

American Indian Math Project

Annual evaluation report

J U L Y 2 0 0 8

American Indian Math Project

Annual evaluation report

July 2008 – Revised December 2008

Prepared by:

Alexandra (Sandi) Pierce, Ph.D. and Maria Gaona

Wilder Research

451 Lexington Parkway North

Saint Paul, Minnesota 55104

651-280-2700

www.wilderresearch.org

Contents

Summary	1
Background	3
Target population	3
Program activities	4
Evaluation methods	5
Findings	8
Recommendations	19
Appendix	20
Focus group questions: Students	21
Focus group questions: Parents and Guardians	22

Figures

1. Evaluation measures and data sources	5
2. Year 1 participants	8
3. Year 1 recruitment and retention targets and outcomes, 2007-2008	9
4. Number of days enrolled students attended program activities	9
5. American Indian Math Project attendance by grade in school	10
6. American Indian Math Project attendance and academic performance.....	10
7. Amount of academic improvement.....	11
8. Improvement in semester progress reports (5 th grade only).....	12
9. Improvement in semester grades (6 th through 9 th grade)	12
10. Improvement in active engagement in school	14

Acknowledgments

We wish to thank Olivia Walker, the American Indian Math Project coordinator at the Division of Indian Work, for ensuring that the data were collected for this evaluation. Thanks, too, to parents, guardians and students who participated in the focus groups. We also appreciate the efforts of the Wilder Research staff that assisted with this report:

Marilyn Conrad

Phil Cooper

Louann Graham

April Lott

Summary

The American Indian Math Project is a partnership of the Minneapolis Public Schools, Anishinabe Academy and the Division of Indian Work (DIW) Youth Leadership Development Program (YLDP), and is designed to increase the math scores, school connectedness, capacity of American Indian youth to become productive adults, and the engagement of parents in supporting students' learning through culturally relevant afterschool and family activities. Students are recruited and selected for the program based on teacher-identified academic need in mathematics and family commitment to the activities and responsibilities of the program.

The program includes three key components: tutoring and homework help four days a week, Family Nights providing academic enrichment at least once a month, and recreational activities every two weeks. Youth must attend at least three tutoring sessions of the possible four for their group during that two week period in order to attend a recreational activity.

For this evaluation, data was collected on both students and parents or guardians. Teacher and participant surveys, program records, school-reported student grades, and focus groups with both students and parents or guardians were used for the final analysis.

Major findings of this evaluation are:

- The program surpassed its recruitment and retention goals, recruiting and enrolling 57 students during their first grant year.
- The program did not reach its goal of 40 students attending 30 or more days, but 28 students (56%) did attend 30 to 59 days and 9 students attended 60 to 89 days.
- Over half of the students retained for 30 or more days were in 5th grade, and 5th-graders made up 78 percent of the students that attended 60 days or more of program activities.
- Six of the seven 7th, 8th, and 9th grade students (88%) attended program activities 60 or more days.
- Students in 5th grade showed the greatest improvement in academic achievement; by the end of semester 2, six students (40%) had improved to the “above standard” level and none remained in need of continuous teacher support, compared to semester 1 when teacher assessments showed none of the students as above standard and seven evaluated as needing continuous teacher support.

- For turning homework in on time, girls showed more improvement than boys.
- The pattern of academic improvement was not as consistent for older students, but by the end of semester 2, 74 percent of these students had a grade of C- or better, in comparison to 69 percent at the end of semester 1.
- Student engagement in school was quite good, with all engaged students reporting that they like being at the American Indian Math Program, they feel welcome at the program, and they have friends at school.
- Forty family members, 75 percent of which were parents or guardians, attended at least one Family Night, averaging three Family Night events each.
- Most of the parents and guardians attending Family Nights (84%) were mothers and grandmothers.
- Program staff is effectively communicating high expectations to students, with at least 97 percent of students agreeing or strongly agreeing that staff expected them to attend school each day and to do well in school.

Background

The Division of Indian Work is a sub-grantee of the Minnesota Department of Education's 21st Century Community Learning Centers (CCLC) federal grant. The initiative aims to provide a variety of afterschool programs to support student learning and development, particularly to students from low-income families and those attending schools identified as in need of improvement.

The subject of this report, the American Indian Math Project, is a partnership of the Minneapolis Public Schools, Anishinabe Academy and the Division of Indian Work (DIW) Youth Leadership Development Program (YLDP). The program aims to increase the math scores, school connectedness, capacity of American Indian youth to become productive adults, and the engagement of parents in supporting students' learning through culturally relevant afterschool and family activities.

Target population

Program participants are American Indian students in grades 5 to 10 at Anishinabe Academy, a culturally-specific magnet school in South Minneapolis. Parents and guardians are also involved in programming that supports their efforts to help their children improve their math skills.

The American Indian Math Project targets American Indian youth from the 5th to 10th grades who are "struggling academically with math." Students are identified as "struggling" if their math teacher's assessment indicates that the student is performing below grade level on math tests, quizzes, and/or homework assignments.

Participants are also selected for the program based on parent or guardian commitment. Parents or guardians must complete an in-depth intake interview with the project coordinator that includes school information (math and reading scores, attendance, after school activities, etc.), and family and demographic information. Upon acceptance into the program, parents or guardians and students are asked to sign a contract that outlines the activities and responsibilities of the program and the rights and responsibilities of the participants.

Participation in the American Indian Math Project is on-going, and students can begin at any time, as instruction can be individualized and cooperative groups are heterogeneously composed. Cooperative groups are part of the program design, with students at different levels of competence helping each other. Once students reach their grade level in math skills, they graduate from the program, and a new participant is recruited for the program.

Program activities

The American Indian Math Project includes three core activities: tutoring and homework help four days a week, Family Nights providing academic enrichment at least once a month, and recreational activities every two weeks. Each component of the program is designed to help participants become productive adults by supporting their academic, social and family connections.

For the purposes of this evaluation, youth are categorized as “engaged” in the program if they have participated in at least 30 sessions for tutoring and homework help, 8 sessions of Family Nights, and four sessions of recreational activities.

The American Indian Math Project tutoring curriculum and parent or guardian components were designed and implemented by four part-time teachers, with the assistance of school personnel. The youth curriculum includes the use of manipulatives (e.g., beadwork) and other activities that incorporate American Indian learning styles research results, such as cooperative learning techniques. The adult curriculum mirrors the youth curriculum.

Tutoring sessions are held four days a week, and consist of groups of no more than 10 students each. Given the high risk characteristics of the student population, each tutoring group is staffed by two part-time teachers to optimize learning for the students. Each tutoring session involves a game or exercise teaching/reinforcing cooperation, a review of the previous week’s learning, instruction on the day’s unit, and assessment of the current unit. Students also record their own progress, questions and concerns in a math journal, which are reviewed and used by teachers to develop further instruction.

Recreational activities are offered for participants on alternate Fridays each month. Youth must attend at least three tutoring sessions of the possible four for their group during that two week period in order to attend the activity. Past recreational activities have included: swimming at the YWCA, field trips, and cultural activities such as pow wows.

To increase family supports for participants, the American Indian Math Project holds Family Nights for parents and guardians. These events are held at the Division of Indian Work (DIW) at least once a month and include an all-family meal, child care for younger children, and transportation as needed. Most months, there are two Family Nights, one every two weeks. Child care is provided to parents that bring their younger children to the Family Night meetings. Since parent participation has often proved challenging, families are offered a \$20-an-evening gift card to encourage attendance at Family Night events.

The Family Night program gathers youth participants and their parents or guardians in family groups to listen to a curriculum presentation by the part-time teachers. Families then discuss the presentation, with youth assisting their parents with the math concepts. Teachers, the project coordinator, and other DIW staff and volunteers are also available to provide groups with assistance as needed.

Evaluation methods

To evaluate the American Indian Math Project, staff collected multiple types of data, including demographic information, individual-level student and family member attendance data, student's math grades on report cards, and teacher assessments of student improvement (the Federal Teacher Survey). To ensure student confidentiality, American Indian Math Project staff assigned identification numbers to each student and family member participating in the program. Figure 1 shows the data sources used for this evaluation.

1. Evaluation measures and data sources

Student demographic data	Data source
For each recruited student: Grade Gender Race Special needs/disabilities Limited English proficiency Reduced price lunch	Program enrollment records
Individual-level data – family members	
Relationship of family member to student	Program enrollment records
Family member participation	Family Night attendance records
Goal 1: Increase academic achievement in one or more core areas (students participating 30+ days)	
Math grades	School records
Attendance	Program records
Improvement in math skills	Federal Teacher Surveys
Goal 2: Increase school connectedness	
Teacher assessment	Federal Teacher Surveys
Student feedback	Student Connectedness Surveys
Student feedback	Student focus group
Parent and guardian feedback	Parent and guardian focus group
Goal 3: Increase capacity of participants to become productive adults	
Student participation in program activities	Program attendance records
Student feedback	Student focus group
Goal 4: Increase the engagement and confidence of parents in supporting students' learning	
Parent participation	Family Night attendance records
Student feedback	Student focus group
Parent and guardian feedback	Parent and guardian focus group

These data, most of which the project coordinator accessed and provided to Wilder Research for analysis and reporting, were used to measure student progress in the program's four primary goal areas:

1. Increasing academic achievement in one or more core areas
2. Increasing school connectedness
3. Increasing capacity of participants to become productive adults
4. Increasing parent engagement and support of student learning

Student demographic information

Project staff recorded the grade, gender, and race of each participating student, as well as whether they had special needs or disabilities, limited English proficiency, or qualified for reduced price lunch.

Academic achievement

Academic achievement is measured through participants' grades and the student progress feedback from the Federal Teacher Survey completed by each student's regular math teacher. The project coordinator contacted administrators at the participants' school to obtain report card grades. The coordinator worked with the schools to administer the Federal Teacher Survey at the end of the school year and to obtain completed surveys for participating students.

School connectedness

To assess progress toward this program goal, the Student Connectedness Survey was administered to all students participating in the program 20 days or more. Completed surveys were collected and recorded by the program coordinator.

Student connectedness was also evaluated through teacher assessments of student improvement in attending class regularly, getting along well with other students, and volunteering in order to receive extra credit. A third measure of changes in student connectedness to school was student responses during the student focus group and the parent and guardian focus group conducted by Wilder Research. Focus group questions are included in the Appendix.

Student capacity to become productive adults

Student capacity in this area was assessed through student participation at each program activity and student focus groups. Two types of attendance data were collected. American Indian Math Project staff at Anishinabe Academy recorded student attendance at all American Indian Math Project tutoring/mentoring sessions and other program activities, as well as family members' attendance at Family Nights.

Wilder Research staff conducted a focus group with participating students at Anishinabe Academy to gather their perspectives on the program's effectiveness, their views on how it helps prepare them for adult success, and their suggestions for improving the program.

Parent engagement and support of student learning

Parent engagement was evaluated through parent participation in program events and activities and through the parent and student focus groups. Project staff recorded student and parent or guardian attendance at each Family Night event. Both the parent and student focus groups included questions about the helpfulness of both parent involvement in improving math skills and growth in parents' and students' confidence related to school success. Parents and guardians were also asked to identify the most useful aspects of the American Indian Math Project and to provide suggestions for improvement.

Findings

Year 1 participant characteristics

A total of 29 students enrolled in the Program for the 2007-2008 school year, all of whom were American Indian. Most participants (76%) were in 5th and 6th grades, with the remainder dispersed across the 7th to 9th grades (see Figure 2). There were slightly more male than female students (17 and 12, respectively), and all but one student received a free or reduced-price lunch. About 20 percent of the students were identified as having special needs / disabilities, and one student was identified as having limited English proficiency.

2. Year 1 participants

Gender	Number	Percent
Male	17	59%
Female	12	41%
Grade		
5 th	15	52%
6 th	7	24%
7 th	3	10%
8 th	3	10%
9 th	1	3%
Race/ethnicity		
American Indian	29	100%
Have special needs/disabilities	6	21%
Qualify for free/reduced price lunch	28	97%
Have limited English proficiency	1	3%

In terms of recruitment and retention, the American Indian Math Project demonstrated a strong initial effort. The program's target was to recruit and enroll 50 student participants, which they surpassed. The program recruited and enrolled 57 students in the program and retained 28 students for 30 days or more, which was the program's definition of an "engaged" participant.

Adult participants, students' family members, were also recruited for the American Indian Math Project. For Year 1, the program's target was to recruit 100 adult participants. While recruited as vigorously as the students, including being offered incentives to attend, students' parents and other adult caregivers proved more challenging

to recruit and retain for the American Indian Math Project. Despite the challenges, the program was able to recruit 43 adult participants, and retained 30 of them (70%) through the year (see Figure 3).

3. Year 1 recruitment and retention targets and outcomes, 2007-2008

Criterion/objective	Target	Outcome
Recruitment and retention		
Number of youth participants	50	50
Participants recruited	50	57
Participants retained	40	28
Number of adult participants	100	43
Adults recruited	100	43
Adults retained	0	30

Goal 1 outcomes: Increase academic achievement

Attendance

Two-thirds of participating students (66%) attended between 30 and 59 days of American Indian Math Project activities: 47 percent of the enrolled 5th graders, 86 percent of enrolled 6th graders, 67 percent of the enrolled 7th graders, and all of the participating 8th and 9th graders. Nearly a third (31%) of these “engaged” participants attended the program for 60 to 89 days (see Figure 4).

4. Number of days enrolled students attended program activities

Attendance	Number	Percent
Less than 30 days	1	3%
30-59 days	19	66%
60-89 days	9	31%

It appears that the American Indian Math Project may be more successful with younger students, at least in the area of retention. Seven of the nine students that attended program activities 60 days or more (78%) were in 5th grade (see Figure 5).

5. American Indian Math Project attendance by grade in school

Attendance	5 th grade		6 th grade		7 th grade		8 th grade		9 th grade		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
> 30 days	1	7%	0	0%	0	0%	0	0%	0	0%	1	3%
30-59 days	7	47%	6	86%	2	67%	3	100%	1	100%	19	66%
60-89 days	7	47%	1	14%	1	33%	0	0%	0	0%	9	31%
Total	15	100%	7	100%	3	100%	3	100%	1	100%	29	100%

Federal Teacher Survey assessments of student improvement

To support a true evaluation of the actual effects of the American Indian Math Project, the project coordinator asked teachers to complete the Federal Teacher Survey not just for “engaged” students, but also for students who had been enrolled in program but attended less than 30 days. It appears that regular attendance at American Indian Math Project activities does have a positive effect on academic performance, though the small number of participants prevents drawing firm conclusions.

All five students (100%) that teachers identified as having made “significant improvement” in their overall academic performance, 11 of the 12 students identified as having made “moderate improvement” (92%), and all 10 of the students identified as having made “slight improvement” met the definition of “engaged” students, having attended program activities 30 days or more (see Figure 6). Nineteen of these students (66% overall) attended between 30 and 59 days, and nine (31%) attended between 60 and 89 days.

6. American Indian Math Project attendance and academic performance

Attendance	Level of improvement									
	Significant		Moderate		Slight		No Change		Total	
	N	%	N	%	N	%	N	%	N	%
Less than 30 days	0	0%	1	8%	0	0%	0	0%	1	3%
30-59 days	3	60%	6	50%	8	80%	2	100%	19	66%
60-89 days	2	40%	5	42%	2	20%	0	0%	9	31%
Total	5	100%	12	100%	10	100%	2	100%	29	100%

Federal Teacher Survey responses on specific items show that 90 percent or more of the “engaged” students made some improvement in turning in their homework on time, completing homework to their teacher’s satisfaction, and participating in class (see Figure 7). Female students appear to have made the most improvement, with eight girls rated as having made moderate improvement, compared to six boys.

Of the 17 students with the highest levels of overall academic improvement (moderate or significant), 15 had at least moderately improved in turning in their homework (88%). Similarly, the 97 percent of students who were assessed by their math teacher as having made slight improvement overall had also made at least slight improvement in completing their homework to their teachers’ satisfaction.

7. Amount of academic improvement

	Significant		Moderate		Slight		No change		Not needed	
	#	%	#	%	#	%	#	%	#	%
Turning in homework on time	10	35%	6	21%	10	35%	1	3%	2	7%
Completing homework to teacher’s satisfaction	15	52%	3	10%	10	35%	1	3%	-	-
Class participation	6	21%	9	31%	12	41%	1	3%	1	3%

Improvements in math grades

In the evaluation plan, report card math grades were designated as an additional measure of improved academic performance, with the intent of using quarterly grades. However, Anishinabe Academy only issues second, third, and fourth quarter progress reports for fifth grade, and letter grades for grades 6 through 9 at the end of each semester.

At the end of the first quarter, rather than assigning grades, teachers conferenced with parents and guardians at school or made contact with them at home to discuss students’ academic progress. Therefore, semester progress reports and letter grades were the measures used for evaluation of program success. In progress reports, students are rated as having performed above standard grade level expectations, at standard grade level expectations, approaching standard grade level expectation, or below standard grade level expectations.

The 15 fifth-grade students showed marked improvement in grades. At the end of semester 1, none of the students were above standard and seven were evaluated as needing continuous teacher support at the end of semester 1. By the end of semester 2, six students (40%) had improved to the “above standard” level and none remained in need of continuous teacher support (see Figure 8).

8. Improvement in semester progress reports (5th grade only, n=15)

Semester 1	Number	Percent	Semester 2	Number	Percent
Above standard	-	-	Above standard	6	40%
At standard	5	33%	At standard	2	13%
Approaching standard	3	20%	Approaching standard	7	47%
Needs continuous teacher support	7	47%	Needs continuous teacher support	-	-

There was also some improvement in grades among older students, though it was not as consistent across all students. At the end of semester 1, 69 percent of the “engaged” students had a C or better, while at the end of semester 2, 74 percent of these students had achieved at least a C. Six students had improved their grade, including one student who had a failing grade in semester 1 but had improved to a C- by the end of semester 2. Six other students had slightly worse grades by the end of the school year, but none had a grade below C- (see Figure 9).

9. Improvement in semester grades (6th through 9th grade)

Semester 1 (n=13)	Number	Percent	Semester 2* (n=12)	Number	Percent
A	-	-	A	1	8%
A-	2	15%	A-	-	-
B+	-	-	B+	1	8%
B	2	15%	B	2	17%
B-	3	23%	B-	1	8%
C+	1	8%	C+	1	8%
C	1	8%	C	3	25%
C-	2	15%	C-	2	17%
D	-	-	D	1	8%
D-	1	8%	D-	-	-
F	1	8%	F	-	-

* Semester 2 grade not available for one student who left the school before the end of the year.

Student focus group feedback

The American Indian Math Project provides participating students with time, a place, and support staff to help complete their out-of-class math assignments. During the student focus group, most students indicated that this framework worked well for them. When the facilitator asked students in the focus group whether the program had any effect on their confidence that they could do well at math, one of the students replied:

Now I know my multiples. I am good at long division. I have always had confidence, it just helps me have more confidence.

It appeared that most of the students in the focus group did not ever receive homework assignments, especially the younger students. When the facilitator asked one of the 7th-grade students to explain, he said:

[We get] no homework. No preparation. No books.

An 8th-grader who had moved into Minneapolis from the suburbs also added:

I went to Rosemount schools, then here. It was better in Rosemount. Here in Minneapolis, I got bored. We don't get homework [here].

Parent and guardian focus group feedback

Parents and guardians were asked whether they thought their involvement in Family Nights made a difference in how well their children were doing in math. Several commented on how much their children had improved in doing homework and their feelings of accomplishment:

My child has really improved since the beginning of the school year, and he listens...he likes it.

He always does [his homework] every night. He sits by himself in the kitchen. If he needs help I'll come down and help him.

[The program] helps them get back on task with doing homework. She wasn't doing it for a while.

He does do his math at home. He likes to have someone else work with him and help him with his math.

[The program helps the children] better their self-esteem. By doing better in one class, it helps them feel positive about the other classes that they're in. Rewards help keep the kids excited and proud. They want to brag about what happened at school that day, that they feel that way.

[The staff] showed how they're using math for purses some kind of beadwork. Incorporating math into it. Very interesting, something my child is really into, outfits and beading and all that stuff. So for him that was a big activity to get him interested even more in his culture.

Goal 2 outcomes: School connectedness

Federal Teacher Survey student assessments

Teacher responses in the Federal Teacher Survey indicate that the majority of participants made at least slight improvement in coming to school motivated to learn (73%) and behaving well in class (66%). On the other hand, most (97%) demonstrated no change in volunteering to earn extra credit or to accept additional responsibilities. Over one-third of participating students (38%) were assessed by their math teachers as needing no improvement in attending class regularly and getting along well with other students.

The greatest gains in students' active engagement in school were among 5th graders (who comprised 52% of all participants), with decreased gains noted for students in higher grades. Students improved most in the areas of being attentive in class and coming to school motivated to learn (see Figure 10).

10. Improvement in active engagement in school

	Significant improvement		Moderate improvement		Slight improvement		No change		Slight decline		Improvement not needed	
	#	%	#	%	#	%	#	%	#	%	#	%
Volunteering in class	-	-	-	-	1	3%	28	97%	-	-	-	-
Attending class regularly	1	3%	-	-	10	35%	6	21%	1	3%	11	38%
Being attentive in class	-	-	14	48%	12	41%	2	7%	1	3%	-	-
Behaving well in class	-	-	8	28%	11	38%	3	10%	2	7%	5	17%
Coming to school motivated to learn	2	7%	13	45%	6	21%	8	28%	-	-	-	-
Getting along well with other students	1	3%	3	10%	3	10%	10	35%	1	3%	11	38%

Student Connectedness Survey

The Student Connectedness Survey completed by participating students was used to assess changes in how well students are connected to school from their own perspective. The survey was administered to all students who had attended 20 days or more of programming at the American Indian Math Project. The program came very close to its goal of surveying at least 95 percent of enrolled participants, with 94 percent of participating students completing and returning the survey.

Very high proportions of students indicated that they felt welcome at the American Indian Math Project (100%), that they liked being there (87%), that they have friends there (100%), and that there is at least one adult staff person at the program that cares about them (100%). All of the students also agreed that the staff of the program treat them fairly most of the time.

As the parents and guardians indicated in their focus group, most of the students agreed that the staff have high expectations for them. All of the students (100%) said that the staff expects them to do well in school, and 97 percent said the staff expects them to attend school every day. Most (93%) also indicated that they believe their participation in the American Indian Math Program will help them in the future.

Regarding their relationships with program staff, a slightly smaller proportion of the students (83%) reported that the staff helps them with “school stuff” like getting their homework done, and fewer (77%) said that they get to have some say in what they do in the program.

Student focus group feedback

In the student focus group, students said very little about being more or less connected to school as a result of the American Indian Math Project, but when asked what they would change, most of the students participating (all of whom were in 6th, 7th, or 8th grades) said they wished the program activities would start later (4:30 p.m. rather than 4:00 p.m.) so they could have a half-hour more free time outside on the playground. More free time to socialize in a safe space appears to be the primary thing the students wish they had more say about.

Goal 3: Increase capacity of participants to become productive adults

Student attendance at Family Nights and recreational activities

To help participants build pro-school social support networks, the American Indian Math Project hosts recreational activities (Activity Nights) and Family Nights for participants and their family members. Project staff recorded the attendance of both youth and family members at both events to assess participants' level of engagement. To be allowed to attend an Activity Night, students had to attend at least three of the four possible tutoring sessions during the two week period prior to the recreational event. To be considered "engaged" in the program, youth had to attend at least four recreational activities and eight Family Nights per academic year. Altogether, eight Activity Nights and eight Family Nights were offered each semester during the 2007-2008 academic year, for a total of 16 Activity Nights and 16 Family Nights. On average, the "engaged" student participants attended nine Activity Nights and four Family Nights during the year.

Student focus group feedback

When the focus group facilitator asked the students if they thought the program would make them more successful as adults, there was general agreement that it would. When asked how, the students named two benefits that they could see in getting better at math: being able to work in the area of technology and being qualified for jobs that required handling money.

Parent and guardian focus group feedback

In the focus group, parents and guardians commented on the value of the program in providing a positive environment, structure and expectations not just their children, but also for themselves as parents:

It's good [the kids] occupy a better portion of the day after school with something constructive and positive.

Programs like this are important...it's important for teachers and also for us to give us a chance to do what we need to do for them.

[My children] are doing a lot better in the fact that they got kicked out of the group because they didn't appreciate what they were doing, and then they were able to wait time and get back in and really appreciate being part of it.

It was like going back to school [for me]. I count to 10 all the time just doing the things [around the house]. It's something you don't remember if you don't do it all the time.

Goal 4: Increase the engagement and confidence of parents and guardians in supporting students' learning

Family attendance at Family Nights

This goal was assessed using both Family Night attendance records and parent focus groups. The 16 Family Nights provided this academic year gave participating students' families opportunities for academic enrichment, with family members working with students on math games and math problems. Forty family members attended at least one Family Night, and on average each family member attended three Family Night events. All of the family participants were parents or guardians, and most were mothers and grandmothers (83%). Other relatives in attendance at Family Nights included step parents, aunts, uncles, and family friends.

Parent and guardian focus group

In the focus group for parents and guardians, the facilitator asked them whether the program and their involvement in it had an effect on their confidence that they could help their child do well in school. These are some of their responses:

A little bit...it's just doing papers. If you can do it better, when you're sitting at the table and doing stuff with the kids.

[It helps] just to see what they're working on, and understanding what they're learning.

[The program] supports the parents to support the kids.

Things like this are important and parents need the support. I know I need things like that.

Suggested improvements

In both of the focus groups, the facilitator asked the participants for suggestions on how the American Indian Math Project could improve.

Student focus group feedback

As was noted earlier, several of the students were most interested in having the program go later into the evening, starting later and ending later so they had an extra half hour to socialize on the school playground. Being able to spend time more outside and having outdoor recreational activities during Activity Nights appear to be other interests.

All of the students in the focus group enthusiastically supported the idea of being allowed to get a pass to get out of their other classes so they could come to the American Indian Math Project for additional time during the day. The grant initiative that funds the program only allows before-school and after-school programming. The school itself strongly supports the idea of additional math support during the school day, so the Division of Indian Work is exploring other funding sources to support a teacher's time during regular school hours.

Parent focus group feedback

Parents and guardians all felt that their participation during Family Nights had a positive effect on their children's ability to improve their math skills. All were very appreciative of the Family Nights, and some requested that they be held every two weeks rather than once a month. (Though most months there were events every other week.)

Two of the parents and guardians in the group asked that a driving program be added so that it is more available for their teens, but others disagreed and said that there were more youth that needed math. After some discussion, the parents and guardians in the focus group agreed that there is a need for more programs like the American Indian Math Project to help youth with other subjects such as English and reading, but they would not want them to replace the Math program.

Confirming that younger students are more engaged in the program, as was indicated in the results of the Federal Teacher Surveys, parents and guardians noted that there seemed to be an attitude and achievement gap when comparing younger students in the program to older ones. To address this, parents suggested engaging older students as mentors or academic tutors for the younger students, and providing compensation for their efforts:

If you could figure a way to hang on to them and make them teach the younger ones. And help them teach the younger ones.

You can involve [the older students participating in the program], keeping them, maybe find them a job as tutors to the younger ones. Maybe not a lot of money, but a couple hours a week with something they can put in their pockets so they can go buy a shirt or an outfit. That's the biggest thing I know for all of us. When they get to be teenagers they know they need this, they need that but they know if they want something it's up to them to get it.

Recommendations

Overall, the American Indian Math Project has made strong progress towards meeting its stated goals for the first year of operation. Given the program's strong start, the following recommendations are primarily suggestions to build on the existing program foundations.

- 1) Continue working with parents and guardians, and consider adding activities or gatherings that will engage them more frequently.
- 2) Since teachers do not appear to be giving students any math homework, consider assigning some as part of the program in addition to the assignments that they complete at the school during program activities, and go over completed homework assignments as part of the program.
- 3) Consider attending a national conference of youth development programs to identify additional strategies for engaging and retaining older students and parents.
- 4) Consider doing some investigation into the reasons that older students do not stay with the program, and why those that do stay are not improving at the same rate as younger students.
- 5) Consider engaging older students in teaching or mentoring the younger students as a way to retain them in the program.
- 6) When the math program is firmly established, consider replicating it to provide the same kinds of support for other subjects such as English and reading.

Appendix

Focus group questions: Students

Focus group questions: Parents and Guardians

Focus group questions: Students

1. Do you think that this program is helping you do better in math?
 - a. What has changed? (for those that say yes)
 - b. What is keeping you from doing better? (if anyone says no)
2. What are some of the things about the program that have been most helpful to you?
 - a. Information
 - b. Activities
 - c. Strategies
 - d. Relationships with staff
3. Is there anything you would like more of—that you would like us to add to the school or family parts of the program?
4. Is there anything you would like less of—that we could replace with something that would help you more?
5. Has the program had any effect on your confidence that you can do well in school?
 - a. Just math, or other classes, too? (for those that say yes)
 - b. What helped you feel more confident? (for those that say yes)
 - c. Do you think that will make a difference for you in preparing you to become a successful adult?
 - d. What's keeping you from feeling more confident? (for those that say no)
6. Do you feel more connected to school than you did before you started this program?
 - a. What has changed/why do you say that?
7. Have the family nights made a difference in how much your family helps you on your math homework?
 - a. Just math, or other classes, too? (for those that say yes)
 - b. What has changed? (for those that say yes)
 - c. What else could we do at family nights, that might get your family more involved in helping you with math?
8. Do you have any final words of advice for us, for how we can improve the program and help Indian students do well in math?

Focus group questions: Parents and Guardians

1. Do you think that having you, the parents, involved in this program is making a difference for your kids, in how well they are doing in math?
 - a. How do you think that works? (for those that say yes)
 - b. Why not? (if anyone says no)
2. What are some of the things you have done here or learned here, that have been most helpful to you?
 - a. Information
 - b. Activities
 - c. Strategies
3. Is there anything you would like more of—that you would like us to add to the parent or family parts of the program?
4. Is there anything you would like less of—that we could replace with something more useful to you?
5. What are some of your biggest challenges as parents, in helping your kids do well in math?
 - a. What could we do to make that better?
6. Has the program had any effect on your confidence that you can help your child do well in school?
 - a. Just math, or other classes, too?
7. Have you noticed any changes in your child's confidence in their ability to do well at school if they try?
 - a. Just math, or other classes, too?
8. Has your family's involvement in this program helped improve your child's connection to school?
 - a. Why/why not?
9. Do you have any final words of advice for us, for how we can help Indian parents help their kids do well in math?