

NEED FOR PROJECT

(a) *Project services provided to address the needs of students at risk of educational failure.*

Project CBAI (Culture-Based Arts Integration) is a collaborative research-based model designed for American Indian and non-Indian students in grades K-8 to enhance their interest, understanding, enthusiasm, and performance in standards-based arts education, language arts, mathematics, and science. *Project CBAI* builds upon the earlier work of *Project Intersect* an Arts in Education Model Development and Dissemination (AEMDD) project that was a collaborative effort among Cloquet Public Schools (serving as the lead applicant), Fond du Lac Ojibwe School, Carlton County Arts Network, Fond du Lac Tribal and Community College (FDLTCC), the University of Minnesota's Institute on Community Integration (ICI) and Department of Curriculum and Instruction (C&I) Art Education Program, and over 20 local American Indian cultural experts—e.g., artists, crafters, musicians, storytellers, linguists, historians, academics, and others.

By mapping where teaching about American Indian arts and cultures meaningfully intersect with interdisciplinary learning activities involving other core academic subjects *Project CBAI* will develop a new and effective model for integrating Native arts—e.g., performing, design, craft, or fine arts—in culturally responsive standards-based education. *CBAI* is a means for American Indian elders, artists, crafters, linguists, and other tribal leaders who are interested in cultural literacy and local control of schooling (Grande, 2004) to envision what culture-based arts education that increases the relevance of their children's study in all school subjects can look like. *CBAI* is also a model for developing culture-based curriculum that promotes sensitivity and cultural awareness of American Indian societies among all teachers and students, as well as familiarity with the historical and contemporary work of present and past Native artisans. Lastly,

CBAI helps all students respect and appreciate the cultures of others as well as their own (Garcia & Ahler, 1992) in a new space for access, equity, and excellence in K-8 education.

Cloquet Public Schools along with the University of Minnesota's Institute on Community Integration (ICI) and Department of Curriculum and Instruction (C&I) Art Education Program, and The Office of Research Consultation and Services (ORCS) will collaborate with American Indian and non-Indian students in grades K-8 in St. Louis County schools and Terrace Elementary and Carlton Middle School in northeastern Minnesota. Cloquet is a community of 11,200 located in rural northeastern Minnesota on the southern border of the Fond du Lac Indian Reservation. Cloquet School District (ISD 94) was the primary site along with the Fond du Lac Reservation school for the previous AEMDD project in the region, *Project Intersect*.

St. Louis County Schools (ISD #2142) is on the northern edge of the Fond du Lac Reservation and is the most geographically, and culturally, unique school district in the state of Minnesota. The district encompasses almost 5,000 square mile, and is a consolidation of seven separate Pre-K/12 public schools, which represent seven distinct communities, three of which-- AlBrook, Orr and Tower, border reservation lands. The AlBrook School serves the Brookston area of the Fond du Lac Reservation and has a student population is 20% American Indian. The Orr School serves the Nett Lake area of the Bois Forte Reservation and is 36% American Indian. The Tower School serves the Vermilion Lake area of Bois Forte Reservation and is 29% American Indian. The schools of Cherry and Cook have a population of approximately 5% American Indian. The district Indian Education Program concentrates their efforts in these five schools. The remaining two schools, Babbitt and Cotton have less than 10 American Indian students enrolled in their buildings. There are over 290 American Indian students enrolled Pre-K/12 in the district who in turn represent 12% of the district's 2,163 students. The remaining

school district in *Project CBAI*, Carlton County, has 386 students in grades K-8, 60 of which are American Indian. These students are in a total of 15 classrooms in two schools. These school districts have a long history of working collaboratively on federally funded projects to address the academic and social needs of American Indian youth.

Literature on culturally responsive schooling suggests Native students consistently perform lower than their non-Native peers on traditional measures of school achievement, principally because their home cultures are often at odds with the expectations of the dominant society's schools (see for example, Castagno & Brayboy, 2008). This mismatch results in persistent achievement gaps that speak in particular to the quality of education available to Native students and in general to access and equity issues in arts programming for American Indians.

By design, *Project CBAI* will encourage teachers to more closely match the cultures students bring with them from home, while including American Indian conceptions of intellectual/artistic sovereignty and educational self-determination (Deloria & Wildcat, 2001; Charleston, 1994). A 2006 National Indian Education study found that 54% of school principals who serve Native students reported having some form of cultural curriculum in their buildings (Kagle, 2007). Cultural curriculum can be quite different from school to school. Multicultural arts education, for example, risks becoming a reflexive response to teaching Native and non-Native students without regard to the quality or specifics of how various cultures are best reasoned or appropriately used in arts integration (Bequette & Petkau, In Press). Tacking on surface elements of culture, rather than using local Indigenous knowledge as the basis for the culture-based curriculum specific to American Indian tribes and communities (Hermes 2007, 2000; Villegas, 2006) is what Pewewardy terms "inserting culture into the education instead of inserting education into the culture" (quoted in Ladson-Billings, 1997). When Pewewardy's latter conception of culture-based

American Indian education works well it contributes to improving many Native students' identity, self-esteem, and social response to schooling (see for example, Dehyle & Swisher, 1997).

The arts continue to play a role in cultural continuity, helping stabilize unique Indigenous cultures and carry on the identities and accomplishments of various tribes (McCarty, 2002; McFee, 1995). Curriculum rich in ethnic content positively boosts the primary cultural identity of American Indian students (Lysne & Levy, 1997; Martinez & Dukes, 1997). Culturally compatible teaching methods are critical to working with students whose family cultures are not reflected in the dominate culture (Phillips, 1983) of most non-Native teachers. More relevant curriculum that is constructed collaboratively by American Indian community members—e.g., crafters, artists, musicians, linguists, historians, and others—and in-school stakeholders like teachers and administrators better promotes cultural learning as a bicultural process of acquiring knowledge (Agbo, 2004, 2001; McCarty, 2002).

Carroll (1990) posits that art—because it connects humans to their universal identity as well as their past, present, and future—represents different ways of knowing the self, and can help address students' need to understand themselves and their world. This approach to arts education creates a learning environment where children, American Indian and non-Indian alike, gain basic skills within two cultures that are both critically needed for academic and social preparedness. A smaller body of scholarship points to the importance of recognizing all voices in the classroom (see for example Ballengee-Morris & Stuhr, 2001), ensuring that Indigenous students are not silenced in the schooling process (Belgarde, et al., 2002). Doing so in turn leads to more culturally responsive educational experiences and student empowerment (Nieto, 2004; Gay, 2000; Reyhner, 1992). Other research points to the enhanced learning outcomes for both Native and non-Native students when tribally focused curricula is used in academic areas such as

mathematics (Lipka, 1990; Lipka & Adams, 2003; Lipka, Hogan et al., 2005; Lipka, Sharp, et al, 2007), science, and literacy.

At its core, culturally responsive teaching assumes educators are more culturally competent (Gay, 2000). This competency can manifest itself in many ways. Cleary and Peacock (1998) suggest that teachers can better motivate student learning if they connect Native youth “to the human need for self-determination” (p. 212). In other words, teachers who know how to competently develop efficacy for the schooling process using lessons that forefront cultural relevance in core subjects can engage Native students to understand and act on the world around them. This speaks to the importance of teachers engaging in the process of constructing an accessible and equitable space of cultural learning, rather than just implementing a “cultural curriculum.” Assuming teachers should embrace critical perspectives of culture and pedagogy, Hermes’ (2000) argues that ongoing reflection and questioning of identity, assumptions, and beliefs are necessary for successful teacher engagement with culture-based integration and culturally responsive instruction.

Building on findings from *Project Intersect*, the new *Project CBAI* will:

- (a) partner with local American Indian artists, crafters, musicians, storytellers, linguists, and others to identify culturally responsive American Indian visual and performing arts experiences deemed appropriate for inclusion in K-8 arts education;
- (b) integrate those American Indian culture-based arts activities into language arts, mathematics, and science education;
- (c) ensure that this American Indian arts-based curriculum is aligned with state and national benchmarks and content standards in the visual and performing arts, language arts, mathematics, and science;

(d) research the effectiveness of using an integrated, culture-based arts education model to improve American Indian and non-Indian students' engagement with arts and culture activities that by design enhance and/or remediate learning specific to academic standards in other core subjects, as well as students' social response to schooling, including attendance, personal behavior, grade completion; and lastly,

(e) disseminate program results and outcomes for national and statewide replication.

A number of local Native scholars and artists informed the culture-based arts integration work begun by *Project Intersect* (Hermes, 2000, 2007; Peacock & Wisuri, 2002; Cleary & Peacock, 1998; Grover, 1999; Gawboy, 2009; Morton & Gawboy, 2003). And it is with the support and continued collaboration of these and other Minnesota Native cultural practitioners that *Project CBAI* is poised to contribute to the scholarship on culturally responsive schooling and the academic and social potential of this new model for arts education.

(b) Identified specific gaps/weaknesses in services, infrastructure, or opportunities addressed.

Carlton Schools includes one elementary school and one middle school with a combined enrollment of 386 students, of which approximately 60 are American Indian. The elementary grades (1-5) have been in corrective action for two years. St. Louis County Schools include seven schools with a combined enrollment of 1,231 in grades K-8 of which 171 are American Indian. The St. Louis County School District is also in corrective action. Tables 1 and 2 illustrate the 2009 Minnesota Comprehensive Assessment II (MCAII) scores in both groups as compared to the statewide average proficiency. Clearly these scores indicate that as students from the nine schools advance the disparity in their scores, especially in mathematics, increases dramatically compared to state average proficiencies.

Table 1. 2009 MATHEMATICS Proficiency of Students Passing the MCAII: Project Schools vs. All Minnesota Schools			
Grade	Terrace Elementary & Carlton Middle School: <i>2 schools</i> : (Difference from MN)	St. Louis County: <i>7 schools</i> (Difference from MN)	MN Proficiency % by grade
3 rd	89.47% : (+7.38%)	85%: (+2.91%)	82.09%
5 th	45.15%: (-20.29%)	53%: (+12.44%)	65.44%
7 th	38.46%: (-24.16%)	40%: (-22.62%)	62.62%
8 th	47.91%: (-11.74%)	38%: (-21.65%)	59.65%

Table 2. 2009 READING Proficiency of Students Passing the MCAII: Project Schools vs. All Minnesota Schools			
Grade	Terrace Elementary & Carlton Middle School: <i>2 schools</i> (Difference from MN)	St. Louis County: <i>7 schools</i> (Difference from MN)	MN Proficiency % by grade
3 rd	81.08%: (-2.76%)	87%: (+8.68%)	78.32%
5 th	79.48%: (+7.25%)	72%: (-.23%)	72.23%
7 th	53.84%: (-10.96%)	48%: (-16.80%)	64.80%
8 th	64.58%: (-2.21%)	51%: (-15.79%)	66.79%

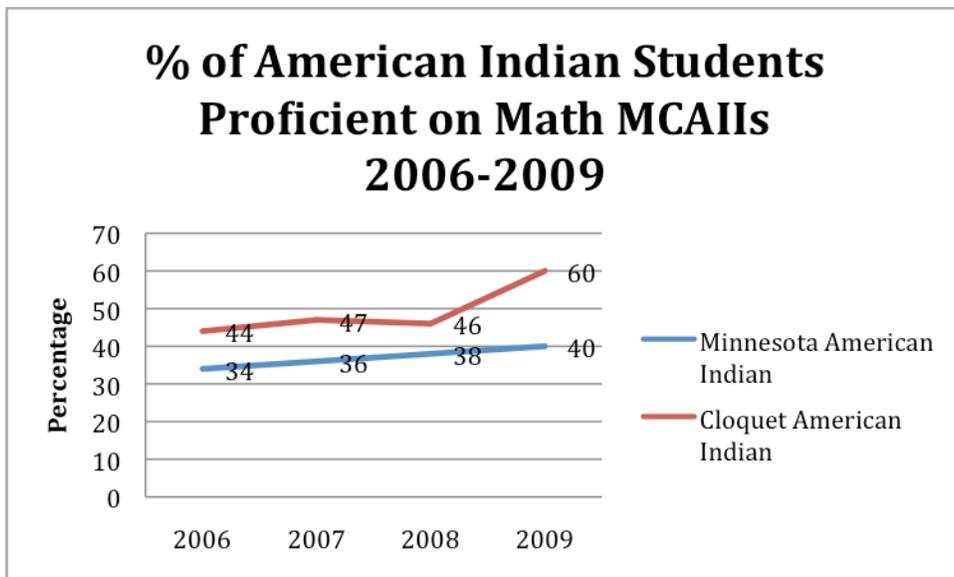
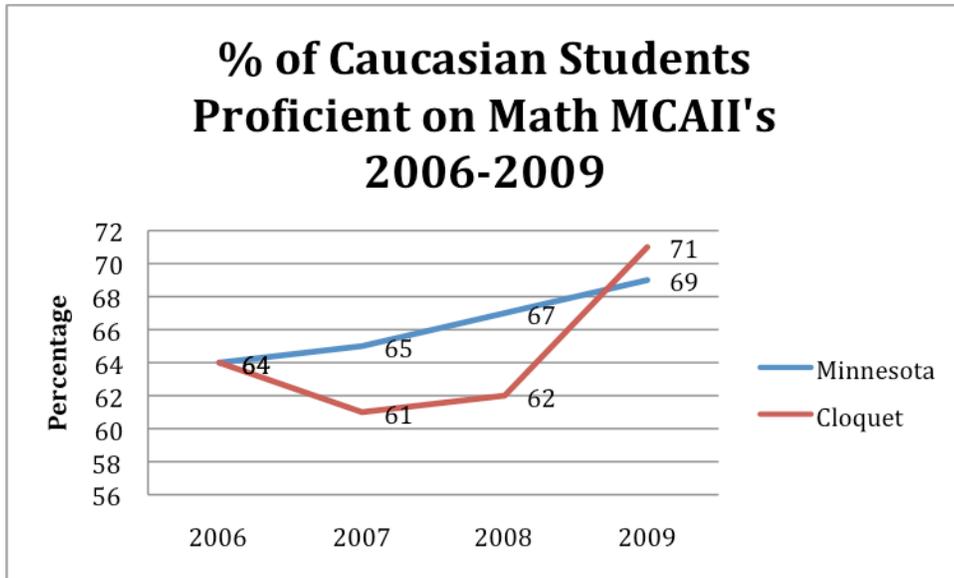
Note: Science MCA testing was added in 2010, thus scores are not yet available.

SIGNIFICANCE

Project CBAI is based on lessons learned from “*Intersecting Cultures: Where Anishinaabe Arts Overlap with Standards-based Curriculum*” funded by AEMDD: 2006-2010 (known as *Project Intersect*). District 94 (Cloquet) as the prime agency in both *Project Intersect* and *Project CBAI* will take the best of the best, including former teacher mentors from *Project Intersect* to expand and enhance the district’s ongoing collaborative relationship with neighboring school districts with similar populations of Ojibwe school children in grades K-8 to focus on integrating Ojibwe arts and culture with mathematics, language arts, science, social studies, and arts curriculum. Significant outcomes from *Project Intersect* that will be expanded in *Project CBAI* are specific to students, teachers, and American Indian community members who were involved in *Project Intersect* include:

Student outcomes:

- Attendance improved, with gains ranging from slight to significant: The first cohort of 55 students at the Fond du Lac Ojibwe School, had average daily attendance increases between the baseline (2006-07) and the first project implementation year (2007-08) of 12%. The attendance of the 41 Fond du Lac students in the 2008-2009 cohort improved by 4%. Gains in Cloquet public schools were present but not significant.
- Student mathematics proficiency increased district-wide K-8 for Cloquet and exceeded the Minnesota state average for both Caucasian and American Indian populations, as measured by MCAII standardized test scores (see charts below and note 2006 is baseline year).



- Increased self-esteem was realized among American Indian students: The introduction of Project Intersect resulted in increased self-esteem for many American Indian students who attend the public schools when their culture was studied and celebrated with non-Indian students, based on anecdotal information provided by students and teachers.

Teacher outcomes:

- Classroom teacher participation in training and lesson plan implementation: Over the course of three summer institutes, a total of 51 out of the 100 K-8 teachers employed by Cloquet and Fond du Lac schools were selected and participated, 50% of the total teachers.
- Teachers showed increased understanding of Ojibwe arts, cultural elements, and confidence in presenting Ojibwe arts and culture activities: Teachers who participated in *Project Intersect* training showed significant gains in content knowledge. Pre-post assessments administered during the 2008 Summer Institute showed significant gains in teachers' basic knowledge about Ojibwe culture, as shown by items answered correctly or incorrectly.
- Teachers became mentors to other teachers: Over half of *Project Intersect* teachers serve as mentors after completing their year of active project involvement, enhancing and increasing confidence and skills with other classroom teachers. (Many of these mentors will continue their role with new *Project CBAI* teachers).

The amount of classroom time teachers devoted to integration of arts into regular curricular activities increased: Based on a district-wide survey to all K-8 teachers in Cloquet and Fond du Lac over three years of the project, responses in the “less than 30 minutes per week” category went down for Cloquet in 2008 and up for FDL. The “not used” response was marked less frequently for both districts. **American Indian community outcomes:**

- It was important/valued that local tribal elders, artists, and other local American Indians developed *Project Intersect* structure and content: This was anecdotally reported in interviews conducted for program evaluation.

- Local appreciation increased for the value of Ojibwe art and culture in public education: Ojibwe artists and other cultural experts reported teachers became invested and made evident the belief that American Indian youth and communities contributed greatly to classroom learning.

In addition to these outcomes, the utility of *Project CBAI* will be made evident by: (1) continued data collection on the already-developed *Project Intersect* model of culture-based arts integration; (2) the achievement of students and teacher outcomes; (3) the development of sustainable social networking capabilities; and (4) tracking the degree to which teachers are accessing (via the *CBAI* website) all developed lesson plans, units, and resources.

Replication materials will emphasize the importance of social networking for these remote sites via written materials, live chats, blogs, a listserv, etc. to provide responsive technical assistance, and communication with the initial purpose of supporting project participants (teachers, artists, community members, and others) progress toward meeting project goals. However, by Year Two of *Project CBAI*, the website will house new resources—video clips of lessons designed by *CBAI* participants, new lesson plans, and other materials that will be accessible to the public at large.

By Years Three and Four preliminary data and results of the project, as well as research articles will be available to a national audience on the website with an emphasis on practical applications and replication. University of Minnesota staff will evaluate quality, usefulness, and effectiveness of technical assistance provided to project staff on an ongoing basis to ensure the needs of *CBAI* teachers are being met prior to access to a national audience. National and state audiences will include: Minnesota tribal organizations, Indian Education staff statewide, the Bureau of Indian Affairs, the Minnesota Department of Education, U.S. Department of Education, and

such journals as *Tribal College Journal*, *Winds of Change*, and *Journal for Research in Mathematics Education*, *Cultural Studies of Science Education*, *Journal of Cultural Research in Art Education*, and others.

The University of Minnesota will assume the primary responsibility for dissemination of project products with support from all other collaborators. In addition, a database of participants at local, state, and national conferences as well as those accessing project products and technical assistance on the website will be compiled. By the end of the project, *CBAI* will be a significant contributor to the current body of knowledge regarding the development of effective, culturally relevant models of instruction that can be replicated by others to increase the numbers of students, both American Indian and non-Indian, who successfully meet state and national standards via the project's invention strategies.

Project CBAI will create important opportunities to increase collaboration between American Indian and non-Indian communities in St Louis, Cloquet, Fond du Lac, and Carlton along with local and regional artists. In addition, project staff will collaborate with key state and national organizations. Key collaborators will include:

1. Bureau of Indian Affairs schools statewide and nationally
2. U.S. Department of Education
3. Minnesota Department of Education
4. Minnesota Indian Education Association
5. National Indian Education Association
6. United States Society for Education Through Art (USSEA)
7. Art Educators of Minnesota
8. International Society for Education through Art (INSEA)

QUALITY OF PROJECT DESIGN

Based on the **Absolute Priority** under 34 CFR 75.105 (c) (3) of the application, *Project CBAI* is a model to enhance, expand, document, evaluate, and disseminate an innovative and cohesive model based on research with demonstrated effectiveness in (1) integrating standards-based arts education into the core elementary and middle school curriculum, 2) strengthen standards-based arts instruction in the these grades, and (3) improve the academic performance of students in these grades including their skills in creating, performing, and responding to the arts.

The overall purposes of *Project CBAI* are to: (1) develop a local arts approach to integrate culturally responsive instructional methods in content areas inclusive of state and national arts standards as well as state American Indian standards; (2) develop a research design to assess the effectiveness of proposed interventions and strategies; (3) develop culturally responsive instructional strategies in grades 1-8; (4) implement the combined intervention in grades 1-8 core content areas and arts classrooms; (5) evaluate the effectiveness of the culturally integrated arts model in improving student academic performance in reading, mathematics, and science as well as in creating, performing, and responding to the arts; (6) disseminate the findings of this combined approach to local, state, and national audiences for replication. We will build upon data, results, and conclusions in our previous AEMDD project, *Project Intersect*, to enhance and expand the successful concepts of culturally responsive integrated arts education.

Project Objective 1: Establish An Arts & Culture Advisory Committee.

1.1 Establish An Arts and Culture Advisory Committee (ACAC). The ACAC will be developed in the first two months of the project. The purpose of the ACAC will be to work with CBAI staff to find local and regional Ojibwe artists who will work closely with teachers to (a) illustrate and demonstrate Ojibwe culture, language, and arts; (b) assist in lesson plan develop-

ment to create culture-based integrated lessons; and (c) be guest speakers/presenters in classrooms to enhance students; exposure to Ojibwe culture, language, and arts. Members of the ACAC will be selected based on their ability to provide essential linkages between the American Indian community, the elementary and middle schools, and the Indian Education Parent Committees. Team members will also represent University of Minnesota art education faculty, Institute on Community Integration research staff, as well as Cloquet Public Schools, Fond du Lac Ojibwe School, Carlton, and St. Louis County schools. As conceptualized, the ACAC will consist of 20-25 members, with at least 50% American Indian representation. The ACAC will meet twice a year throughout the project and be active participants on the *CBAI* website development and Internet interactions with project participants.

1.2 Develop Local Arts Committee (LAC) as a subset to the ACAC. The nine schools participating in *Project CBAI* cover over 200 miles, with each school at least 30 miles away from the next. Because of this distance schools/communities will establish three regionally located LAC's. One LAC will bring together community members from Cook, Babbitt, Tower, and Orr; a second will combine AIBrook, Cotton, and Cherry; and the third will include Carlton schools. These LAC's will be small with six-eight members who are closely associated with the local cultural, language, and arts resources of the area. They will meet quarterly throughout the project with two of the four annual meetings combined with the whole ACAC and have access to the *CBAI* website for interaction with all project participants on an ongoing basis. In order to develop a local arts approach when integrating culture-based arts content and instruction in language arts, mathematics, and science curricula, the LACs will help identify what and how traditional and contemporary arts knowledge should be passed on to youth as well as provide guidance on which community members may be contacted for their cul-

ture, language, and arts expertise.

Project Objective 2: Train and support teachers to seamlessly integrate American Indian art concepts and standards into current curriculum.

2.1 Provide training. Utilizing local American Indian culture and arts resources and lessons learned from the previous AEMDD Project, *Project Intersect*, CBAI staff will provide teacher training in several ways to support and strengthen the implementation of state and national arts, language arts, mathematics, and science standards into curriculum content and instruction. These will include: (a) a five-day summer institute, including lesson development time, hosted each June of the project period to provide both intensive exposure to Ojibwe culture, language, and arts content and strategies for integrating these concepts into standards-based curricula; (b) three after school trainings sessions during the year for all project teachers to expand their knowledge of local cultural resources and share their developed lesson ideas; (c) one all-day workshop held during school hours to revisit CBAI goals and learn new strategies for arts integration in core subjects; and (d) ongoing introduction to local American Indians willing to teach/model Ojibwe culture, language, and arts activities in classrooms.

More specifically, training will include strategies for: (a) utilizing culturally appropriate content at each grade level; (b) seamlessly integrating American Indian arts concepts into standards-based language arts, mathematics, science, and arts curriculum for grades 1-8 (see Table 3 for examples); and (c) identifying Minnesota American Indian arts and cultural resources, both human and material, locally, regionally, and statewide. Teachers will also be introduced to different ways American Indian art has been represented since first contact, in-

cluding models of: (a) Traditional—art forms made the “old way”; (b) Derivative—art forms often made with modern materials but resembling historical art; (c) Contemporary—art forms made using Western media but often thematically American Indian via political innuendo or design motif; and (d) Pan-Indian—neo-traditional art forms that represent an amalgam of Native styles and reflect the contact of Indigenous peoples of the Americas with each other. Implementation examples and strategies will be provided through training and teachers will receive release time stipends to participate in training. The Project Director (PD) and Project Coordinator (PC) will develop and organize training with support of the PI and Co-PI.

Table 3: Examples of Culturally Integrated Topics and Minnesota Arts, Language Arts, Mathematics, and Science Benchmarks			
Topic Area: <i>Wild Rice harvest process</i> by visually creating a math story problem incorporating Ojibwe language to enrich the illustration and understanding of the life process of wild rice.			
Visual Art Benchmark	Language Arts Benchmark	Math Benchmark	Science Benchmark
Create/Make Strand II: 5.1.1 Create/ make art in a variety of contexts using the artistic foundations.	Speaking/ Listening: Strand III: 5.1.3 Demonstrate understanding/ communicate effectively through listening/speaking. Vocabulary	Number & Operation – Strand II: 5.1 .1.4: Solve real world & mathematical problems requiring addition, subtraction, multiplication, division of multi-digit whole numbers. Use various	Earth/ Space Strand III: 5.4.1.1: Human Interactions with Earth Systems. Interaction with environment Physical Science Strand II: 5.4 .1.1 Human Interactions with Physical Systems.

<p>1. Create original works of art to express specific artistic ideas.</p>	<p>Expansion: Use word reference materials to understand/express meaning.</p>	<p>strategies, technology, & problem context to assess reasonableness of results.</p>	<p>Interaction with environment.</p>
<p>Topic: <i>Ojibwe migration story</i> as taught by community elders. Create journey map to scale, using canvas and paint; Visually document journey using clay model canoes on map. Apply observations, questions, hypothesis while journaling and creatively writing about travel path.</p>			
<p>Artistic Foundations Benchmark</p>	<p>Reading and Literature Benchmark</p>	<p>Number Sense. Computation/ Operations Benchmark</p>	<p>History/Nature of Science Benchmark</p>
<p>Strand I 2.1 Understand/apply media, techniques, processes Per-form/present Strand III Choose/evaluate range of subject matter, symbols, ideas</p>	<p>Strand I.2.1. Word Recognition, Analysis, and Fluency Vocabulary, Expansion, Comprehension Literature/Writing Strand II 2.2. Types of Writing, Elements of Composition, Spelling, Grammar, and Language, Handwriting and Word Process-</p>	<p>Strand II. 2.1.1 Number Sense, Computation and Operation; Patterns, Functions. Algebra: Strand III. 2.1.1 Patterns and Functions, Algebra (Algebraic Thinking); Data Analysis, Statistics, And Probability: Strand IV. 2.1.2. Data and Statistics;</p>	<p>Strand I.2.1 Scientific World View, Scientific Structure Inquiry; Physical Science Strand II. 2.1.4 Motion; Earth/Space Science Strand III. 2.1 Earth Structure and Processes; Life Science: Strand</p>

Respond/ critique: Strand IV: Understand- ing visual arts related to his- tory/culture	ing; Speaking, Listening, and View- ing: Strand III.2.2.1 Speaking/Listening/ Viewing.	Spatial Sense, Geometry, And Measurement: Strand V. 2.1 Spatial Sense, Ge- ometry, and Measurement.	IV. 2.3 Interdepend- ence of Life, Flow of Matter and Energy, Human Organism.
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2.2 Provide continuous technical assistance and consultation to K-8 teachers. As the specific interventions and teaching strategies are integrated within the curriculum and classroom instruction, project staff will provide ongoing technical assistance (TA), consultation, and additional training at each school. TA will include, but not be limited to: (1) facilitating on line listserv discussions and blogs; providing webcasts on specific topics related to cultural integration, lesson plan development to ensure arts content and standards are integrated into strategies and methods; (2) reviewing and consulting individually on the extent to which the use of guest artists is supporting teachers reaching their academic goals; (3) ensuring that the interventions are consistently implemented as designed (treatment fidelity); and (4) allowing for regular examination of student progress and collection of pertinent research and evaluation data.

2.3 Connect current project participants with mentors from Project Intersect. Select teachers from *Project Intersect* will act as mentors to *CBAI* participants by sharing lessons, strategies, resources, and ideas on site or via listserv, webcast, teleconferences, and group training sessions. This allows for *CBAI* teachers to glean skills and experiences learned from adept teachers implementing the same strategies as they are learning. It also rewards and encourages previous project participants to continue their culture-based integration work.

Project Objective 3: Implementation interventions and research strategies.

3.1 Project Research Design. There are nine public schools participating in this CBAI study, from eight small towns (pop. 91 to 1593) in northern Minnesota. All of these schools have one classroom each in grades K-8 grade. Although otherwise similar, the schools are quite disparate in regard to the extent of their American Indian enrollment. (See Table 3.)

In Year 1, each school will be randomly assigned to one of two treatment conditions. In Condition 1, grades Kindergarten, 2, 4, 6 and 8 will receive training as developed by the *Project Intersect* model in Year 1 of the project, along with access to resources needed for implementation (community artists, material, etc.). The remaining grades (1, 3, 5 and 7) will serve as controls during this year. Condition 2 is the reverse: Grades 1, 3, 5 and 7 will receive the treatment intervention; grades Kindergarten, 2, 4, 6 and 8 will serve as controls. In this way, there will be an equal number of classrooms (36) in each condition and an equal number of schools (4).

In Year 2, additional teachers will be trained in accordance with the study plan agreed upon by the design team. All public school teachers who wish to participate will be added at this time.

3.2 Determining Outcome Measures. The study will reference the Minnesota Comprehensive Assessments II (MCAII) as standardized measures of achievement in mathematics and reading. These assessments are given to all Minnesota students beginning in grade 3. Kindergarten students will be assessed via the district's standard pre-K and post-K school-readiness assessment. While performance in mathematics and reading as measured by the MCA II is an outcome of interest, the MCAIIs are not administered at each grade level represented in this study. In order to test for treatment effect, students in grades Kindergarten through 8th grade, both students in a treatment group and those in the control, will be administered a pre-test at the beginning of year 1, followed by a post-test at the end of each year in reading and mathematics. These pre and post-tests will be standardized and grade-specific. Gain scores in these tests will reflect the out-

come of interest. Mean differences in these gain scores (between the treatment and control groups) will reflect differences in treatment effect.

In addition, students will be asked to complete a questionnaire designed by the study team to assess the nature and extent of out-of-school arts exposure and participation. (K-2 students will complete this with their teachers' assistance.) A questionnaire will also be developed to assess each teacher's background and interest in the arts. Data from both questionnaires will be used to help understand project impact, and how contextual variables affect outcomes. The Office of Research Consultation and Services (ORCS) at the University of Minnesota, College of Educational and Human Development has agreed to review survey development, research and evaluation design.

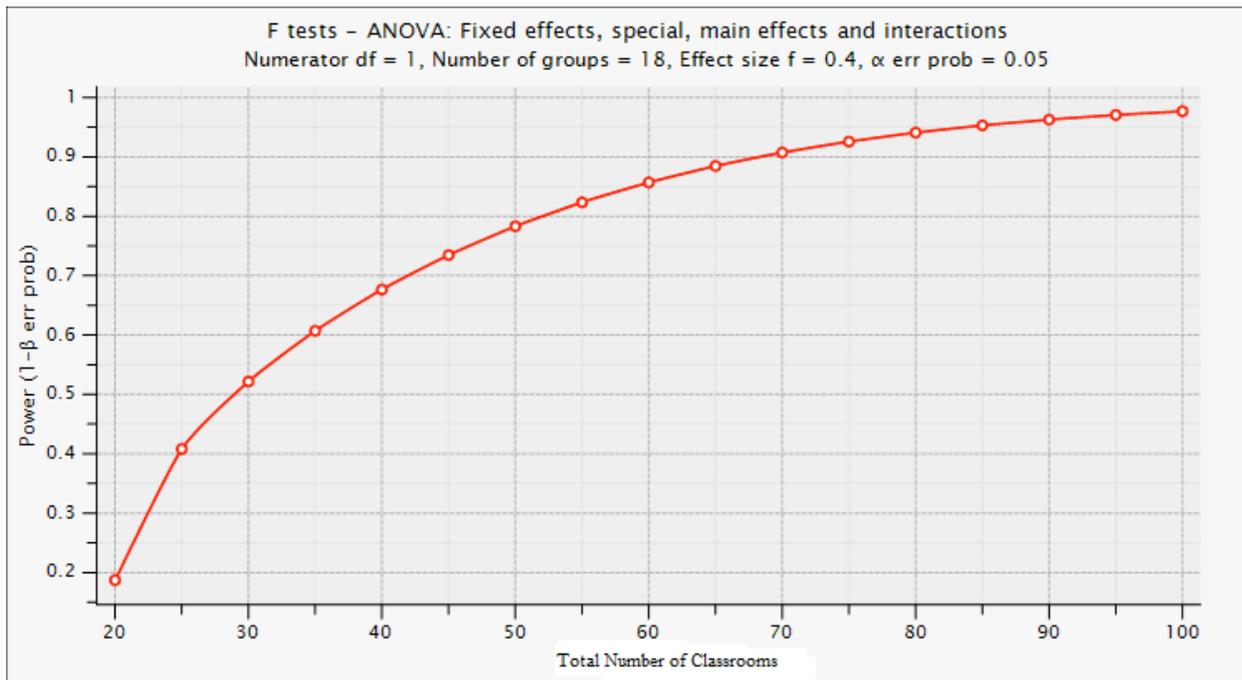
3.4 Data Analysis Year 1. Table 4 illustrates the distribution of students in classes in the participating schools in September 2009. In 2009, the total number of students was 1632.

Grades	Carlton	Cook	Babbitt	Tower	Orr	AlBrook	Cotton	Cherry
% American Indian	17%	5%	<10 stud	29%	36%	20%	<10 stud	5%
K	36	28	27	20	13	20	14	25
1	50	26	24	11	7	20	18	36
2	52	32	12	18	10	19	11	15
3	42	37	23	22	5	21	10	28
4	34	29	18	11	12	27	13	14
5	49	21	28	17	7	25	11	28
6	35	34	29	15	16	28	15	32
7	34	21	22	17	24	24	8	15

8	27	26	15	21	35	25	9	29
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Because classrooms are randomly assigned to either a treatment or control group, the test for mean differences in gain scores in mathematics, reading, and science will be assessed using a 2-way factorial Analysis of Variance (ANOVA) with an intervention effect and 9 grade levels as the independent variables. For the assessment of MCAII data, grades for which the MCAIIs are administered (grades 3, 5, and 8) will be compared across treatment and control classrooms as well as between similar schools in the state of Minnesota that did not participate in this study.

Power: There will be 72 classrooms randomly assigned. If there were an effect size of $f=0.4$ for the intervention on the gain scores of students, the estimated statistical power for detecting a significant treatment effect among the classrooms in the two way analysis of variance is .92. This value was calculated using Gpower*3 (Erdfeiler, Faul, & Buchner, 1996). GPOWER: A general power analysis program. *Behavior Research Methods, Instruments, & Computers*, 28, 1-11).



Years 2 and 3: While the collection of data at the onset of the study represents a cross-sectional design, subsequent years of the study will incorporate more classrooms into the treatment condition. As the study moves beyond the first year of data collection, the data analysis design will take on a longitudinal nature. Again, because MCAII data is not collected for each grade level, changes in gain scores will serve as an outcome of interest in the longitudinal study. The longitudinal analyses will be carried out using a two-level multilevel model with repeated measures at level 1 and students at level 2. Students will either be in a control classroom or a treatment classroom during the first year, but subsequent years will have changes in the number of classrooms that participate in the treatment condition, being in a treatment classroom will be treated as a time-varying covariate at level 1 of the longitudinal model.

Level 1 (the repeated measures level) of the longitudinal model fit to the data will take the form:

$Y_{t_i} = \pi_{0_i} + \pi_{1_i} a_{t_i} + \pi_{2_i} b_{t_i} + e_{t_i}$, where Y_{t_i} is the gain score (from the pre to post-test gain) of student i in year t , a_{t_i} indicates a particular year (with the values of 0, 1, 2), b_{t_i} = time-varying predictor reflecting being in a treatment classroom, π_{0_i} is the intercept of student i at $a_t = 0$ which reflects their first gain score, π_{1_i} is the slope of student i reflecting the linear trajectory of gain scores over years adjusted for being in a treatment classroom, π_{2_i} is the slope of student i reflecting the impact of being in a treatment classroom over years, and e_{t_i} is the within-student error [$e_{t_i} \sim N(0, \sigma_i^2)$].

At level 2 (the student level), the effect of predictors at level 2 are allowed to vary across individuals.

The level 2 model takes the form:

$$\pi_{0_i} = \beta_{00} + \sum_q \beta_{0q} X_{qi} + r_{0_i}$$

$$\pi_{1_i} = \beta_{10} + \sum_q \beta_{1q} X_{qi} + r_{1_i}$$

$$\pi_{2_i} = \beta_{20} + \sum_q \beta_{2q} X_{qi} + r_{2_i}$$

X_{qi} is a student-level predictor used to explain variation in intercepts (π_{0_i}) and slopes (π_{1_i}, π_{2_i}), r_{0_i} , r_{1_i} , and r_{2_i} represent error terms of these equations for the i th student and are assumed to follow a multivariate-normal distribution with variances τ_{00} , τ_{11} , and τ_{22} , respectively (Raudenbush & Bryk, 2002). This allows us to test secondary hypotheses such as the disparate effect of the treatment on American Indians. The student-level predictors included in this longitudinal model X_{qi} include variables such as gender, and being American Indian or not being American Indian, among other variables describing the student. A positive, statistically significant coefficient for the student-level predictor; being American Indian or not being American Indian at the level-2 model of π_{2_i} will indicate whether American Indians benefit differently from the treatment than Non-American Indians (i.e. have more of an increase in gain scores over time). Grade level will also be used as a time-varying covariate in the longitudinal model.

Initial analyses will be employed to describe student participation and outcomes given their exposure to the intervention. We will also monitor additional secondary outcomes (e.g., attendance) that are relevant to school performance under No Child Left Behind monitoring and AYP performance. Simultaneously, we will assess teacher outcomes from their participation in the arts programming efforts and professional development activities. These descriptive analyses will allow us to develop a rich description of the program and complement the experimental design assessing the hypotheses regarding overall impact on students' creation, performance, and re-

sponses to arts in these schools. We are also interested in the secondary outcomes of cultural awareness and the role of culture in student outcomes as we examine differences in outcomes for American Indian and non-Indian students. Finally, an independent set of analyses will be conducted on teacher outcomes, including their own knowledge and practices regarding arts-related content and pedagogy.

In both cases, assessing impact on students and teachers, length of time participating in the intervention will be an important contextual variable. These analyses will be completed at the end of each school year, while data collection and performance monitoring data will be collected throughout the year. Each year, as additional data are collected, the modeling will move from a simple comparison of the intervention to a longitudinal model of effectiveness over time, given length of time receiving the intervention.

Project Objective 4: Disseminate of project strategies and results.

4.1 Technology development. Members of the Technology Team at ICI will work with CBAI staff to develop effective technical assistance, communication, social networking, and dissemination strategies via the Internet with the initial purpose of supporting continuous contact, TA, and progress toward goals for all participants in the project. We are very aware of the distance between sites and the isolation teachers can feel when implementing new strategies and ideas. Therefore, our main commitment early in the project is dissemination to bridge the miles and create natural bonds between project participants. To that end, in the first three months of the project we will expand the website developed from *Project Intersect* to include a variety of resources and strategies for easy access to TA. The website will be accessible from the ICI website. ICI has a history of high-quality product development and broad dissemination. ICI maintains over 25 independent Web sites that are used by literally thousands of individuals daily.

4.2. Access to Project Intersect lesson plans, resources, and mentors. In the first three months of the project we will conduct an inventory of the computer capabilities of each school in order to create the best experience for all project participants. In the first year, the current project participants will be connected via the Internet to successful strategies, resources, lesson plans, and teachers from *Project Intersect*. Not meant to be a “copy what I did” model, *CBAI* staff will share previously created lesson plans with the purpose of sharing models and helping new participants gain understanding into culturally and artistically congruent lessons.

4.3 Expansion of online resources. By Year Two of *Project CBAI*, the website will be generating ongoing new resources, video clips of lessons designed by *CBAI* participants, new lesson plans, etc. the website will expand to a broader audience and be open to the general public for access. Project staff will monitor its use and respond to inquiries on a local, state, and national level.

4.4 Broad dissemination statewide and nationally. By Years Three and Four project staff will be disseminating preliminary data and results of the project, writing articles for national publications. Examples of national and state sources include Minnesota tribal organizations and Indian Education staff, the Bureau of Indian Affairs, the U.S. Department of Education, and journals such as *Tribal College Journal*, *Winds of Change*, and *Journal for Research in Mathematics Education*, *Cultural Studies of Science Education*, *Journal of Cultural Research in Art Education*, and others.

4.5 Present project findings at regional, state, and national conferences. With an emphasis on practical applications and replication, presentations will be given at state and national conferences. Presentation content will be developed and delivered by project staff and project will include information about the *CBAI* model. Presentations will be given at the MIEA (Minnesota

Indian Education Association), NIEA (National Indian Education Association), Art Educators of Minnesota, National Art Education Association (NAEA), and United States Society for Education through Art (USSEA).

4.6 Replication of Project Activities or Strategies. The project will contribute to the current body of knowledge regarding the development of effective, culturally relevant models of instruction that can be replicated by others to increase the numbers of students, both American Indian and non-Indian, who successfully meet state and national standards. This will occur through: (1) replication of lessons and accessibility to all project activities and resources via the *CBAI* website; (2) onsite technical assistance, and (3) presentations at local, state, and national conferences.

QUALITY OF PROJECT PERSONNEL

See Appendix B for vitae of key personnel

Principal Investigator (*Cloquet Public Schools*) Ken Scarbrough will serve as Principal Investigator (PI) for *Project Intersect* at 5% FTE. Mr. Scarbrough has extensive experience managing state and federal grants. As PI for *Project CBAI*, Mr. Scarbrough will assume primary responsibility for budgetary management, hiring, supervision, federal reporting, and communicating with the project officer.

Project Director (*Cloquet Public Schools*): Connie Hyde will assume the role of Project Director (PD) at 30% FTE. In this role she will coordinate with the clerical staff and project coordinator to ensure that mentors' stipends are processed efficiently, and will coordinate the Summer Institute for teachers each year. Ms. Hyde was the PD for *Project Intersect*, works in the Cloquet School District, and has a background in art education and curriculum development. She has a passion for the work of the project and is energized to continue and expand the work.

Clerical staff (*Cloquet Public Schools*): Misty Tyman will assume the role of secretary for

the project at 50% FTE. In this role she will collect data as requested by the evaluator, process purchases and stipend paperwork for teachers, and assist in the coordination of all meetings with ACAC and LACs. Ms. Tyman has been a very effective and necessary link in *Project Intersect* assuming similar duties and understands the process and will be effective support to the project.

Subcontract: Project Coordinator (PC): Ms. Tara Graves, from the Fond du Lac Reservation (FDL) Ojibwe School will serve at 100% FTE as the PC. Ms. Graves was in the first teacher cohort of Project Intersect as a teacher at the FDL Ojibwe School and in Year three became the PC. In that role she worked in classrooms with teachers on their implementation strategies and coordinated training and the Summer Institute. She has a Master's degree in Education and is a FDL Ojibwe descendant.

Subcontractor Principal Investigator (PI): Dr. Jean E. Ness will be the PI of the subcontract with the University of Minnesota at 15% effort. Ness was the PI on *Project Intersect*. Ness has an extensive background working with Ojibwe in northern Minnesota on curriculum design and implementation. Ness has managed federally funded projects for over 15 years in Indian country. She is a former elementary and special educator and has broad knowledge in classroom integration activities. She will take the lead in the financial management of the project. Ness along with the Co-PI will manage the extensive dissemination plans in this proposal.

Subcontractor Co-Principal Investigator (Co-PI): Dr. James Bequette will be the subcontractor Co-PI the project at 15% effort. Bequette was Co-PI on *Project Intersect* and worked extensively with teachers on site on implementation of integration of project activities into standards-based education. He is a former K-12 art teacher in schools with large American Indian populations. Bequette has extensive experience in the integration of culture-based art into core curricular classroom instruction. Bequette will take the lead in coordinating the curricular efforts

for the CBAI project.

ICI Technology Team: A team of technology experts from ICI will work on the project to develop, expand, and support the CBAI website, the blogs, the listserv, and any other social networking needed to sustain effective communication between and among collaborators and sites.

External Project Evaluator (PE): Dr. Bruce Center, Director of The Office of Research Consultation and Services (ORCS) will hold the position of PE at 10% FTE on the project. In his role, he designed the research model for this project and will closely monitor project data collection and analysis. ORCS is a professional research consultation service that provides grant writing support, research planning and study design, measurement and psychometric activities, database design and management, statistical analyses including general linear and nonlinear modeling, nonparametrics, multilevel modeling, structural equation modeling, and longitudinal analysis, and reporting. The strength of the services lies in the network of psychometric and statistical expertise among the faculty of the Quantitative Methods in Education (QME) program, currently counting 10 members.

Graduate Research Assistant (GRA): A GRA will be hired at 25% time through the subcontract with the University of Minnesota to support the collection and analysis of data for research and evaluation of the project.

Clerical (University of Minnesota): Ruth Berman will serve as secretarial staff at 10% effort to support the processing of billing, photocopying, and other duties related to the subcontract.

Consultant: The St. Louis County Indian Education department under the director of Ms. Lowana Greensky will provide consultation to the project by connecting to teachers in their county, explaining the project, collecting computer inventory information, and support project goals and objectives.

QUALITY OF THE MANAGEMENT PLAN

Cloquet Public Schools. Independent School District 94 in Cloquet will serve as lead agency for *Project CBAI*. To date, ISD 94 has managed federally, state, and foundation funded projects worth over \$5 million. The district has also collaborated with Fond du Lac Reservation on several projects. ISD 94 is located in Cloquet, adjacent to the Fond du Lac Reservation. (Cloquet is the largest city (pop. 12,000) in Carlton County.) ISD 94 serves 2,468 resident and non-resident students in Early Five through twelfth grade, including 361 American Indian students. The majority (95%) of these students are Ojibwe from the Fond du Lac Reservation. ISD 94 includes two elementary schools (Early Five-grade 5), one middle school (grades 6-8), and one senior high school (grades 9-12). According to Children's Defense Fund, a higher percentage of children in Carlton County live below the poverty line (15%) and a higher percentage of Cloquet Schools students qualify for free or reduced-price school lunches (34%) than the state averages (12% and 28%, respectively).

College of Education and Human Development, University of Minnesota: Institute on Community Integration and Department of Curriculum and Instruction. The Institute on Community Integration (ICI) and the Department of Curriculum and Instruction (C&I) are departments within the College of Education and Human Development of the University of Minnesota. ICI will serve as the lead organization at the University of Minnesota on *Project CBAI*. ICI serves as the overall organizational structure for Minnesota's University Center for Excellence in Developmental Disabilities Education, Research, and Service; National Center on Secondary Education and Transition; and the National Center on Educational Outcomes. ICI conducts interdisciplinary training and technical assistance, information dissemination, and research on populations considered disadvantaged and at-risk. ICI's work addresses the concerns of direct service pro-

viders, provides researchers and government agencies with information, and optimizes the flow of information within its network for use throughout Minnesota. (See Appendix A: Letter of Support).

ICI's Technology Team will have extensive involvement in *Project CBAI*. The Technology Team is a core group of developers proficient in Web planning, user-centered design, development, and testing. The Team develops applications using innovative Web technologies in a secure, user-centered, and accessible framework. The Team continually explores agile development and rapid iterative design, soliciting client feedback throughout the development process to ensure a quality product.

Department of Curriculum and Instruction (C&I) The Department of Curriculum and Instruction is recognized within the state of Minnesota, nationally, and internationally as a leader in education research and teacher preparation. The program in arts education is multidimensional, focusing on issues related to arts curriculum, arts instruction, assessment, art teacher education, and policy studies. Program faculty work closely with national, state, and local level arts education initiatives encouraging graduate students to collaborate in the development, analysis, and implementation of art-related programs (See Appendix A: Letters of Support).

Fond du Lac Band of Lake Superior Chippewa. The Fond du Lac Reservation (FDL), a 100,000-acre tract, is adjacent to Cloquet's western boundary and has a total population of 2,366 is home to students in three of the schools participating in the project. In addition, FDL Ojibwe School staff member, Tara Graves, coordinated the previous AEMDD project and, therefore, has extensive experience with the management of an AEMDD project. As subcontractor, FDL will provide the onsite project coordination of Graves and other supports to FDL students as needed in the project. (See Appendix A: Letters of Support).

St. Louis County Public Schools. ISD#2142 will be a subcontract in *Project CBAI* and will provide the support of teachers in the district to participate in the project. They will also allow 10% of their Indian Education Director’s time to be devoted to the local coordination of the project. (See Appendix A: Letters of Support).

Carlton County Public Schools. ISD #93 will provide teachers and students to participate in the project in grades K-8 in the two schools: Terrace Elementary with 12 classrooms and Carlton Middle School with 13 classrooms (See Appendix A: Letter of Support)

(b) The extent to which the time commitments of the project director and principal investigator and other key project personnel are appropriate and adequate to meet the objectives of the proposed project. Table 5 illustrates the allocation of staff time in order to meet the goals and objectives of the project.

Table 5: Staffing Chart		
Name	Position	Job Description
Cloquet Public Schools: Ken Scarborough	Principal Investigator @ 5%	<ul style="list-style-type: none"> • Oversee budgets • Maintain contact with project officer • Hire staff as needed • Participate in ACAC
Cloquet Schools: Connie Hyde	Project Director @ .30 FTE	<ul style="list-style-type: none"> • Manage teacher stipends, classroom materials stipends • Coordinate substitute teachers for training days, and stipends to guest speakers • Coordinate the Summer Institute for teachers

Table 5: Staffing Chart		
Name	Position	Job Description
Cloquet Schools; Misty Tyman	Clerical @ 50%	<ul style="list-style-type: none"> • Manage stipends, process all reimbursement payments • Data collection and management
Subcontract: Fond du Lac Ojibwe School: Tara Graves	Project Coordinator 100% FTE	<ul style="list-style-type: none"> • Manage the day-to-day activities of the project • Work on site with teachers to implement design • Collect data for the PE • Provide resources, lesson plans, to the Technology Team • Provide TA to teachers in the project • Provide management, coordination of all on-site activities with subcontractors, teachers in all schools • Develop and conduct Advisory Committee meeting • Coordinate all curriculum trainings • Facilitate implementation of curriculum interventions
Jean E. Ness	Subcontract: Principal Investigator (PI) @ .15 FTE	<ul style="list-style-type: none"> • Maintain communications with project officer and sub-contractors • Financial project management • Oversee federal reporting • Coordinate curricular efforts • Manage dissemination activities

Name	Position	Job Description
James Bequette	Subcontract: Co-PI @ .15% FTE	<ul style="list-style-type: none"> • Maintain communications with project officer and sub-contractors • Coordinate curricular efforts • Coordinate dissemination activities
Bruce Center, ORCS	External Project Evaluator (PE) @.10 FTE	<ul style="list-style-type: none"> • Design research model • Monitor project data collection • Conduct analysis and reports on all data collected
Subcontract: St. Louis County Schools	Liaison to Schools @ .10 FTE	<ul style="list-style-type: none"> • Coordinate selection of teachers • Coordinate training sites and schedules for all teachers

	PI	Sub-PI/CoPI	PC	PE	PD	TT	C/Sub-C
Objective 1	4	10	30	0	10	0	20
Objective 2	2	30	100	5	42	0	50
Objective 3	2	10	75	17	10	2	50
Objective 4	4	22	35	2	10	22	24
TOTALS	12	72	240	24	72	24	144

1. **Personnel Codes:** PI=Principal Investigator (Cloquet); PD= Project Director (Cloquet); Sub-PI/Co-PI=Co-Principal Investigator (U of MN); PC=Project Coordinator (Fond du Lac Reservation Subcontract); PE= Project Evaluator (External); TT=Technology Team; C=Clerical;

Sub-C=Sub-Clerical

2. All time specifications are based on a 48-week contract, 240 days per year.

Table 7 illustrates the timeline for the management of the project throughout the four years of funding.

Table 7. Management Plan and Timeline	
Objectives	Project Months
	1 2 3 4 5 6 7 8 9 10 11 12 15 18 21 24 27 30 33 36 39 42 36 48
1.0 Establish Advisory Committee	
1.1 Establish Advisory Committee <i>ACAC.</i>	
1.2 Develop Local Arts Committee <i>(LAC)</i>	
2.0 Train/support teachers to implement model	
2.1 Provide training	
2.2 Provide continuous TA & <i>consultation</i>	
2.3 Connect teachers with mentors	
3.0 Implement interventions/ research strategies	
4.0 Disseminate program results and outcomes	
4.1 Technology development	

- Twice each year with the Arts and Culture Advisory Committee (ACAC) and quarterly the Local Arts Committee (LAC) to maintain confidence in the content of both training and resources as viable community members and local artists.
- Monthly (or more frequent) via Webinar/webcast meetings and/or conference calls between primary collaborating organizations and project staff;
- Semi-monthly (or more frequent) conference calls with the USDE Project Officer;
- Annual work plans (including goals, activities, timelines, resources needed, project products, and outcomes) for all project participants; and
- Quarterly progress reports prepared by the Project Director.

Quarterly management plans will become part of the project's overall management system and will be used to keep track of project objectives, work plans, projected timelines, progress on research intervention activities, and dates by which objectives have been met and products completed. The University of Minnesota PI and Co-PI will use specific reporting forms to gather information on a regular basis. Regular and accurate documentation is a critical source of performance feedback necessary for improving project progress toward intended outcomes. This information will be used to monitor progress and performance in relation to project goals, objectives, and activities. Information derived from the evaluation will also support project management decisions on changes or modifications needed in the project's overall direction.

Outcome Analysis: The outcomes of the proposed project will be evaluated both internally and externally. The Research Design and activities described above will produce information addressing the efficacy of the interventions to produce positive student achievement and related outcomes; curricula that integrate culturally responsive American Indian arts activities into lan-

guage arts, mathematics, and science education; and the extent to which the American Indian arts curriculum is aligned with state and national benchmarks and content standards.

The project's evaluation will also produce other quantitative and qualitative outcomes. Quantitative measures of project impact will be collected on an ongoing basis and will include, at a minimum: (a) number of American Indian students involved, (b) number of grades K-8 teachers participating in the training programs, (c) number of students and parents involved in key project activities, (d) impact of dissemination strategies on target audiences, and (e) sites interested in replicating or adopting project approaches and strategies. Qualitative reviews will also be collected continuously, including: (a) written reviews by field site collaborators and participants; (b) reviews by parents, American Indian students, and professionals involved in project planning and implementation; (c) evaluation feedback on project products; and (d) user satisfaction with project replication and outreach materials.

Impact/Replication Analysis: The Evaluation Plan will also gather information that documents the effectiveness of the *Project CBAI* approaches and strategies to provide information to support replication in a wide range of settings. The Performance Measurement and Outcome/Research components of the Evaluation Plan will provide for continuous monitoring of project approaches and strategies as they are implemented. The impact of the teacher training, artists in residence, technical assistance, social networking, and dissemination strategies will all be evaluated in relation to their effects on American Indian students, families, educational staff, and others. Additional criteria will be used to assess the replicability of project strategies in a wide range of school and community situations. This will entail obtaining feedback and information from potential end-users on the social validity, utility, and other factors associated with rep-

lication efforts. This information will be used to continuously improve the project and promote
its replication within the state and nation.