Ah neen dush: Harnessing collective wisdom to create culturally relevant science experiences in pre-K classrooms
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With the help of: Bernadette Furey, Krystal Harstad, Leah Hvezda & Julie Molacek

Introduction

Ah neen dush (roughly translated as ‘why?’ in Ojibwe) is a professional development partnership between the White Earth Reservation Head Start program in Northern Minnesota and the University of Minnesota’s Department of Curriculum and Instruction.

Ah neen dush aims to support and mentor teachers as they create engaging environments, that weave discovery-based science activities with Ojibwe philosophy and tradition. Professional development workshops have unlocked stores of expertise previously contained within individual Head Start centers, allowing teachers access to one another’s experiences and opportunities to reflect on their own work. This chapter serves as a partial chronicle of our projects first 14 months, a period during which the integration of science and culture became a new focal point in teachers’ thinking about their work with students.

In the coming pages, we will first describe the theoretical framework that informs this project, situate our work in its local context with data and descriptions of White Earth Head Start centers, outline the conceptual framework of the research project, and then introduce you to three of the teachers. Through the voices of these teachers and a few others, we will share successes and struggles in the process of implementing a culturally relevant approach to teaching science on the White Earth reservation.
Theoretical framework: Culturally relevant pedagogy

Culturally relevant pedagogy is presented by a growing group of scholars as a way to address inequity in educational achievement (e.g. Aguilera et al, 2007; Cleary & Peacock, 1998; Demmert, 2001; Ladson-Billings, 1995; Yazzie, 2000). Many of these researchers adopt a cultural difference perspective, acknowledging that, for many students from non-dominant backgrounds, the culture of schools and the culture of families are different. The work of culturally relevant pedagogues, then, is to design school experiences that offer a closer match between home and school culture.

According to Valenzuela’s (1999) ethnography about U.S.-Mexican youth in a Texas community, schooling is subtractive any time that something the student carries into the classroom is either devalued or unrecognized. Valenzuela differentiates *educacion*, which is a holistic view of education as pervading all spheres, from a more detached notion of *schooling*, to which most students must learn how to adapt. When schooling is subtractive, young people can experience an atrophy of culturally based strengths, or assets.

In response to an educational environment characterized by subtractive practices, culturally relevant pedagogy takes aim at three goals: 1) to “produce students who can achieve academically; 2) to produce students who demonstrate cultural competence; and 3) to develop students who can both understand and critique the existing social order” (Ladson-Billings, 1995a, p.474). While individual teachers will forge unique paths to cultural relevance, Ladson-Billings (1995b) found that culturally relevant teachers share some general ideologies and beliefs that characterize all students as creators of
knowledge who have the potential to succeed. Thus, culturally relevant pedagogy is less about a specific set of teaching methods than it is about a way of looking at students and thinking about one’s own teaching (Ladson-Billings, 1995a).

Many scholars of culturally relevant pedagogy (c.f. Gay, 2002; Delpit, 1998; Nieto, 2009; Valdes, 1996) advocate conceptions of teaching that consider the unique learning needs to diverse groups of students and that favor a focus on teachers’ attitudes and beliefs over discrete methodologies. Gay encourages educators to allow students “the right to grapple with learning challenges from the point of strength and relevance found in their own cultural frames of relevance” (2002, p. 114).

The ‘funds of knowledge’ approach advanced by Moll, et al (1991) challenges teachers of culturally and linguistically diverse students to view themselves as students of their students’ backgrounds. By conducting home visits and interviews with family members, teachers can learn about what knowledge the students bring from home to the classroom, and teaching can be adjusted to facilitate a better match between home and school learning (Moll, et al, 1991). Li (2008) outlines a theory of culture pedagogy, which, like culturally relevant pedagogy, aims to empower students as cultural translators and build on funds of knowledge. Each of these theories operates on a belief that when students feel engaged and connected at school, they learn more.

For example, the Ka Lama Teacher Education Initiative in Hawaii trains Native Hawaiians to teach in their own communities (Au et al, 2008). By promoting an asset-based perspective that focuses on community-specific needs and interests, Ka Lama is able to prepare teachers who recognize the need for culturally relevant instruction for their primarily Native Hawaiian students (Au, 1980). Vogt, Jordan, & Tharp (1987)
strengthened Au’s argument by modifying her model in a Navajo cultural setting. In both cases, schooling has been designed to fit the students, instead of the other way around (Ladson-Billings, 1995b).

A potential pitfall in this approach to cultural relevance, however, is that it could lead to a ‘checklist’ mentality in which educators simply place an existing formula into their setting with minor local modifications. This too, may lead to an overreliance on static, versus dynamic, definitions of culture. In addition, this approach can encourage a focus on the micro level of practice without explicitly addressing structural issues.

Moving beyond the checklist mentality, Gonzalez, et al refer to students’ funds of knowledge as “strategic and cultural resources” (2005, p. 47), arguing that these resources constitute the information that educators and policymakers need in order to create pedagogical, evaluation and assessment models that work for diverse students. Such an approach can transform perceptions of culture from static to dynamic, which makes it easier and more meaningful to incorporate culture as prior knowledge that can inform curriculum and classroom practices. The authors also cite the transformative potential of an asset-based perspective on students’ families, particularly in terms of how teachers view the responsibility of figuring out how schools and families can relate and communicate (Gonzalez et al, 2005). In the same chapter, teacher-researcher Amanti (Gonzalez et al, 2005) takes critical aim at typical conceptions of multicultural education as an ‘add-on’ to normative approaches that work from Eurocentric viewpoints and view cultures as static.

While each member of the Ah neen dush University research team entered this project with her or his own interpretations of the research and theory around culturally
relevant pedagogy, a key goal of the project was to work toward a local definition of cultural relevance as conceived of, and enacted in, the Head Start classrooms in White Earth. Thus, we hope to add depth and, of course, relevance, to theoretical conceptions of cultural relevance by describing the process of negotiating its definition in one unique setting.

**Community context**

Data presented by the Minnesota Department of Education show that Native American students lag behind state achievement averages. On the White Earth reservation, 34% of third graders either partially meet or do not meet state mathematics standards; statewide, only 18.6% of students fit into those categories. In reading, 29% of White Earth third graders either partially meet or do not meet the state standards, compared to 21% across the state. Of White Earth fifth graders, 86.3% do not or just partially meet the Minnesota science standards, compared to 60.9% statewide. A Native American student in Minnesota is three times more likely to drop out of school than the average Minnesotan. Sadly, this is a representative picture of educational achievement among Native American students across the United States (Bowman, 2003; Lynch, 2000).

The educational disadvantages that Native American students face can be compounded by teaching methods that do not acknowledge Native epistemologies (Nelson-Barber and Estrin, 1995). Some researchers refer to Native American emphases on storytelling as a way of passing information (Ballenger, 1997; Eder, 2007). Stories told within a familiar epistemological perspective are more comprehensible to children (Bock, 2006) and assist the maintenance of cultural integrity (Eder, 2007). When Westby
and Roman (1995) describe an approach for teaching Native American elementary school students how to comprehend mainstream narrative texts, they discuss in terms of using Native American discursive styles as a bridge to mainstream styles. Above all, they argue, Native American children should learn to value Native forms of discourse while also learning to navigate mainstream narratives’ structure, content, and style. To further complicate conceptions of successful teaching that incorporates Native American culture, Hermes (2005) asserts that Native American language must be an essential component of teaching culture. Ismail and Cazden (2005) suggest finding common ground between Native and Western epistemologies to facilitate learning opportunities.

The White Earth tribal council, on the reservation’s main website, puts it this way: “..learning about the past can help us understand our present. In search of such understanding, let us pick up the story of the Chippewa in those distant times when, as they say, the earth was new and tribal people reigned supreme in North America” (White Earth Indian Reservation Tribal Council, n.d.)

Head Start serves most of the preschool-aged children who live on or near the White Earth reservation. While no data are available for White Earth’s Head Start students, NAEP reported that almost all children in grades K-12 received free or reduced price lunch in 1998 and 2000, a figure that likely remains consistent. The White Earth Head Start program includes 9 classrooms in 6 centers spread throughout the reservation, as well as two teachers who travel throughout the community to provide home-based services for Early Head Start (children from birth to age 3). The teaching staff of roughly 35 women is approximately one-half Ojibwe and one-half White or mixed heritage. With some variation, classrooms consist of a lead teacher, assistant teacher, and aide, and a
Family Services Advocate.

In several ways, the relationships between University researchers and Head Start teachers in this project parallel those reflected in Gonzalez, Moll, and Amanti’s (2005) work. In their case, teachers and anthropologists represent practice and theory, respectively, but they complicate that relationship by mutually informing one another. Rather than viewing research as informing practice in a linear, one-directional fashion, this approach to research acknowledges the back-and-forth relationship that actually exists between theory and practice.

Why early childhood?

While most research on culturally relevant pedagogy addresses K-12 and post-secondary settings, we argue that it is also necessary to acknowledge the incredible socializing power of early childhood settings. Thus, early childhood education has particular importance for marginalized students, whose schooling experiences can often be subtractive (Valenzuela, 1999). Research on early childhood intervention programs shows that children from disadvantaged families gain long-lasting benefits from high quality programs. Gains were found in school competence, development of cognitive skills, attitudes, and impact on families (Consortium for Longitudinal Studies, 1983). Head Start, specifically, has been found to positively impact various measures of school success, including graduation rates and socialization (Barnett, 1995). Referring specifically to Native American students, Demmert (2001) underlines the critical role of the early childhood environment and experiences:
“Ensuring a challenging and stimulating early environment for young children is associated with cognitive development and, later, achievement in the formal school setting. If improving academic performance for all Native children is a priority, we must take these findings seriously and pay attention to this period in a Native child’s life” (p. 00).

**Ah neen dush conceptual framework**

*Ah neen dush* is designed as a series of monthly workshops, a weeklong summer workshop and a group website that is used for mentoring and discussions. Each monthly workshop is hosted by a different Head Start center and opens with a short presentation by the hosting staff. These presentations include photos and documentary evidence of the science activities the teachers have conducted during the month. The format of the monthly workshop allows all teachers to share interesting science activities they have done in their classrooms and how culture was integrated into the lessons.

Building on best practices in early childhood education, our theoretical framework draws on and incorporates culturally relevant pedagogy, Demmert & Towner’s (2003) six critical elements for culturally based education programs, Copley & Padron’s (1998) professional development standards for early childhood teachers, and inquiry-based science pedagogy. Thus, *Ah neen dush* emphasizes:

1. A long-term commitment to working toward sustainable professional development;

2. Discovery-based science and mathematics curriculum rooted in Ojibwe culture
and developed by the teachers with assistance from the program team;

3. Multifaceted learning experiences: teachers play the role of students during modeled lessons, teachers during curriculum development, and presenters during each monthly session;

4. Making connections to families and community members;

5. Mentoring: online mentoring as well as monthly classroom visits;

6. Learning communities: creating teams of teachers who work and learn together (Zech et al., 2000);

7. Reflective journaling (Schon, 1996) and

8. Effective use of technology: enhancing the culture of learning communities and project dissemination via the project’s website.

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**Figure 1: Ah neen dush conceptual framework**
The holistic nature of this professional development sequence, calls for a gradual introduction of diverse topics to the Head Start teachers. Research with primary-grade teachers has shown a need for improved knowledge in science content, science methods appropriate for young children, ways of representing and formulating science topics for young children, curricular activities, and administrative support (Kallery, 2004).

Following this logic with early childhood teachers, Ah neen dush’s first year focused on building foundations such as implementing inquiry-based science pedagogies. By beginning with concepts related to place-based learning and nature, we have helped orient teachers’ work toward the American Indian standards for science education. Specifically, the ‘science as inquiry’ standard notes that students should develop awareness that American Indian cultures tend to be particularly joined to the natural world as the source of knowledge (Bureau of Indians Affairs & ORBIS Associates, 1998).

This chapter reflects data collected and teacher’s reflections on the first 14 months of Ah neen dush (January 2009-March 2010). During the 2009-2010 academic year, our goal has been to introduce the processes and concepts of scientific inquiry through a culturally relevant pedagogy that draws from and reflects Ojibwe culture. The Young Scientist series (developed by Education Development Center, Inc.) was chosen as a baseline science curriculum, because it integrates inquiry activities with observations and understandings of students’ environments. This curriculum includes three modules focusing on nature, structures, and water. We chose to work on the nature theme first, noting the aforementioned link between nature and the American Indian science standards, as well as acknowledging the profound connection between nature and Ojibwe
After establishing understandings of the inquiry process in early childhood science, the University research team and the Head Start teachers began exploring how to use these processes to learn about traditional and cultural Ojibwe practices. For example, during a unit on wild rice harvesting (outlined in greater detail below), White Earth Head Start teachers use elders’ stories, pictures and field trips to demonstrate the ricing process. Explorations of the wild rice plant and habitat connect the children not only with their natural environments, but also with a long-practiced tribal tradition that links families, communities, and economies.

At the heart of *Ah neen dush* is the goal of enhancing White Earth Head Start students’ science experiences through improved teaching practices that are responsive to Ojibwe culture. Ultimately, we view teachers as agents of change who can affect children, their families, and the White Earth community.

**Researcher positionality**

Since the researcher is the primary instrument of qualitative research (Merriam, 2009), Peshkin (1988) argues that researches should constantly consider how their multiple subjectivities shape the ways they interpret data. Positioning the researcher in terms of how we perspective impacts the research process can allow the reader to form a more complete judgment about the researcher’s interpretation of events. In this study, the researchers are a diverse group of education researchers, comprised of 4 females, of whom two are graduate students and two are faculty members, and one White male faculty member in outdoor education. One graduate student is from Israel and the other is a White American. Both have experience in teaching and/or developing early childhood
curriculum. One female faculty member is a White American with expertise in child
development and early childhood education, and one is a White science educator from
England. We acknowledge and, in some cases, trouble, the “subjective Is” (Peshkin,
1988, p. 18), that build our multiplex perspectives and undoubtedly affect how we read
and interpret the research setting.

Not surprisingly, the research team and the Head Start teachers share some
cultural frames of reference but differ in many others. As educators, all stakeholders in
this project share an orientation toward educational equity and a general care and concern
for young people. Most significantly, as University researchers working in a Native
American community, the research team runs the risk of reproducing the patterns of
domination that contribute to the structural inequality this project hopes to combat.

In the next section, three focal teachers will be introduced. While by no means
representative of the 35 White Earth Head Start teachers as a group, these three teachers
are illuminative examples of the varying experiences had by Ojibwe, White, and mixed-
heritage teachers in this setting. Observational and interview data came from the
following sources: focus groups conducted in August 2009, individual and paired
interviews conducted in February 2010, field notes taken when a group of teachers
presented at a professional conference in March 2010, and observational field notes from
classroom visits and professional development workshops between August 2009 and
February 2010. While we rely as much as possible on the teachers’ own words to
describe themselves and their experiences, the University researchers acknowledge the
mitigating effect of the interview and focus group processes, recognizing that any such
account can only be partial.
**Teacher A: Claire**

“(This program has) taught us how to look with children. Don’t just tell them, ‘that’s an ant,’ get excited with them and ask questions.” (Professional conference presentation, March 11, 2010)

Claire teaches in the farthest-flung Head Start center on the reservation. About one hour’s drive from the primary Head Start building, the Rice Lake center has the least contact with Head Start coordinators and administrative staff. Several of the teachers at this center have worked there for the bulk of their careers. At this center, 3-5 year olds are together in one classroom with a very busy teaching staff! The Head Start room is connected to a community center that houses a gymnasium, exercise room, and senior center. Because of the physical link to elder community members, the Head Start children at this center enjoy relationships with multiple adults other than their families and teachers.

Long before the Ah neen dush project began, Claire, an Ojibwe woman, considered her classroom a place to share her passion for maintaining close ties to native traditions. This feeling is evident throughout the classroom: Ojibwe words label various classroom items, several bulletin boards feature Ojibwe stories, and Claire even has a birch bark canoe on display.

**Teacher B: “Karen”**

“(The language is) the hardest part for me, and I always worry about if I’m teaching it the right way, because I don’t want to offend anybody either, so it’s kind of like okay I really want to do this, but am I doing it right?” (Interview, February 4, 2010)
This 4-5 year old Head Start classroom is the first you see upon entering the tribal Head Start headquarters. The energy of its young inhabitants reverberates even hours after the children have left for the day. Karen, the lead teacher, who is of mixed White and Ojibwe descent, has a stated commitment to developing culturally relevant practice. Karen’s Head Start classroom consists of about 16 students, a White assistant teacher and two Native American aides. Karen has taught at White Earth Head Start for 13 years. Her classroom is spacious enough to include various marked-off areas for specific types of activity: kidney tables for meals and group work, a circular carpet for whole class meetings and games, a science area, a dramatic play area, a space for quiet reading, and ample storage.

Karen grew up on the edge of the reservation, not knowing until she was a young adult that her grandfather had been Ojibwe and had attended a boarding school. This realization was meaningful to Karen, especially as she began to discover the role that silence had played in her family’s story: when her grandparent’s generation was told not to speak the Ojibwe language or practice its traditions, the effect, two generations later, was that she became unaware of her own cultural heritage.

Teacher C: “Ruth”

“I came in this morning as one person, and I’m leaving as a changed woman.” (Spoken during professional development workshop, September 10, 2009).

Ruth is a White teacher who feels a deep connection to the Native Americans who first inhabited her community. Referring to the historical relationship between Native American communities and European colonizers, Ruth emphasizes that Native American
individuals still carry a ‘deep hurt’ that traces back generations, a hurt that she hopes her work as an Early Head Start teacher might ease.

Ruth’s position differs in many ways from the previous two teachers. Whereas their work is with children ages 3-5, Ruth visits children in their homes when they are between birth and age 3. Her role as an educator, then, involves work with families as well as children. She also invites families to ‘socialization’ events at her office, which is contained within one of the community schools on the reservation.

**Strategies and struggles**

Two strategies and one struggle came up consistently in the teachers’ descriptions of and reflections on their work toward culturally relevant teaching of science concepts. Involving parents and the community and rethinking their approaches to teaching science were repeatedly described as key to the Head Start teachers’ growing success in this work. Each in their own way, teachers have struggled with concerns related to authority and authenticity in addressing topics related to Ojibwe culture and traditions. In the coming pages, each strategy and struggle will be described through the teachers’ words and stories.

*Strategy 1: Parent and community involvement*

During an interview conversation (on February 4, 2010) about what sort of additional resources could enhance their work with Head Start children, the following conversation occurred between Karen and another teacher:

| Joy | Basically (involve) your elders, and I don’t know a lot of them, |
Table 1.1

<table>
<thead>
<tr>
<th>Karen</th>
<th>Like I said in Calloway, they never talked about it or did any of it, it was never an issue, so, yeah. I don’t know.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karen</td>
<td>Like they always do a parent day, they should do a grandparent day. You know, I mean they should do if they were, have your grandma or grandpa come in and tell what happened when they were young. That would be kinda neat.</td>
</tr>
<tr>
<td>Joy</td>
<td>Maybe we’ll just have to do it on our own!</td>
</tr>
<tr>
<td>Karen</td>
<td>I know, that’s what I was thinking too!</td>
</tr>
</tbody>
</table>

Excerpt 1.1

Excerpt 1 was particularly interesting because the initial question was actually about what resources from the University or the tribe could help the Head Start teachers, and Joy and Karen responded with suggestions for ways they could harness the resources that already exist in their communities. In the following excerpt, Claire refers to the way her center has been able to gain access to elders’ stories and perspectives by inviting them to be part of the everyday life of the Head Start class:

Table 1.2

| Claire | I think it’s important to keep the elders involved, because like at Rice Lake we have elders coming in and out, pretty much every day, and then we also bring in the wild rice, take them on a field trip, let them see it, bring it in, cook it, eat it, we do, I mean they do a lot like that. |

Excerpt 1.2

While Claire’s setting with the community center down the hall provides a built-in resource for involving community members, in Excerpt 3, she and a colleague also discuss the amount of help they can receive from the reservation at large. Other teachers have shared stories about the Department of Natural Resources being available to help teachers arrange wilderness hikes and ice fishing trips, even cutting fishing holes and stocking a lake with small fish for the children to catch!

| Patricia | …we have the advantage with, what, I’d say 97, 98% of our class is Native American, so we have that access right there. We don’t do |
In all, White Earth Head Start teachers seem to give much credit to their community connections for their success at integrating science and Ojibwe culture. This mindset is consistent with other educators’ descriptions of culturally relevant pedagogy as relying on students’ funds of knowledge (Gonzalez et al., 2005) to guide curriculum and teaching, as well as the principle of culturally relevant pedagogy as one that positions students as ‘knowers,’ or the experts of their own experiences (Ladson-Billings, 1995a).

Strategy 2: Rethinking science content

A series of focus groups conducted with Head Start teachers in August 2009, revealed that several non-Native teachers felt they lacked the knowledge of Ojibwe cultural practices, required to respectfully implement a culturally relevant curriculum. With this in mind, the Ojibwe staff from the Rice Lake Head Start center organized an in-service day in September 2009, during which we were fully immersed in wild rice harvesting and processing. Native and non-Native teachers reported that this first-hand experience, enhanced by the fact that one of their colleagues had led it, helped them feel more prepared to teach and discuss wild ricing in their classrooms. While this event came only 9 months into the Ah neen dush project, it served as a clear example of the ways the Head Start teachers have rethought their approaches to teaching science at the early childhood stage.
level. The following excerpt came from the same focus group meeting, and includes Claire describing how she realized that she had actually been teaching science topics, only had not realized or labeled it as such:

| 1 | Claire | Teaching them that a lot of stuff they already know and already do is considered science and math. Like they go on field trips, like going on a science field trip. |

**Excerpt 2.1**

During her February 2010 interview, Joy expressed a similar sentiment about realizing that the Head Start content she was already teaching included scientific concepts, and that she only needed to shift her thinking a bit to present it that way to her students. Later in the same conversation, we discussed the role of culture in that process, of which a bit is included here:

| 1 | Annie | So according to your experiences so far as a teacher and as part of this professional development, how would you give a definition for teaching science in way that’s culturally relevant? |
| 2 | Joy | I don’t know, I think it’s pretty easy, actually, just because the culture is a lot about nature. And you know I mean that’s pretty much how they lived off the land and what they used to do and it’s a lot of the science ties right into their culture so it’s pretty, pretty easy I think, the science part of it. |

**Excerpt 2.2**

Explicit teaching strategies have been impacted by teachers’ changes in thinking about science content, as well. For example, Claire describes below how she has become more thoughtful about how she poses questions to the children in her class. Claire’s attentiveness to her students as budding thinkers is evident in this excerpt, and it reflects her consistency with principles of culturally relevant pedagogy, such as Ladson-Billings’
(1995a) call for teachers to accept the knowledge and ways of knowing that children bring to school:

<table>
<thead>
<tr>
<th>1</th>
<th>Claire</th>
<th>Another thing I’ve found interesting about this ((professional development)) is learning how to ask open-ended questions, have the children answer, because, I don’t know, I did it, but I wasn’t like prepared to do it, or something, so… I’m just more aware of it, just more aware of it.</th>
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</thead>
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**Excerpt 2.3**

For Ruth, shifting her thinking toward teaching science in a culturally relevant way has been as simple as putting ‘a bug’ in students’ ears about the possible lives available to them. While, in her role as an early childhood educator, those futures are distant today, she considers it important that she works now with the future in mind:

<table>
<thead>
<tr>
<th>1</th>
<th>Ruth</th>
<th>…Okay just go as far as you can, ((Ruth)), and hope the best for these kids and you hope that maybe they’ll go on to school and do something more than just stay here, maybe they’ll go on and be a doctor and come back to this community, maybe they’ll go on and be a teacher and, you know, uh, carry that culture to other places in the world, whatever. Um, but you know and I try to tell them, you going to be a doctor when you grow up? All right, let’s talk about what you’re going to do. I try and put a bug in their ear for that one.</th>
</tr>
</thead>
</table>

**Excerpt 2.4**

Finally, the following excerpt provides a snapshot of how one group of teachers describes the process of transitioning to a form of culturally relevant pedagogy that is integrated with science content, rather than one that treats each as a separate sphere within the Head Start curriculum:

<table>
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<tr>
<th>1</th>
<th>Gillian</th>
<th>So it’s a starting point, you’re starting with the tradition rather than the, like I’m going to teach, electricity.</th>
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</table>
Claire and it’s kind of not even a choice, because the Head Start performance says ((performance standards say)) that we have to teach cultural ((content)), so it, we start with numbers, and when we do the traditional stories, and from the traditional stories there’s never like a right or wrong way, it’s, it kind of leaves it open, but there’s always a teaching within that story, either how something’s made or how something came about, the ((creation)) stories are like that, it’s like creation stories.

Or like “how the bear lost his tail.”

So you’ll start with the story or tradition and you’ll put science in…

And then we have a lot of younger parents now than we did before, so we’ll put we always send home copies of stories and stuff, I know it takes a lot of paper, but I always try to get the cultural things back home. So they get a lot of books, and if you guys need any, XXXX, or whatever, you guys come down and I’ll give you a copy of them.

And I also think it’s really important that we keep this culture in the Head Start, because once our kids transition to the public school, they don’t get it there. It’s gone. But they remember what they’ve been taught in Head Start.

The above excerpts indicate growth toward a locally mediated, unique approach to culturally relevant teaching of science concepts. This in-process definition will be discussed in greater detail below, as now we turn to the primary struggle identified in the teachers’ words and stories about their work related to the Ah neen dush project.

**Struggles: Authority and authenticity**

Like many professionals who work in settings where they might be considered cultural outsiders, White teachers (and several teachers with Ojibwe heritage who report feeling disconnected from Ojibwe culture and traditions) struggle with concerns of speaking
authentically and with authority about Ojibwe cultural content. Often, as described below, these struggles take shape in the form of questions about the Ojibwe language:

<table>
<thead>
<tr>
<th></th>
<th>Annie</th>
<th>Can you think of a time when it’s been a struggle ((to integrate culture and science content)), or when you’ve felt you were doing it and didn’t really pull it off?</th>
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<tr>
<th></th>
<th>Karen</th>
<th>Well when you talk in Ojibwe or say Ojibwe words, that’s definitely, that’s a struggle</th>
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<th></th>
<th>Joy</th>
<th>That’s the hardest part for me, and I always worry about if I’m teaching it the right way, because I don’t want to offend anybody either, so it’s kind of like okay I really want to do this, but am I doing it right?</th>
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<th></th>
<th>Karen</th>
<th>I’m like  (laughter) and you can ask how to say it and stuff but still am I gonna remember this? You know because I don’t have no Ojibwe, I mean my mom’s Ojibwe (laughs)</th>
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<th></th>
<th>Joy</th>
<th>Yeah. But it’s a hard language to learn, there’s no rhyme or reason to it, it’s really a hard language to learn. It’s like, it you know, I don’t know. I’m just always scared of offending a family or making someone upset because I didn’t teach it right. It’s kind of a, do you do it or don’t ya.</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td></td>
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<tr>
<td>13</td>
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<td>14</td>
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<tr>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Karen</th>
<th>Sometimes if you even say an animal wrong, kids’ll say, no, it’s this!</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Joy</th>
<th>They know already. Yeah</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Karen</th>
<th>You get up here and tell us!</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Excerpt 3.1**

In addition, teachers referred regularly to the need for culturally relevant teachers to be astute observers and careful listeners. Learning to listen can be considered a strategy as well as a struggle, of course, but we include it at the end to remind readers that when we struggle to make culturally relevant teaching a reality, the struggle can probably be instructive. Indeed, much of what we need to know as teachers, Ruth stated in a conversation in February of 2010, is contained within what we can hear and see from our students. Near the end of her formal interview, Ruth was asked, ‘given the opportunity to make a recommendation, what would you tell another White teacher who just started working with Native students?’ She responded as follows:

<table>
<thead>
<tr>
<th></th>
<th>Ruth</th>
<th>Listen…</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
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</tbody>
</table>
Conclusions

As mentioned, one function of this project was to translate theoretical work on culturally relevant pedagogy into the realm of practice. This process was meant to result in a negotiated meaning of culturally relevant science curriculum and teaching. Preliminarily, the focus groups and interviews collected thus far indicate an emerging collective definition of culture relevance as:

- Cultivating connections to nature and mother earth
- Emphasizing language preservation through Ojibwe language development
- Part of the everyday school experience that can be applied beyond school
- Do-able, knowable, and losable

Clearly, this emerging definition reflects a composite, individual iterations of which will include some unique elements and exclude others. It represents a moment in time, but not the depth and complexity of work enacted by these and other teachers on a daily basis.

The White Earth Head Start teachers’ work is unique and specific to its local setting. While it has transformative power for those of us involved, we cannot expect this work to be transformative beyond a local context. We can, however, expect it to contribute to the mounting response to calls for cultural relevance, responses that go beyond describing the need for culturally relevant pedagogies and begin to describe how teachers conceive of cultural relevance, enact it in their teaching, and make sense of their
own roles in the process. At the same time, additional studies are needed to identify relationships between culturally relevant teaching and academic achievement. Likewise, any lasting social change that occurs because of these teachers’ work, will likely not be visible until years from now; thus, this for now we can offer only a preliminary look at the effects of culturally relevant teaching. More projects like this one, along with longitudinal and comparative work, will help identify the potential, the complications, and the drawbacks of culturally relevant pedagogies.
References


Appendix 1:

Transcription conventions (adapted from Tannen et al., 2007)

- ((words)) transcriber’s thoughts, comments
- Carriage return Each new line represents an intonation unit
- Indicates a truncated word
- ! Rising intonation (exclamatory)
- . Falling, final intonation
- , Continuing intonation
- … Silence
- : Elongated word
- CAPS Emphatic stress
- (number) Length (in tenths of seconds) of pause in talk
- XXXX Proper noun removed for purposes of anonymity