played a large role in increasing the broad based support of reform. In addition, non-certified staff are critical in rural schools and also need to to be trained to support the teaching staff in classroom based reform efforts.

UCAN's focal school definition has **seven** criteria of which **four** must be active for the school/community to be considered focal. The seven criteria are as follows:

1. A team is in place at the school and each member has had at least 40 hours of PD on standards/assessment with continuing PD planned or in process.
2. The school board/tribal education committee has had at least six hours of PD on the importance of standards and supporting policies that further the implementation of standards in the classroom.
3. Better than 25% of the elementary school teaching staff, or better than 50% of the mid/high school math/science teaching staff have received PD and/or other forms of service on standards and/or assessment or some other area that supports UCAN goals and they are continuing to receive PD as they implement standards in the classroom.
4. Superintendent/principal has received at least 12 hours of PD on standards and reform that specifically supports implementation of standards based curriculum.
5. Tribal council, tribal education committee, or other tribal leadership, or non-tribal community members are part of a local advisory group that regularly meets to address implementation of standards or other reform issues.
6. Community based planning has occurred such Shades of Change and that such planning documents that emerge are being implemented.
7. Resource Convergence has become an organized and successful activity.

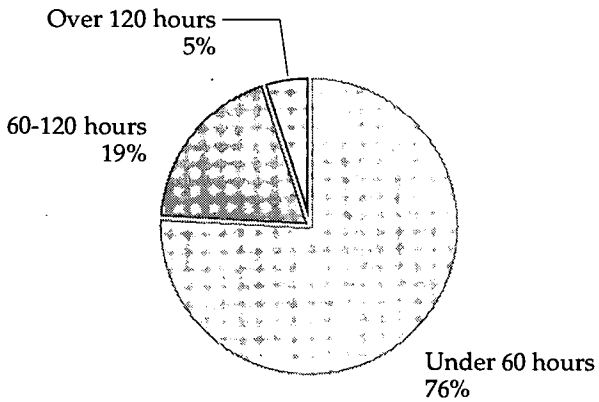
Based on these criteria, UCAN is working with 212 focal schools/communities. During Program Year 4, of the teachers who received professional development (2,001), 74% were elementary and 26% were math and science teachers in targeted middle and high schools. The professional development in year four is broken down by positions and content areas in the next graphic.

Graphic III:

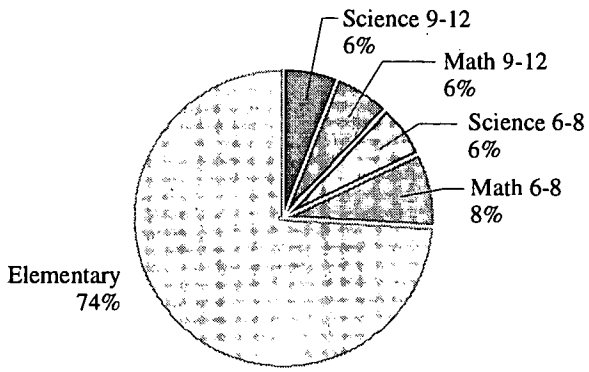
UCAN-wide Teacher Professional Development

September 1, 1998 – August 31, 1999

Amount received by teacher



Teachers participating by teaching level and content



N = 2,011

PART III: UCAN'S 4TH YEAR GOALS

INTRODUCTION

Any Systemic Initiative truly connected to local and regional issues, must be dynamic in its approach to reform. The UCAN RSI is certainly no exception. Our Fourth Year Strategic Plan was based on the knowledge and experience we had garnered in our first three years of full implementation. Our success or shortcoming at achieving all of our 4th year goals depended greatly not only on our understanding of our focal school/community needs and vision, but also on internal and external conditions that UCAN can influence and those that are outside of UCAN's control. UCAN's 4th year goals included the following areas:

- Leadership Development
- Data Use as an Educational Planning Tool
- Expanding and Strengthening School Networks
- Modeling and Mentoring Reform as Scale Up Strategies
- Multi-State, Multi-Jurisdictional Policy Support Development
- Community Outreach Focusing on Standards Based Education

III a.) Leadership Development

UCAN and the five coalitions across the four UCAN states have offered administrators, lead teachers, and tribal and community leaders a rich set of experiences to enhance their abilities to lead systemic reform at the local and regional levels.

The first four goals were directly addressed through two, UCAN wide Leadership Institutes, one in October 1998, followed by another in April 1999. In the first Institute, over 400 participants and resource personnel developed school-based reform plans for the 1998/99 school year. Teams of five to seven members representing focal schools/districts were formed by lead teachers, principals, superintendents, school board/tribal committee members, and community members. These teams worked on their school reform plans throughout the year and reported progress, shared lessons learned, and updated their reform plans for UCAN's 5th year. Both Institutes had focused workshops on the use of data as a reform and policy tool.

In November 1998, over 250 participants in teams of five each, attended UCAN's Curriculum & Assessment Showcase. Participants were those specifically working on the implementation of standards based science and mathematics curricula in their schools. Most of the teams were subsets of the Leadership Institute Teams who had identified implementation of standards based curricula in their reform plans as a priority.

In April 1999, the 2nd UCAN Leadership Institute was held focusing on the progress of the Leadership Teams from the October experience. These teams shared their successes and barriers to reform with their peers through sessions lead by team members. The UCAN overall strategy of sustainability was highlighted in the Institute with presentations of business leaders and how their partnerships could support the continuing efforts of the school in reform. The two Leadership Institutes and the Curriculum and Assessment Showcase were substantially supported through UCAN's partnership with the Southwest Comprehensive Regional Assistance Center.

Thirteen teams from the Navajo Nation RSI also attended the October 1998 (as a UCAN coalition) and the April 1999 (as an independent RSI) Leadership Institutes continuing our commitment to support reform and cooperate with other NSF reform initiatives.

The National Science Resource Center (NSRC) and WestEd are collaborating with UCAN in giving intensive leadership training to school based teams and team leaders. The NSRC Leadership and Assistance for Science Education Reform (LASER) initiative is training seven UCAN Leadership Teams in the first of a series of one week workshops during the summer 1999. These teams (of 5-7 members each) have developed school reform plans designed to accelerate the full implementation of a standards based science and math curriculum. Three coalition leaders from NMT, ATC, and SCC have been chosen by WestEd to receive two years of leadership training in their WestEd Leadership Academy. These leaders have over a week of intensive training in 1998/99 and will have continued training throughout UCAN's 5th program year.

Numerous Leadership Institutes were offered by coalitions throughout the year in support of their reform plans. Some of these will be discussed in the section on drivers below.

III b.) Data Use as an Educational Planning Tool

Not only was data use as a planning tool for school reform an integral part of the Leadership Institutes, but each coalition offered additional workshops to their focal schools.

In Arizona, the ATC offered at least 6 workshops on school planning as well as 1 workshop interpreting the Stanford 9 test results. The latter was attended by 44 school administrators while the former served over 100 teachers. As a culminating event of the two year Tribal Innovation Program, WestEd, SWCC, and ATC planned and hosted a three-day Summer Institute, June 1999. The focus of the Institute was on assessment tools, strategies and resources.

Each team received a rich, comprehensive Toolkit containing matrices for aligning mathematics and science curricula, for correlating instructional materials, and assessments to the AZ state standards. Each Toolkit also contained additional resources from national organizations pertaining to the three areas: curricula alignment, material selection, and standards-based assessment. The state adopted school portfolio was also presented to each team as a resource guide for using data to drive decisions.

In NM, a major collaborative effort among the two NM state's Rural Cooperative Centers (RCCs), the Northern Network (NNMNRE) and the NM County Coalition resulted in several training sessions for staff assigned at the local school sites to manage their data. Most of the schools are now using ACCESS as a database, and have included the NM State Department of Education's Accountability Data System information. The result has been the evolution of effective data management systems at local schools and districts that are now generating valid data for decision-making. Computer templates have been developed to assist schools in the interpretation of the data. Since key staff members have been trained to use ACCESS, they are able to modify the process as the need evolves for different data. For the first year, the Network and the RCCs provided a $3000 stipend to pay local data managers for their work. After this, each school will continue to fund these services.

For New Mexico Tribes, CENAC collected Terra Nova test results in the areas of mathematics and language arts for use in planning. Individual schools collect Terra Nova test results for sciences. This was only the second year of collecting Terra Nova test results for most of the schools. All CENAC activities such as the Tribal/Public School Forum, the June 1999 Summer teacher workshop and the Winter school rally have emphasized the use of data for decision making purposes.

In the Ute-Four Corners Coalition (UFC), the Ignacio School District, the Montezuma/Cortez School district, and the Duchesne School District have implemented a data retrieval system to help them in their reform efforts. The first two districts are using SASI (Student Administrative Systems Index by National Computer Systems) with Ignacio receiving a $25k grant form the Colorado Department of Education for its implementation. Duchesne is using the Power School Internet system in which all staff and about 150 community members/parents have been trained in its use. Records show that 59% of the parents trained have accessed their children's records using this database.

III c.) School/Community Networks

School/community networks such as the Arizona Regional Mentors (ARMs), the Northern NM Network for Rural Education (NNMNRE), the Coalition of Educators of Native American Children (CENAC), and others continued their efforts to stabilize and strengthen their operations in the support of school reform. UCAN has directly impacted the development of these networks.

Additional networks such the Southern Colorado Coalition's (SCC) work with the Colorado BOCES and the institutionalization of the SCC coalition leader's position at Adams State College, as well as the Eastern NM equivalent of NNMNRE called ENMERC that is partnering with the Rural Educational Cooperatives (state funded), are strengthening their financial and political base as reform oriented organizations. As a direct result of the Education Trust monthly meetings a community group (La Jara-North Conejos) wrote and received a grant for $200,000 from Goals 2000 to align the state preschool standards with the districts standards in order to start a seamless educational program pre K-12. This work is currently in progress but has resulted in the middle school teachers providing inservice to the preschool teachers on small-scale science and hands-on science activities.

Newly formed school/community networks have been formed that address the transition of Native American students from BIA funded schools to public schools serving these students. Additional detail will be offered in the NSF driver sections below.

III d.) Modeling & Mentoring

Through the UCAN Leadership Institutes 1 and 2, individual Leadership Team plans, the Initiation of the Arizona Tribal Coalition Regional Mentors (ARMs) , the Tribal Innovation Program and the Summer Institute, a mentoring system has evolved across ATC schools/communities. The Institutes provided many opportunities for schools and teachers to interact and exchange ideas. During informal interactions, many of the teams developed relationships that culminated in school exchanges.

The thirteen Arizona Tribal Coalition Leadership Teams were introduced to the concept of mentor teachers during the Leadership Institute 1. The formation of ARMs occurred during the second half of the academic year. Modeled after similar approaches to professional development and mentoring already implemented in both the New Mexico County and Southern Colorado Coalitions, ATC modified the recruitment and implementation to meet the needs of Arizona reservation schools. At the Leadership Institute and through earlier mailings, teachers were invited to become ARMs and submitted applications with school support. ATC and WestEd staff selected ARMs based on criteria that include regional location and background in mathematics and science education reform. Facilitated by WestEd, the ARMs devised a plan to assist ATC Leadership Teams within their regions, and for their own professional development. Each ARM has reported ongoing activities with the Leadership Teams and has taken on the responsibility for planning the fall 1999 ATC Leadership Institute. In addition to the monthly meetings, the ARMs have attended the LASER Institute in July 1999 to strengthen their leadership skills.

The New Mexico Tribal Coalition developed a team structure for sharing expertise possessed by teachers and administrators. Through CENAC, mentoring groups of three schools each were organized to assist one another with the implementation of standards and leadership development. Schools working together during the 1998/99 school year were:
TEAM 1: Taos, Ohkay Owingeh and San Felipe
TEAM 2: Santa Fe Indian School, San Ildefonso and Zia

TEAM 3: Isleta, Santa Clara and Laguna
TEAM 4: Jemez, Sky City and Tesuque
Team groupings are designed to change at least every two years providing schools with a wide range of shared assistance. Monthly meetings are held at alternating school sites allowing individual schools to highlight their achievements and areas of strength. The mentoring organization is working well. Other partners contributing resources to the organization are: Los Alamos and Sandia National Laboratories, Intel, Microsoft, SFIS STRUT Project (computer assembly), SWCC and SEDL.

In the SCC, preservice teachers were paired with practicing teachers at the monthly Education trust meetings focusing on alignment. These meetings identified science and math curricular exemplars and their assessments for potential adoption by participating districts. This mentoring project was designed to connect real world reform efforts with preservice teacher training. An Eisenhower grant ($85K) was received from the Colorado Commission on Higher Education to continue this effort during the 1999-00 school year.

III e.) Multi-state, Multi-jurisdictional Efforts

The multi-state, multi-jurisdictional activities of UCAN and its coalitions increased throughout the 4th program year. Significant progress was seen in Arizona through the ARMs and the efforts of the Arizona Tribal Coalition (ATC), as well as the cooperation between the New Mexico Tribal (NMT) and the NM County (NMC) coalitions.

In both efforts, BIA funded schools are cooperating with public schools that serve the students of tribal schools. The cooperation includes working on a common set of student expectations, mirroring the standards based curricula offered in public schools with that offered at the same grade levels in tribal schools, as well as sharing professional development experiences and increasing communication between public school teachers and teachers in tribal schools.

The UFC Coalition held a summit meeting bringing the educational directors from the Ute Mountain Ute Tribe (CO), the Southern Ute Tribe (CO), and the Northern Ute Tribe (Utah) together with representation from the four districts of Ignacio, Montezuma/Cortez, Duchesne, and Uintah which serve the tribal children. This group, the Ute Tribes Coalition, will be meeting October 1999, to develop their long term plans in supporting school reform. Details of many of these efforts will be offered below within the appropriate drivers.

III f.) Community Outreach Focusing on Standards Based Education

In a unique effort, 6 Public School Districts and their communities are involved in a Tribal/Public School transition cooperative that utilizes community forums as a means of addressing the need to have a common, standardized based educational experience for their students. The Tribal/Public transition goal began two years ago with the identification of Taos Day School and Taos Public Schools as a pilot project to see if the two school systems could develop and implement a plan for assisting students who move between the two sytemss. The plan looked at commonalities in curriculum, assessment and instruction. Based on the lessons learned from this pilot, additional school community representatives were invited to attend a meeting in the Spring of 1998 and seed funding was made available from the New Mexico Tribal Coalition and the New Mexico County Coalition to help with the implementation of the planning process. Groups representing three communities took advantage of this offer. Several other communities also expressed interest, but wanted broader representation from their schools. Subsequently a Transition Forum has been held for representatives from all communities enrolling Pueblo students in February 1999. More than

120 representatives from the communities, their public and tribal schools and the State of New Mexico attended the forum. Following the forum 3 additional communities became involved in the Tribal/Public school transition effort.

PART IV: FOURTH YEAR REPORT BY DRIVERS

IV a.) CURRICULUM AND ASSESSMENT

In Colorado, in partnership with the UFC, McREL & a consultant, the Ignacio School District has completed the alignment of curriculum with standards for grades 7-12 in the core areas of reading and writing, mathematics, science and social studies. The consultant is working with teachers at all grade levels and subject areas to develop district assessments for these core areas. These should be in place by December 1999. Four hundred sixty seven days of ongoing instruction and system support incorporating standards, methods of teaching and application in the classroom have been provided to the Ignacio School District.

The district has expended more than $20,000 on Computer Curriculum Corporation software for grades K-3 to help students attain proficient levels in state standards in mathematics, science, reading, and writing. The effectiveness of this effort was evidenced by the Colorado Student Achievement Proficiency (CSAP) tests.

Table 6: 3rd Grade CSAP Reading Scores

Year	Number of Students	% Proficient or Above
1997/98	69	61
1998/99	78	76
	Increase in Percentage Points	15

The Montezuma/Cortez School District developed their own standards several years ago. They are now concentrating on putting in place programs and methods which help students attain those standards. This district has received nearly 3,500 hours of professional development in standards based education, assessments and data driven decision making which has effected 128 teachers and 30 administrators. This training impact 3,475 students.

In order to complete the standards alignment process, many ATC schools have taken advantage of the expertise available to them through the partnership with WestEd's Western Regional Eisenhower Collaboration (WERC). WERC staff have provided both professional development and technical assistance to help schools align mathematics and science curricula to standards, correlate their existing materials to the standards, and adapt or modify assessment tools to measure student progress toward reaching the standards. Virtually all ATC schools will have completed the curricula alignment for both mathematics and science by the end of the academic year, 1999-2000. One ATC Tribal school district, Tohono O'odham, has received significant support towards full implementation as shown by the following table.

Table 7: Summary of Tohono O'odham Tribal Innovation Program (TIP) 1998-99

Number of On-Site Workshops	Number of Schools	Number of Teachers	Number of Administra-tors	Number of Support Personnel	Parents and School Board Members	Number of Hours Per site
19	8	141 (100%)	5	22	3	145

A Transition Forum has held for representatives from all communities enrolling Pueblo students in February 1999. The Forum focused on the curriculum alignment and implementation levels in both BIA and the public schools. Over 120 people from the communities, public and tribal school representatives, and the State of New Mexico attended the forum. Following the forum, three additional communities became involved in the Tribal/Public school transition effort. Those communities and schools currently involved are:

Table 8: Transition Communities & Level of Planning

Community	Tribal Schools	Public Schools	Level of Planning
Jemez	Jemez Day School Zia Day School Santa Fe Indian School	Riverside Mission School Jemez Valley Schools	Implementation of plan
Bernalillo	San Felipe Elementary Zia Day School Santa Fe Indian School	Bernalillo Public Schools	Draft plan
Taos	Taos Day School	Taos Municipal Schools	Implementation of plan

Isleta	Isleta Day School	Los Lunas Schools Albuquerque Public Schools (Selected schools)	Initial meeting (Discussion of plan)
Pojoaque	Tesuque Day School	Pojoaque Public Schools	Initial meeting (Discussion of plan)
Laguna	Laguna Elementary School Sky City Community School Laguna Middle School Santa Fe Indian School	Grants-Cibola Public Schools	Draft plan

The North Conejos School District is an example in the Southern Colorado Coalition of a full implementation school District. The entire K-12 staff has been in-serviced on the Education Trust model as a way of mapping their assessments and instruction. All of the teachers are evaluated based on the Education Trust Model. All of the elementary teachers and the secondary math and science teachers participate in the SCC professional development opportunities. The Manasa Elementary School was considered to be behind the rest of the schools in the district but with the full participation of the new principal over the last two years and the full participation of the staff, the students have improved their achievement and are now doing as well as or better than the neighboring La Jara Elementary, one of the leading elementary schools in the San Luis Valley. The North Conejos School District scored the highest of any district in the San Luis Valley with 68% of their 3rd grade students being proficient on the CSAP in reading. While the state has not yet tested any math or science content to date, high scores on the reading CSAP is a known indicator for improvements in math and science. Every teacher has implemented a standards-based curriculum in their classroom and are in the process of refining their instruction based on the student performance and examples of student work. The district feels that the standards-based approach has been directly responsible for their Science Olympiad teams qualifying for the state competition two years in a row and this year for the first time the Odyssey of the Mind team qualified for the national competition.

IV b.) POLICY

The policy efforts within UCAN included district as well as state policy changes supporting reform. At the state level in New Mexico, funding for AP has increased from $35,000 in 1996 to $350,000 (a tenfold increase) for 1999-2000 school year. This support focuses on advanced course offerings in science, mathematics and English. Additional examples of policy work from each coalition follows.

Ute-Four Corners

Ignacio School District modified their graduation requirements to three years each of mathematics and science with algebra a requirement for all students. Communication skills for all students, particularly for Hispanic and Native American students was made a priority as the district felt that improvement in this area would translate to improvements in math and science. To encourage their staff, the district initiated a one time bonus of $1,700 to those teachers who obtain their "Teaching English as a Second Language" endorsement. This has lead to the institution of this endorsement as a hiring preference for teachers. The district added two math and two science courses to the high school curriculum offerings. One of these courses, Principles of Technology, is now a graduation requirement for all students. In reviewing their high school scheduling of classes, Ignacio changed to a block schedule to enhance opportunities for hands-on learning and extended data collection and problem solving activities in math and science.

The Ignacio district has supported the Southern Ute Tribe by providing an alternative means of education for young children beginning with the 1998/99 school year. This Blue Sky School is a K-2 school within the school which uses a modified Montessori approach to learning. This school is jointly sponsored by the district and the tribe and is administered by the school district. It will be expanded to K-3 in 1999/00.

The Montezuma/Cortez School District has increased their graduation requirements to include three years each of math and science with algebra required for all. They have just completed a building program that added two new math and science classrooms. The high school changed to a block schedule about four years ago. The district encourages its staff to obtain higher education by providing a $1,000 bonus for obtaining a masters degree.

Duchesne School District changed their graduation requirements to include two years each of math, science, and technology with one year algebra required for all. The district now has district wide coordination meetings for professional development issues. Duchesne School District completed their Strategic Planning process this past school year. The Northern Ute Tribe opened an alternative school during this past year to meet the individual learning needs of the reservation children. This Uintah River High School, with the support of both the Duchesne and Uintah School Districts, is a 10-12 grade school, located on the reservation. The student population is over 90% Native American. It has applied for and will become a charter school for the school year 1999/2000.

West Middle School, Uintah School District, has been changed to include grades 7-9 in an effort to better prepare their large Native American population for high school. Both the Duchesne and Uintah districts have recognized reading/writing to be their largest challenge and have put most of their efforts and resources to address this challenge. Policy changes have been made to include a consistent K-12 reading program focusing on material related to math and science that is or will be integrated across the curriculum.

Arizona Tribal

In the Arizona Tribal Coalition, school board members, tribal education leaders, parent committee members, and other community members have been involved in curricula development and implementation. During the development of the Tohono O'odham mathematics and science curricula scope and sequence, school board members, parents and tribal education members were either actively involved or were kept informed of the process. Both school boards (Papago Agency and Indian Oasis/Baboquivari USD) plan to formally adopt the curricula scope and sequence for their schools. John F. Kennedy school board members and all staff were involved in the initial alignment process. Board approval is expected by fall 1999.

New Mexico Tribal

All New Mexico Tribal Coalition focal schools have adopted policies supporting the use of New Mexico State Standards (K-12) and the use of the New Mexico version of the Terra Nova Assessment at the K-8 levels. This decision was based on the need to share student data between schools and school systems. Eleven of 12 schools are participating in the use of the Center for Hands On Learning kits for science and math instruction in grades K-6. Fully equipped science and math kits are issued to classroom teachers upon request from a centrally maintained location.

A unique policy change was legislated in 1998 providing BIA funded schools with state funding for professional development in technology and community outreach. For 1998-1999 and for 1999-2000, the state has allocated $500,000 annually for this effort. The state of New Mexico has always taken the position that funding of BIA schools is a federal responsibility and that the State should not be concerned with their funding. This attitude extended even to special projects. The exception was that BIA schools accredited by the State were eligible for textbook funds. The traditional response to State legislative attempts to change this policy has been that funding Federal schools would violate the public school anti-donation policy. This objection was overcome by providing supplemental funds to the New Mexico Office of Indian Affairs which then awarded CENAC a grant through Santa Fe Indian School.

New Mexico County

The County Coalition has influenced changes in policies affecting systemic reform in math and science education. There is a need for a better data retrieval system within the NMC districts to provide more up-to-date information. However, several changes have occurred:

- Three years ago, the Coalition collaborated with the NM State Department of Education to invest Goals 2000 funds to initiate expansion of the statewide student assessment system beyond Grades 4,6 and 8 to include a K-8 continuum. As a result, the conversation expanded to include other decision-makers, including the NM State Legislature. Most recently, this body mandated the expansion of the SDE student assessment system to include Grades 3-9.
- Two districts in the Coalition area are now mandating summer school for students whose Terra Nova test scores fall below a certain percentile. If parents do not allow a student to attend summer school, the student will be retained.
- There has been an expansion in the number of schools including Advanced Placement curriculums as part of their educational programs. Currently, 12 out of 25 NMC RSI districts have AP as part of their curriculum.

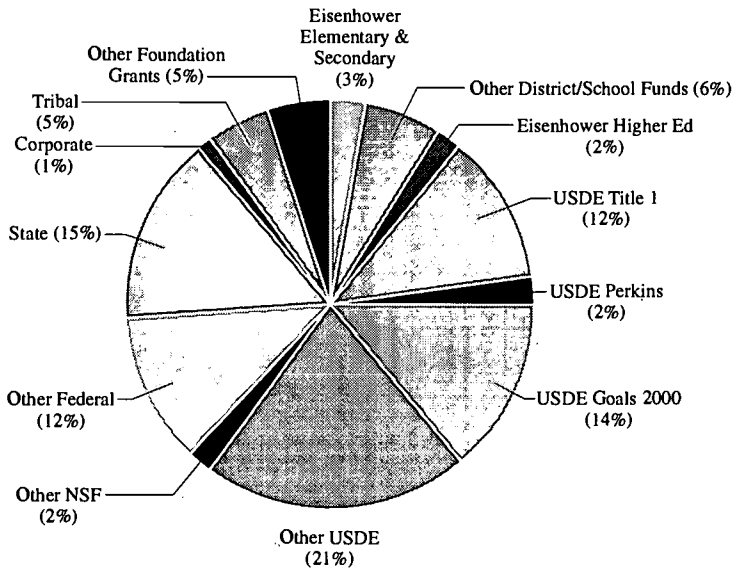
Southern Colorado Coalition

The North Conejos School District, after being introduced to the Education Trust Model of Reform for mathematics and science, expanded the reform effort to include all their teachers who teach science. This includes the teachers from both elementary schools, the middle school teachers, and the high school science teachers. They are now using this model in other subject areas. The experience with mathematics and science resulted in all content areas being realigned to standards.

IV c.) RESOURCE CONVERGENCE
The UCAN RSI has been very successful in leveraging resources throughout the first four years of operation. The following graphic shows the level and source for 1998-1999.

Graphic IV: Resource Convergence

Resource Convergence
October 1, 1998 – September 30, 1999



$6,436,053	*Leveraged funds*
3,140,295	*Value of in-kind assistance*
$9,576,348	*TOTAL leveraged support*

Other more specific resource coordination examples are given below that show the depth and sustainability potential developed throughout the UCAN coalitions.

A NM Coalition effort is the continued coordination with the two Regional Center Cooperatives [RCC #2 and #4] which provide technical assistance to northeast and northwest RSI schools.

Both Regional Center Cooperatives have invested substantial resources in collaboration with the NM County Coalition to support educational reform at the local level. In both areas, a fulltime "circuit rider" staff person has been made available to provide on-site assistance and in the case of RCC #4, individual district Title II funds have been pooled and coordinated with Coalition plans to provide regionally-based professional development in math and science. The investment by each RCC in the form of staff time, consultants and participant support are $55,000 for RCC#2 and $111,000 for RCC#4. Additional funding from Goals 2000 amounts to $317,000. Because of the NM Coalition involvement, both of these Cooperatives are moving towards a more comprehensive approach at providing assistance to schools. Local data management systems are largely being supported through the mutual efforts of the RCCs and the Coalition. Professional development activities are also coordinated and funded through both entities.

In the NMT coalition, funding resources available to CENAC has increased steadily over the four years of UCAN/RSI. The first two years 95/96 and 96/97 were funded solely by UCAN/NMTC. In year 3, Goals 2000 Share Grants increased funding to approximately $416,000 and in year 4 funding dramatically increased with the addition of the New Mexico State and Annenberg grants. The following table shows the growth in resources since UCAN's inception. CENAC organizes these resources in full support of standards with a focus towards science and mathematics achievement.

Table 9: New Mexico Tribal Resource Development (1995-2001)

	Y1 95/96	Y2 96/97	Y3 97/98	Y4 98/99	Y5 99/00	AY 00/01
NMTC	136,500	196,200	166,200	176,100		
GOALS 2000			250,000	250,000	187,000	
WELLNESS				200,000		
NM STATE				500,000	500,000	
SFIS/ANNENBERG				341,000	221,000	512,000

It is anticipated that available funding for year 5 will be at least $908,000 plus the NMTC NSF dollars. Annenberg funding in the amount of $512,000 will continue into the following year.

The Southern Colorado Coalition has had an active role in contributing and organizing the new LINC (Learning in the New Century) Center in the Library at Adams State College. This new center is due to a grant received from New Centuries for the specific purpose of developing a

material resource for teachers to use when looking for new curriculum materials, assessments, hands-on kits, and research information. SCC has provided standards based materials, recommendations, and professional development in their use in the classroom. This center is available to anyone in the state of Colorado who wished to use the materials. SCC's Technology Consortium has shifted focus and is now working with Adams State and the San Luis BOCES (Board of Cooperative Educational Services). They have received $235,000 from the Colorado Technology Literacy Challenge. Thus far, $35,000 per district (North Conejos, Sargent, Alamosa, Center, Del Norte) has been used to set up a LAN. Additionally, the grant has supported the training of school staff and students to be technical assistants in the use of the LAN and the "Doing the Enhanced Science Instruction via Technology and Standards" program that has been implemented. The LabWorks II system is being utilized in the middle and high schools.

In the Ute-Four Corners Coalition, the Montezuma/Cortez School District has formed a unique partnership with the City of Cortez, Empire Electric, Farmers Telephone, Southwest Memorial Hospital, Pueblo Community College, and San Juan Vocational Technical School to "Wire the Community." This partnership is in its 3rd year and this past year brought the community of Towaoc on the Ute Mountain Ute Reservation online with Internet access. Grants received include; 1) A $60K Colorado Department of Education grant which focused on implementing the Six Trait Writing concept, 2) A $173K Colorado Department of Education Technology and Literacy Grant provided 660 K-12 staff members, parents, and other community members with professional development and prepared every classroom for Internet access, and 3) The Star Schools Grant provided a communications link with Utah State University. As a result of this link 7 Bachelor and 7 Masters degree programs will be offered in the Cortez community for the first time ever. In addition, the Star Schools Grant provided the resources necessary to develop the first WEB Page on Ute Mountain Ute Tribal history.

The formation of the Arizona Tribal Coalition Regional Mentors (ARMs) occurred during the second half of the academic year. Modeled after similar approaches to professional development and mentoring already implemented in both the New Mexico County and Southern Colorado Coalitions, ATC modified the recruitment and implementation to meet the needs of Arizona reservation schools. Facilitated by WestEd, the ARMs devised a plan to assist Leadership Teams within their regions, and for their own professional development. The ARMs attended the NSRC sponsored LASER Institute July 1999 to strengthen their leadership skills and capabilities. The NSRC and LASER partially supported ATC and other UCAN Leadership Teams with financial support, materials, and training valued at $15,000.

IV d.) BROAD-BASED SUPPORT

The formation of 13 UCAN-RSI Leadership Teams within ATC schools/communities provided a framework for implementing many of the Y4 strategies in a cohesive, locally directed context. This approach has proven to be instrumental in the establishment of a core group within each school/community to guide change from within the school and community served. Teams have included tribal education directors, BIA agency superintendents, principals, teachers, school board members, parents and students. These teams have embraced the reform effort and have begun to appreciate more fully that leadership needs to be shared across the school and community in order to sustain standards and community-based education. During this fourth year of implementation, ATC has begun to see real changes in the thinking at the local level. Continued support at this critical juncture promises sustainable change.

NM Tribal Coalition is facilitating the transition of students from one school system to another by coordinating standards based curriculum and assessment on a community wide basis. (See III F above). Over 120 Tribal and Public school representatives attended a transition forum cosponsored by the NMTC, the Annenberg Rural Challenge project and the New Mexico County Coalition. Transition plans have been submitted by 5 community teams representing 8 public school districts and 11 tribal schools. Plans from 3 communities are still in the developmental process. The following table identifies communities, schools and the status of their plans. All transition teams continue to meet on a regular basis.

Table 10: New Mexico Tribal Communities/Schools & Level of Implementation

Community	School	Grades	Enroll	#Teachers	Level of Implementation
Taos Pueblo	Taos Day School	K-8	172	13	75-100%
San Juan Pueblo	Ohkay Owingeh Comm. School	K-8	95	7	25-74%
Santa Clara Pueblo	Santa Clara Comm. School	K-6	137	7	25-74%
San Ildefonso Pueblo	San Ildefonso Day School	K-6	24	3	25-74%
Tesuque Pueblo	Te Tsu Geh Oweenge Day School	K-6	47	4	25-74%
San Felipe Pueblo	San Felipe Comm. School	K-6	350	21	25-74%
Jemez Pueblo	Jemez Day School	K-6	195	10	75-100%
Zia Pueblo	Zia Community School	K-6	72	7	75-100%
Isleta Pueblo	Isleta Day School	K-6	245	17	25-74%
Laguna Pueblo	Laguna Elementary School	K-6	392	21	75-100%
	Laguna Middle School	7-8	185	13	75-100%
Acoma Pueblo	Sky City Community School	K-8	282	22	75-100%
All Pueblos	Santa Fe Indian School				75-100%
	Middle School	7-8	166	2 Math 2 Science	75-100%
	High School	9-12	350	4 Math 4 Science	25-75%

The Southern Ute Tribe of the UFC coalition works with the district on the Educational Excellence Program which provides interns with paid employment and high school credit. Seven Southern Ute high school students participated this past year. The Tribe has expanded the program to include postsecondary students. Interns are working in the fields of environmental and agricultural sciences, Native American education, medicine, and law. The Tribe and school district partnered to bring the College of Santa Fe's extension program on site to provide courses for the Teaching

English as a Second Language endorsement. Seventeen teachers have enrolled and six have completed the requirements. The Tribe sponsored a masters degree program through the College of Santa Fe. Degrees in two areas are being offered. 1) Bilingual/Multicultural Education (six graduates, two of which were Southern Ute) 2) School or Community Counseling for At Risk Youth (14 enrolled, four of which are Native American, two of those are Southern Ute). The Tribe pays full tuition for its members and 1/2 tuition for community members or school district employees. UCAN continues to partner with School-to-Careers and the Urban Rural Opportunities Grant to provide Parent Universities. Over 100 community members attended two Parent Universities this past school year, both emphasizing mathematics and science.

IV e.) STUDENT ACHIEVEMENT

As was noted in the PER of February, 1999, in UCAN states, only New Mexico and Arizona have science and/or math data for two years that are based on standards. Thus this report offers data from Arizona (see I.c. Above) and New Mexico that are statewide.

The following table shows the proficiency levels for students in New Mexico UCAN public schools based on the level of implementation of a standards based curriculum in science and mathematics for grades 4, 6, and 8. These data show that those students in UCAN schools where more than 75% of the teachers have implemented a standards based curriculum consistently score above those who are in schools where less than 75% or more teachers have implemented an SBE curriculum.

In addition, the increase in student proficient levels in UCAN schools where 75% or more of the teaching staff have implemented a SBE curriculum scored at or above the statewide proficiency levels, in some cases increasing their proficiency levels from 4-10% in a single year.

Table 11

Percent of Students Proficient or Advanced in 1998-99 and Change in Percent Since 1997-98			
Grade	25 % to 75 % of Teachers Implementing SBC	More than 75% of Teachers Implementing SBC	Statewide
	% (Change in %)	% (Change in %)	% (Change in %)
MATH			
4	16% (0) n=1,184	34% (0) n=316	33% (+2) n=21,008
6	11% (-1) n=1,296	33% (+4) n=565	23% (+2) n=20,902
8	12% (0) n=652	27% (+10) n=398	23% (+2) n=20,810
SCIENCE			
4	14% (-1) n=1,178	29% (-1) n=797	27% (0) n=21,004
6	19% (-1) n=1,310	32% (+4) n=585	29% (+1) n=20,977
8	25% (0) n=1,451	38% (+2) n=401	38% (+2) n=20,786

IV f.) CLOSING THE GAP

New Mexico Terra Nova Math and Science Results by Ethnicity

The following tables show the New Mexico Terra Nova results by ethnicity for the school year 1998-1999 and the change from 1997-1998. In Tables 12 and 13, the proficiency of students by ethnicity in math and science are compared among UCAN schools who have been involved for four years with those having less UCAN support and with schools statewide. (***Note that any population below 100 has been taken out due to the impact on results with such small numbers.) Data shows that Hispanic students in UCAN schools involved for four years generally do better in mathematics than those students in less active UCAN schools.

Table 12
Spring, 1999, New Mexico Terra Nova Math Results by Ethnicity

% of Students Proficient or Advanced in 1998-99 and Change since 1997-98			
Ethnicity	UCAN Targeted, Participating 4 Years % (Change)	UCAN Schools with <4 Years Participation % (Change)	Statewide % (Change)
4th Grade			
Anglo	*** n=67	45% (+1) n=370	51% (+4) n=7,372
Hispanic	20% (+1) n=404	18% (-1) n=1277	24% (+2) n=9,202
Native American	*** n=54	12% (-1) n=205	10% (0) n=2,131
6th Grade			
Anglo	44% (+8) n=107	29% (-6) n=301	39% (+2) n=7,043
Hispanic	11% (+5) n=432	11% (-1) n=1195	15% (+3) n=9,509
Native American	*** n=98	8% (+1) n=166	7% (+1) n=1,900
8th Grade			
Anglo	31% (+2) n=144	31% (+6) n=335	39% (+3) n=7,402
Hispanic	12% (+2) n=344	8% (0) n=1245	13% (+2) n=9,135
Native American	3% (+1) n=108	4% (0) n=169	8% (+1) n=1,922

In Table 13, Hispanic students at the 6th and 8th grades are more likely to be more proficient in science than students from less involved UCAN schools and equal to or better than the rest of the state.

Table 13
Spring, 1999, New Mexico Terra Nova Science Results by Ethnicity

% of Students Proficient or Advanced in 1998-99 and Change since 1997-98			
Ethnicity	UCAN Targeted, Participating 4 Years % (Change)	UCAN Schools with <4 Years Participation % (Change)	Statewide % (Change)
4th Grade			
Anglo	*** n=67	40% (-2) n=367	47% (+1) n=7,375
Hispanic	15% (-3) n=404	13% (-2) n=1258	17% (+1) n=9,199
Native American	*** n=56	7% (+1) n=203	7% (0) n=2,138
6th Grade			
Anglo	51% (0) n=107	43% (-2) n=300	50% (+2) n=7,064
Hispanic	18% (+2) n=438	17% (+2) n=1192	18% (+2) n=9,549
Native American	5% (-3) n=106	10% (+2) n=167	8% (0) n=1,911
8th Grade			
Anglo	55% (0) n=145	54% (+2) n=335	60% (+2) n=7,364
Hispanic	21% (+2) n=344	19% (-1) n=1246	23% (+1) n=9,129
Native American	10% (-3) n=109	12% (-5) n=170	14% (-1) n=1,944

SUMMARY

It must be said that the data offered in this report, in the main, is based on two data points from New Mexico and Arizona. In Arizona, only math data is available and only in a form that compares UCAN schools from those that have been with UCAN four years with those who have been with UCAN less than four years. Statewide Arizona data will not be available until September 1999. Colorado will be assessing mathematics achievement for the first time in grade 5 in the Fall 1999, and in grade 8 in math and science in the Spring 2000 using their new standards based achievement test, CSAP. Part of the reason for this lack of data is the lag in the availability of standards based assessment that is aligned with the new curricula being implemented in the schools.

It is clear that there has been an emphasis on mathematics and that there is tentative evidence of student achievement gains in UCAN schools in this area. The student population represented by this data is approximately 70% of UCAN's targeted student population. Although the evidence for higher student achievement in math and science in UCAN schools where more than 75% of the teachers have implemented a standards based curriculum is clear and dramatic, it is also obvious that science achievement lags mathematics not only in UCAN schools but also in statewide averages compared to national norms.

In the southwest, local school board control determines school policy and due to the vagaries of the political forces at the local level, cause the efforts to change policy problematic. However, school practice throughout UCAN that is reform based, especially in those schools with a high level of implementation of a standards based curriculum, has changed and is more likely to become policy over time.

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UTAH * COLORADO * ARIZONA * NEW MEXICO

UCAN
A FOUR-STATE
RURAL SYSTEMIC INITIATIVE

Year Five

Strategic Plan

September 1, 1999

Dr. Vicente J. LLamas, Principal Investigator
Elizabeth A. Yost, Program Director

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LEGACY FOR REFORM: UCAN RSI'S FIFTH YEAR STRATEGIC PLAN

The UCAN RSI has developed a legacy for reform integrated within the schools/communities of its five regional coalitions. This legacy is reflected in the changes wrought within existing structures, their operations and policies, as well as in the development and institutionalization of new organizations and partnerships based on a commitment to reform as a dynamic enterprise.

A critical legacy of the UCAN RSI exists in the area of school and community networks. UCAN's efforts in year five will focus on further strengthening the reform structures of the Coalition of Educators for Native American Children (CENAC-NMT), the Northern New Mexico Network for Rural Education (NNMNRE-NMC), the San Luis Valley/BOCES Collaborative (SCC), the Arizona Regional Mentors (ARMS-ATC), and the Ute Tribes Collaborative Council (UTCC-UFC). Each of these has either been strongly influenced by UCAN to be more effective in school reform or has been established by or with the support of UCAN. All have an existence independent of UCAN or are in the process of becoming independent in year five.

The UCAN PI Team will also continue its collaboration with the NN RSI as well as through its liaison who has recently been named the chair of the NN RSI Advisory Board. UCAN will also continue the collaboration with the new Boarder RSI (BRSI) as it moves towards implementation. UCAN is currently represented with a BRSI Advisory Board position. UCAN's Fifth Year Strategic Plan builds on the four year effort of its schools/communities to focus on high achievement in science and mathematics as a goal for all students.

The six overarching goals for UCAN in year five, represent a continuation of UCAN's efforts in year four. These goals areas are:
-Leadership Development
-Community Outreach Focusing on Standards Based Education
-Data Use as an Educational Planning Tool
-Expanding and Strengthening School Networks
-Modeling & Mentoring Reform as Scaleup Strategies
-Multi-Jurisdictional Cooperation (A Transition Strategy)

The following discussion will address each of these overarching goals from two perspectives: One from the point of view of the UCAN Legacy; the other from examples of sample coalition plans.

LEADERSHIP DEVELOPMENT

The Spring 2000 Leadership Institute will be the culmination of the work done at the coalition level of the 37 school based Leadership Teams that have been implementing their reform plans originally developed in the Fall of 1998, and revised in the Spring of 1999. During the Summer and Fall of 1999 all five coalitions have or will have regional Leadership Institutes further supporting their Leadership Teams. In the Spring 2000 Leadership Institute, these teams will share their lessons learned, model their successes and share the obstacles encountered and their actual and/or planned solutions, and mentor their peers in the reform process.

The legitimacy of the Leadership Teams will further be developed through an aggressive campaign to make public their work and accomplishments via local and regional news organizations including newspapers, radio, and other public dissemination outlets. Both within coalitions and with UCAN wide partnerships, additional professional development is planned for the Leadership Teams to support their reform plans and to strengthen local human resources in the reform process.

The National Science Resource Center (NSRC) and WestEd are collaborating with UCAN in providing intensive leadership training to school based teams and team leaders. The NSRC Leadership and Assistance for Science Education Reform (LASER) initiative has trained seven UCAN Leadership Teams during the Summer 1999 in the first of a series of one week workshops. These teams (of 5-7 members each including teachers, administrators, parents, tribal leaders, and community members) have developed school reform plans designed to accelerate the full implementation of a standards based science and math curriculum. These are being implemented now and will be expanded throughout the 5th year with the continued support of the NSRC/LASER effort. Each team will provide training at the coalition and UCAN wide levels.

Three coalition leaders from NMT, ATC, and SCC have been chosen by WestEd to receive two years of leadership training in their WestEd Leadership Academy. These leaders had over a week of intensive training in 1998/99 and will have continued training throughout UCAN's 5th program year. Each of these coalition leaders have incorporated their training in the professional development and technical assistance plans for year five at the coalition and UCAN wide levels.

The UCAN RSI PI Team and the Coalition Leaders will develop coalition Partnership Councils, similar in design to the UCAN-wide Partnership Council developed in year four. These regional Partnership Councils will be made up of, in most cases, of already known regional resources, as well as new partners where possible. Some coalitions already have informal councils, while others have the resources without a cooperative structure. Part of the UCAN legacy is to ensure that these informal partnerships become a formalized and committed entity supporting continued reform in their targeted schools/communities. Further, UCAN will disseminate a strategy to identify and utilize resources at the local school community level.

The impact of the Leadership Institutes can best be described by reviewing the action plans for the Arizona Tribal Coalition regional mentors.

Arizona Tribal Coalition

School/community reform designs written by 11 ATC Leadership Teams in April 1999 for the 1999-2000 academic year, formed the framework for the ATC Leadership Team Plan and will be the primary vehicles for implementing the ATC Fifth Year Plan. This is an important shift as this represents systemic reform being driven from the community level. ATC's role will be to support, reinforce, and facilitate the implementation of the Leadership Plans through the Arizona Tribal Coalition Regional Mentors (ARMs), WestEd staff, community liaisons and ATC management.

In addition, ATC will provide additional support to select Leadership Team schools/communities to reach full implementation of a standards based science and mathematics curriculum and assessment system by partnering with them to implement the School Portfolio process. Three to four focal school/communities, along with ATC management, will participate in a training of trainers' model with Education for the Future staff to expedite the process. ATC management and the ARMs will also implement the model coalition-wide by developing a "Coalition Portfolio."

A new partnership to support full implementation in ATC school/communities was initiated by the GRMSIT (Gila River Math and Science Initiative Team). A cadre of teachers in the 3 Gila River School Leadership Teams has initiated the Watershed Restoration and Preservation Project across their eight schools. Five across-school workshops are already scheduled for next year and mentors from Gila River's Land and Water Department have been assigned to each of the schools to help with the implementation of the school-based projects. In addition, it is anticipated that Land and Water will hire a part-time coordinator to oversee the entire project. Through the ARMs and

Leadership Teams, other schools/communities are participating in the first of these workshops, hosted by NM CTEP, Arizona Game and Fish, and UCAN at the Gila River headwaters in New Mexico.

The ARMs attended the NSRC sponsored LASER Institute in Washington, DC in July 1999 and have taken the lead in planning and organizing the ATC Leadership Institute scheduled for mid-September 1999. Parker Unified School District also has a team that attended the LASER training and will be responsible for strengthening the reform efforts of all ATC Leadership Teams.

COMMUNITY OUTREACH FOCUSING ON STANDARDS BASED EDUCATION

Because of the variety of communities and cultures throughout UCAN, the community outreach efforts will continue through the auspices of the coalitions and their targeted schools. UCAN has also responded to a need identified by many schools/communities in southern Colorado and New Mexico regarding specific issues faced by Hispanic communities and students, particularly as it relates to school reform.

In the Fall of 1999, an Hispanic Issues Forum is planned to bring researchers, state and local policy makers, school and community leaders and coalition representatives together to identify and develop strategies to address concerns identified by UCAN Hispanic communities. The outcome of the strategies developed through the Forum will offer specific guidance to coalition leaders, Leadership Teams, school and community leaders on the appropriate role language, culture, learning and teaching techniques, family and student expectations have on student achievement and success.

Ute Four Corners Coalition

In year five, the UFC Coalition will continue to partner with School-to-Careers and the Ignacio School District using a $57,000 grant for Parent Universities that focus on Colorado State Standards, internships, job shadowing for students and teachers, and how these are impacted by higher student achievement in mathematics and science. These programs are scheduled throughout the 1999/2000 school year and are expected to impact 150 community members and parents.

DATA USE AS AN EDUCATIONAL PLANNING TOOL

Throughout the UCAN community, coalitions and their targeted schools have been developing and implementing comprehensive data acquisition systems that are being used for school planning, teacher professional development, policy development, and classroom practice. One of the best examples within UCAN of the use of data and its implementation in year five is offered by the New Mexico County Coalition (NMC).

New Mexico County Coalition

During Year Five, the NMC will focus on data collected in following areas:

1. Student data related to academic achievement based on standards, work place success, higher education success, attendance, dropouts, and readiness to learn factors and other information important to communities.
2. The capacity of the system to deliver a quality instructional program. Data will include such things as teacher competencies, district leadership profiles, sustainability indices, etc.

3. Descriptions of effective instructional strategies drawn from expansive data base.
4. Planning frameworks containing student profiles and system capacity indices will be used to expand site-specific plans to improve M/S student achievement.
5. Northern Network/RSI districts will blend data from the following processes to analyze local system capacity to deliver a quality education to all students: NM County Coalition Student Profile and System Capacity Frameworks; Phi Lambda Kappa Curriculum Audits; Northern Network Standards-Based Instruction Self-Inventories; Math and Science Teacher Surveys; Minnick and Associates Data Systems and the Standardized Assessment System from the NW Consortium.
6. School personnel will continue to be trained to use computer software programs for data analysis purposes, coordinated with SDE requirements.
7. Teachers will be provided opportunities to experience the use of instructional strategies best suited for their students.
8. Local professional development plans for teachers will reflect i instructional decisions.

Outcomes of this effort will result in at least 60% of NM County Coalition school sites prepared to use ongoing process of collecting, analyzing and using data to refine their EPSS (Educational Plan for Student Success); the refinement of system capacity assessment process to include pre- and post-test data on student performance; and at least 50% of math/science teachers will have ongoing access to "best practices" related to student standards. Evidence for the successful implementation of this strategy will include completed school site audits, including curriculum audit; refined school site EPSS with connections to the data on students and system; and local professional development plans for teachers that reflect the use of data for instructional decisions.

EXPANDING AND STRENGTHENING SCHOOL NETWORKS

New Mexico Tribal Coalition

CENAC has established itself as an independent organization designed to support continuous reform in the BIA funded schools of the Northern and Southern Pueblo Agencies. As shown in the following table, CENAC has increased its resource base significantly over the last few years. It has funding independent of UCAN and the NSF that will carry its reform efforts well past the final funding period of UCAN.

Table 1: New Mexico Tribal Resource Development (1995-2001)

	Y1 95/96	Y2 96/97	Y3 97/98	Y4 98/99	Y5 99/00	AY 00/01
NMTC	136,500	196,200	166,200	176,100		
GOALS 2000			250,000	250,000	187,000	
WELLNESS				200,000		
NM STATE				500,000	500,000	
SFIS/ANNENBERG				341,000	221,000	512,000

MODELING AND MENTORING REFORM AS SCALEUP STRATEGIES

The International Telementoring Center (ITC), located in the Colorado Science Math and Technology Education Center at Colorado State University, will be offering telementoring to UCAN schools in grades 5-12. ITC will connect scientists, engineers, and other professionals via email with students and their teachers. These professionals will serve as mentors for student/teacher selected projects.

Each of the UCAN coalitions has developed modeling and mentoring efforts that have resulted in school/communities expanding their involvement with UCAN. BIA funded schools are now linking with public schools (see next section for more details) to whom their students go after graduating from their schools. Some of these public schools are not originally targeted by UCAN but are now active partners with our coalitions.

Other mentoring and modeling efforts are bringing a broad-based group of educators together that bridge the K-12/college transitions. The Southern Colorado Coalition is piloting an effort focusing on this transition.

Southern Colorado Coalition

In year five, the Southern Colorado Coalition has designed programs that will allow college mathematics and science professors to work in K-12 classrooms to mentor and model reform methodologies. A second component of this program will be to have master teachers and college methods professors observe participating practicing teachers in their classrooms to determine strengths and weaknesses. Another component will include a forum for discussion and feedback so that the classroom teachers, master teachers and college professors are calibrated when discussing and evaluating instruction in mathematics and science. The guidance from the forum will then be used with pre-service student in preparation for their student teaching experiences. Outcomes expected include a stronger alignment between pre-college and college teacher student expectations, stronger ties between pre-service and student teaching experiences, and better aligned professional development offerings by local colleges and universities involved with the program.

MULTI-STATE, MULTIJURISDICTIONAL POLICY SUPPORT DEVELOPMENT.

The multi-state, multi-jurisdictional activities of UCAN and its coalitions increased throughout the 4th program year and are continuing in year five. Significant progress was seen in Arizona through the ARMs and the efforts of the Arizona Tribal Coalition (ATC), as well as the cooperation between the New Mexico Tribal (NMT) and the NM County (NMC) coalitions. In both efforts, BIA funded schools and public schools are cooperating in meeting the needs of their tribal students.

NN RSI & New Mexico County Coalition

A recent development linking the NN RSI with the NMC Coalition schools serving Navajo students (Cuba School District) have formed an alliance called Cuba Coalition for Community Partnership. This alliance includes the Eastern Navajo BIA Agency schools of Torreon, Ojo Encino, and Pueblo Pintado along with Counselor Mission School and the Cuba School District. In the Fall 1999, all 8th grade teachers from the Eastern Navajo BIA Agency schools will meet with 8th and 9th grade teachers from the Cuba School District in a cooperative effort

to smooth the transition for Native American students from BIA funded schools to the public schools serving this population. The cooperation includes working on a common set of student expectations, mirroring the standards based curricula offered in public schools with that offered at the same grade levels in tribal schools, as well as sharing professional development experiences and increased communication between public school teachers and teachers in tribal schools.

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Final Evaluation Report

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