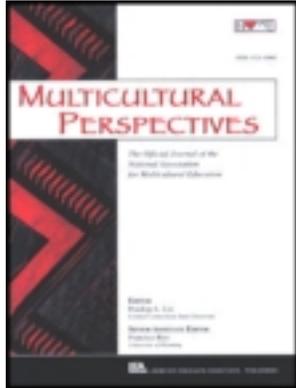


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Using the CREDE Standards for Effective Pedagogy in a Greenlandic Settlement School

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PART I
Advancing the Conversation

Using the CREDE Standards for Effective Pedagogy in a Greenlandic Settlement School

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In this case study the authors investigate how a Native Greenlandic teacher planned and implemented the Center for Research on Education, Diversity, and Excellence Standards for Effective Pedagogy, an instructional model that builds upon students' cultural and linguistic strengths. Researchers and educators interested in transformative education may find this article helpful in bridging multicultural education with practical teaching methods.

In this article, we present a case study of how an Indigenous Greenlandic teacher planned and implemented the Standards for Effective Pedagogy to transform her classroom from a traditional oppressive colonial model into one that built upon the values and goals of the local culture. The Standards are a set of pedagogical guidelines developed by researchers at the Center for Research on Education, Diversity, and Excellence (CREDE) located at the University of California at Berkeley. These guidelines of teaching and learning are supported by many indigenous tribal leaders and community members in multiple native contexts (Brayboy & Castagno, 2009).

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We begin with a brief overview of the current trends in native education, followed by a description of the CREDE model and its relationship to multicultural education. We describe Greenland's settlement schools and the unique set of challenges they face and how one Greenlandic teacher was able to implement the Standards.

Theoretical Framework: Current Trends in Native Education

There are two opposing views on how to best educate indigenous students. Some educators favor an assimilative model, while others propose a more culturally responsive approach (Brayboy & Castagno, 2009). Goals of assimilative education include the preparation of children for life outside of their native communities by providing instruction on majority culture perspectives, ideas, and behaviors. Those from indigenous communities have criticized this model for continuing to perpetuate colonization and for ignoring the unique cultural and linguistic needs of indigenous students. In contrast, the culturally responsive model highlights the role of students' home languages, cultures, and identities in successful education (Klump & McNeir, 2005). It prioritizes indigenous perspectives on teaching methods, curriculum, and school–community relationships. Many indigenous scholars advocate for culturally responsive education as a means of promoting indigenous students'

success in school and life (Beaulieu, 2006; Demmert, McCardle, Mele–McCarthy, & Leos, 2006)

The CREDE model is a set of pedagogical guidelines for teachers interested in redesigning their classrooms to reflect patterns in teaching and learning congruent with the native community. Transformative approaches *transform* classrooms because they go beyond simply adding cultural topics to the curriculum or celebrating ethnic heroes, but aim to create change at the level of teaching strategies and curriculum.

The CREDE Standards for Effective Pedagogy

The Standards for Effective Pedagogy developed by researchers at CREDE represent a “transformative approach” to educational reform (Chattergy, 1993) and are a well-known example of culturally responsive education. The CREDE model is a set of pedagogical guidelines for teachers interested in redesigning their classrooms to reflect patterns in teaching and learning congruent with the native community. Transformative approaches *transform* classrooms because they go beyond simply adding cultural topics to the curriculum or celebrating ethnic heroes, but aim to create change at the level of teaching strategies and curriculum.

CREDE pedagogy shares similar beliefs with critical multiculturalism in that teachers use students’ sociopolitical and historical experiences as the foundation for curricular and pedagogical decisions (Cerecer, Gutierrez, & Rios, 2010). Deeply contextualized lessons provide a framework for well-designed activities, promoting active engagement and discussion of students’ multiple perspectives. The CREDE model departs from critical multiculturalism in that it does not *overtly* encourage students to engage in issues of social justice. We argue that sociopolitical engagement need not always be explicit, but may be constructed in the design of classroom activities.

In a typical CREDE classroom, teachers provide the structure and space for students to engage in deep, conceptual discussions on academic topics. These discussions promote meta-cognition and active awareness of one’s own thoughts and beliefs on issues ranging from the mundane to the profound. Teachers use students’ cultural and linguistic background as a vehicle for designing these activities, and in doing so, respect and highlight students’ sociocultural attributes. CREDE classrooms promote antihegemonic education because students have multiple opportunities to locate their voice, compare it to their peers’ and the dominant view, and receive instruction tailored to their particular group.

The CREDE Standards are based on Vygotsky’s (1978) sociocultural theory and over 30 years of research on best practices for culturally diverse groups. They are: (a) *Joint Productive Activity*, teachers and students collaborating; (b) *Language and Literacy Development*, developing language across the curriculum; (c) *Contextualization*, making learning meaningful; (d) *Complex Thinking*, promoting complex thought; (e) *Instructional Conversation*, teaching through dialogue; (f) *Modeling*, learning through observation; and (g) *Student Directed Activity*, including students in decision making.

Research on the CREDE model has been expanded and further defined since the 1980s when it was developed at Kamehameha Early Education Project (KEEP) (Tharp & Dalton, 2007). Refinements were made after several research endeavors with a broad group of culturally and linguistically diverse students, including Latino, African American, and low-income European Americans (Tharp, Estrada, Dalton, & Yamauchi, 2000). Research indicates that students whose teachers use the CREDE Standards to a greater extent achieve more on classroom and standardized achievement assessments (e.g., Doherty & Hilberg, 2008).

Greenland

Greenland is the largest island in the world sitting between northern Canada and Iceland (Darnell & Hoem, 1996). The country’s current population is 57,000, with approximately 15,000 residing in the nation’s capital. The official language is Greenlandic, an Inuit language, although Danish dominates government, media, and education, reflecting a long history of colonization by Denmark. Most Danes living in Greenland also speak English, as do some Greenlanders.

Current understandings suggest that approximately 1,000 years ago, a group of North Alaskan Inuit migrated to Greenland and are the ancestors of the present population (Olsen, n.d.). Prior to this group’s arrival, Vikings from Iceland settled in Greenland, but

did not survive the drastic climatic changes. Formal colonization by Denmark began in 1721, when Danish missionaries established a Lutheran Protestant church (Olsen, n.d.). The Danish missionaries came to Greenland in search of Viking settlers, hoping to convert them to Christianity (Kleivan, 1984). Because none had survived, the missionaries began work with the indigenous population.

The Decolonization of Greenland

In 1954, Greenland's status changed from being a colony to a county within the kingdom of Denmark as part of a decolonization process (Petersen, 1995). This change-over fueled a national interest in decolonization among the Greenlandic people and an interest in reclaiming their right to national sovereignty. At the center of these efforts was an emphasis on transforming the schools to become more Greenlandic.

Soon after establishing Home Rule Government in 1979, the Greenlanders began to consider how to create sustainable and marked changes in Greenland's schools. In 1998, reform leaders organized a conference in Kangerlussuaq and invited renowned experts in native education and interested community members to come and speak. Soon after, the Greenlandic community settled on the American educational model of CREDE to frame their country's educational reform from preschool to higher education (Wyatt, 2011). The CREDE model was chosen because it was structured in such a way as to integrate learning processes used in the Greenlandic culture (Wyatt, 2009).

Greenlandic Teaching and Learning

Tharp and Dalton (2007), both U.S. consultants to Greenlandic reform leaders, wrote that while all cultures use a variety of ways to teach each other, each culture has preferences for forms of assistance. For example, some cultures prefer to be taught through questioning, modeling, or cognitive structures. These preferences run deep within cultural groups and are expressed as patterns of interaction. Tharp and Dalton wrote that embedded within these patterns are cultural values that can be used in the development of educational endeavors.

One of the primary reasons earlier models of education in Greenland failed was because they were built on Danish models that were inappropriate for the Greenlandic community. Early Greenlandic schools were designed to train catechists and school activities typically centered on students memorizing passages from the Bible. This same pedagogical approach continued throughout Greenland's

educational system until the early to mid-1900s (Jakobsen, 1999).

Officials' notes from these visits indicate modeling and observational learning were a primary means of teaching Greenlandic children in traditional settings like hunting, fishing, and sewing. This way of teaching Greenlandic children stood in contrast to the way Danish children learned.

Danish officials traveling between Greenland and Denmark noted several cultural strengths within the native community in regards to Greenlandic ways of teaching and learning, but these ways were largely left out of the teachers' repertoires. For example, the Greenlanders were known to be keen observers and "masters of imitation" (Jakobsen, 1999). Officials' notes from these visits indicate modeling and observational learning were a primary means of teaching Greenlandic children in traditional settings like hunting, fishing, and sewing. This way of teaching Greenlandic children stood in contrast to the way Danish children learned.

When Greenlandic leaders chose the CREDE model as the framework for their educational reform, they intended that the classrooms would reflect Greenlandic cultural patterns of interaction and forms of assistance such as modeling and observational learning. Greenlandic leaders envisioned a school system built on the cultural strengths and resources within the community with these strengths being used as a bridge for developing the types of complex thinking required of students to pursue higher education (Wyatt, 2011). In this way, Greenland's schools would be transformed from their colonial roots and transforming for the Native Greenlandic population.

Professional Development as a Challenge to Reform

One of the challenges to reform in Greenland is providing professional development to settlement schools. These schools present particular challenges to reform in that they enroll a small number of students of different ages and grade levels taught in the same classroom. Generally, the students are taught in their settlements until Grade 9 and then attend a boarding

school in a nearby town for their final two years of compulsory education. Similar to other educational contexts, multigrade settings typically receive the same professional development as other teachers, which may not meet their needs (Little, 2001). There tends to be an overemphasis on whole-class lectures, rote memorization, and other passive instructional strategies in multigrade classrooms (McEwan, 2008). The amount of resources required to train even one teacher in Greenland is substantial, such that Danish reform leaders advocated for legislation that addressed the settlement schools as a separate educational context (Wyatt, 2011). Despite the challenges, the educator in our study reported using the CREDE Standards on a near daily basis. In this article, we present a case study of how an Indigenous Greenlandic teacher planned for and used the CREDE Standards in a Greenlandic settlement classroom that made use of the resources and cultural strengths of the local community.

Method

The Case

The School

The school featured in this study was located in a small settlement in the south of Greenland. Approximately 150–160 people lived on the settlement, although additional small sheep farms dotted the shores nearby. There were three Native Greenlandic teachers at the school, and 15 students enrolled in Grades 1–9. The students were divided into three groups: Grades 1–4, 5–6, and 7–9. The teachers instructed each group in different subject areas.

The Teacher

The participating teacher was Liili Kliest, an Indigenous Greenlandic, who worked as the school's principal and science teacher. Born and raised in Greenland, Liili received her education at the Teacher's College in Nuuk, Greenland. At the time of this study, Liili had been teaching for 19 years and had spent the last three years at this school. Liili was well-known by community members, not only because she was the school leader but because she frequently offered her life coaching skills to individuals and families. She also worked part-time as an instructional coach at Inerisaavik, the executive branch of Greenland's Ministry of Education. Every year, she spent six weeks traveling around Greenland to assist other teachers in using the CREDE model. The training she received as an instructional coach included intensive

professional development on the CREDE Standards. At the time of this study, this opportunity was not offered to the other teachers at her school, which is why this investigation focused only on Liili's instruction.

The Students

The student participants included seven Grade 5 and 6 students in Liili's class who were from various areas around Greenland. Four of these students were from the nearby towns of Narsuaq and Paamiut. Another two were from the settlements of Narsaq and Alluitsup Paa, and one student was from the capitol, Nuuk. All the students spoke Greenlandic at home.

Observations and Field Notes

The first author observed Liili while instructing a science lesson in spring 2008. The lesson took five hours to complete from the moment the children arrived at school to the end of the school day. The first three hours of the lesson involved a hike in the forest. During this period of time, the first author took field notes. After the hike, Liili instructed the students in the classroom, and this instruction was video recorded.

The lesson was taught in Greenlandic, with occasional Danish language used by the teacher and students. With the help of a trilingual research assistant, the video recording was translated into English and transcribed for analysis. This study only analyzed one five-hour lesson; however, Liili reported that this lesson was representative of a typical class. Liili reported framing all her lessons using the CREDE model, using the standards as a framework for designing instructional activities.

Interviews

After the lesson, Liili participated in a semi-structured interview (Bogdan & Biklen, 2003), which focused on how Liili planned her class for the implementation of the CREDE Standards and her thoughts on the model. Four months later, Liili answered additional questions via e-mail to clarify points and to elicit further details.

Data Analysis

In order to determine the extent to which Liili used each of the CREDE Standards, we analyzed the video recording and field notes using the Standards Performance Continuum (SPC). The SPC is an instrument developed by researchers to measure the extent to which each of the

CREDE Standards is used (Hilberg, Doherty, Epaloose, & Tharp, 2004). SPC scores range from 0 (“*not present*”) to 3 (“*enacting*”). For each standard, we first looked for criteria described at the “enacting” level of use (scored at a 3). If these criteria were absent, we examined the data for the lower “developing” criteria, scored with a 2, and so on. We were interested in how the instructional activities incorporated the SPC criteria and how students reacted to the instruction. We analyzed Liili’s responses to the interview and e-mailed questions to clarify Liili’s intentions and instructional planning and to verify our assumptions.

Our Roles as Researchers

The first and second authors both have extensive experience assisting indigenous groups with implementing the CREDE Standards. The third author has over 7 years of experience teaching indigenous students. As none of us is from an indigenous background, we recognized that we might misunderstand Liili’s and her students’ actions and intentions. To guard against these biases, we used interview and e-mail correspondence with Liili as a form of member checking and to verify our interpretations of the observations.

Results

Joint Productive Activity: Establishing Common Ground

According to CREDE, Joint Productive Activity (JPA) at the highest level involves teachers and a small group of students collaborating on tangible or intangible products (Hilberg et al., 2004). Liili uses JPA as the framework for her entire lesson because she believes a whole-class JPA is important in bringing a common experience to her diverse group. Her students differ widely with respect to language, background knowledge, and experience with academic subjects and they need a unifying experience to set a foundation for learning. In this lesson, she began by taking her seven students on a hike through the forest behind the school, the only forest in a country almost completely covered in ice. The students worked in smaller groups recording observations and photographing objects.

During the hike, two types of products were created: a list of observations and a set of photographs that were later used in the classroom. Students also collaborated on an intangible product, the understanding of the flora and fauna in Greenland and how to take care of these resources. Liili collaborated in the JPA by directing

students’ attention to sights, smells, and sounds and assisting with identification.

Language & Literacy Development: Structured Opportunities for Language Development

The Language and Literacy Development Standard (LLD) requires teachers to design and enact activities that generate language and content vocabulary (Hilberg et al., 2004). Teachers are also to assist students’ language development through questioning, rephrasing, and modeling. In this lesson, Liili designed a series of activities for students to engage in extended periods of reading, writing, and speaking and assisted students in advancing their understanding of the forest.

Back in the classroom, the students printed their photographs and then grouped them into the following categories: (a) things on the ground, (b) things in the sky, or (c) things able to move between the two. After the photos were grouped, the students organized their written observations into whether the object (a) had a scent, (b) made a noise, or (c) was capable of both. Liili told the students to select one aspect of the forest to focus on. She divided them into two groups and instructed them on making mind maps. Students wrote the name of their object in the center of a circle and created a web of ideas that connected attributes associated with the object, such as what it looked like, sounded like, and where it was found in the forest. One student’s map focused on the Greenlandic bird, Kussek, while another detailed an imported Norwegian tree growing in the forest. When the mind maps were complete, the students switched papers, created a story, and presented it to the class.

Liili explained that activities that generate language are important to include in Greenland’s settlement classrooms because students come from different parts of Greenland and speak different dialects. This can cause confusion when students work together. Liili saw that these language development activities help to create a shared vocabulary for future interactions.

Contextualization: Making Learning Meaningful

According to CREDE, Contextualization (CTX) is enacted at the highest level if the teacher integrates the new activity or information with what students already know from home, school, or their community (Hilberg et al., 2004). In this case, Liili made the activity personally relevant to the students’ lives by incorporating Greenland’s only forest into the day’s lesson. Later activities, such as the creation of a mind

map, built upon knowledge learned through the hiking experience. Designing the lesson in this way created multiple opportunities for students to revisit the topic. In the interview, Liili explained that she designs her lessons by somehow “connect[ing] [them] to our community.”

Liili finds contextualization important because it makes school knowledge accessible and personally relevant to students’ lives. When students apply their own experiences to the new information, they are more easily able to relate the abstract ideas and concepts to known information. Liili also uses contextualization as a way of creating cultural compatibility. In her opinion, many Greenlandic students have been taught in ways that are culturally inappropriate. As she explained, “many students are missing something because they have been taught too analytic[ally]” and are not offered lessons that use a holistic way of thinking. Liili explained holistic teaching in terms of teaching from “the view of a helicopter,” or providing an overview of the topic before analysis. Teaching in this way affords a different perspective on learning, such that when the helicopter lands, the learner knows where he/she is in relation to the larger body of knowledge. In this lesson, the JPA gave students that helicopter’s view of the day’s topic and facilitated a context where multiple follow-up activities could occur.

Complex Thinking: Advancing Student Understanding

The Complex Thinking (CT) Standard requires that teachers design and enact challenging activities with clear standards and performance feedback and assist in the development of more complex thinking (Hilberg et al., 2004). One of the ways a teacher can assist complex thinking is through cognitive structuring whereby the teacher helps students to organize large amounts of information. In almost every instructional episode in this lesson, Liili used a graphic organizer (mind map, t-chart, venn diagram) to assist students in organizing information on the topic. Liili explained that cognitive structuring assists students in understanding the material, but advances student understanding through questioning. She used both close-ended to highly abstract questions to nudge students’ deeper analyses of a topic. Liili explained that hearing a variety of questions was an important part of school for Greenlandic students because the sociolinguistic patterns found in Greenlandic homes do not support this kind of talk. Liili explained, “Students are not used to hear[ing] open ended questions.” She said that it was more typical in her culture to ask close-ended questions. According to Liili, this resulted in students’ nonparticipation in class because they were uncomfortable and feared judgment from others: “We

have students who are afraid of saying wrong things. Instead of saying wrong things, they stop talking.”

Instructional Conversation: Teaching Through Dialogue

To use Instructional Conversation (IC) at its high level, the teacher and students engage in conversation on an academic topic. There is a clear academic goal, and the teacher listens carefully to assess and assist student understanding, questioning students on their views, judgments, and rationales (Hilberg et al., 2004). Additionally, students must talk at a higher rate than the teacher. On this day, the teacher and students spoke nearly at the same rate. In the video-recorded portion of the lesson, there were a total of 398 utterances made by both teacher and students, not including when students were speaking in their small groups. Of the total number of utterances, 46% of them were Liili’s and 54% were students’.

All three ICs included many conversational and instructional elements, but none incorporated all of the criteria needed to reach the highest level and were thus rated at “developing” on the observational rubric. Only in one IC was the academic goal clear, but in subsequent ICs, the academic goal was only implied with no reference to the lesson’s objective. However, Liili was adept at assessing and assisting student understanding in dialogue. Liili explained that she uses questioning to clarify misunderstandings created by the diversity of dialects in her classroom and crafts questions to further individual students’ conceptual understanding. In preparation for IC, she creates questions, often crafting more than she might use. Liili begins by forming an opening question for each student and anticipates how the student might respond. She then creates subsequent questions to push the student’s understanding further. It is important to Liili to find “the perfect question at the perfect level,” while at the same time questioning students on their views, judgments, and rationales for their answers.

Discussion

This study advances our understanding of how to transform ideas grounded in multicultural education into a concrete method for achieving its goals. By focusing on the organization of instructional activities and interactions with her students, Liili was able to use pedagogical strategies to transform her classroom. In this respect, the CREDE model may be useful for other educators looking for a way to translate multicultural education into classroom practice and provide instruction tailored to a specific cultural group.

Liili was able to design and deliver a culturally compatible lesson by examining the resources available in her community, harnessing Greenlandic children's affinity for specific ways of learning, and then creating activities that brought these aspects of instruction together.

Liili was able to design and deliver a culturally compatible lesson by examining the resources available in her community, harnessing Greenlandic children's affinity for specific ways of learning, and then creating activities that brought these aspects of instruction together. To begin, the hike presented a holistic for the students to frame everything else they learned. There is considerable evidence that native children tend to think in holistic rather than analytical terms (John-Steiner & Oesterreich, 1975; Rhodes, 1988; White, Tharp, Jordan, & Vogt, 1989). This finding comes from research that has found a pattern of holism associated with psychometric assessment of indigenous groups (Berry, 1976; Kaulback, 1984). The hike also provided a means to contextualize the day's activities within something that was familiar and of value to the children (Tharp & Yamauchi, 1994). This increased motivation and also provided a meaningful context for joint activity where familiar referents could be connected to more abstract ideas.

Liili also modeled desirable behaviors rather than directly explicating a set of expectations. Although little cross-cultural research has been conducted in comparing one native group to another, this is consistent with research on another indigenous group. Vallo (1988) found that Pueblo Indian children received indirect reinforcement and correction from adults. Other research on more collectivist cultures suggest that in those groups there may be a general avoidance of conflict that could disrupt social harmony (Yamauchi, 2005). This is consistent with Liili's use of a more indirect means of providing constructive feedback.

And finally, throughout the lesson, Liili organized her students into groups by gender, which is consistent with the broader Greenlandic culture. Applying patterns of social organization that exist within the culture is another way to make instruction culturally compatible for a group of students (Tharp, 1989). Sex-segregated groupings were also successful with Navajo students when KEEP was applied to that culture (Vogt, Jordan, & Tharp, 1987).

Future Research

We note that this undertaking was a case study of one teacher in a specific Greenlandic settlement school. As with other case studies, the results may not generalize to other teachers in different contexts or subjects, although science appears to be more tolerant of diverse practices and perspectives compared to other subject areas (Tabak, 2005). In fact, we would hope that other classrooms using the CREDE model would look and feel different compared to Liili's, harnessing the cultural context of the specific group of students and their community. Future research on the CREDE Standards should examine how the model was implemented in other settlement schools as a way of further understanding Greenlandic cultural values and the effect teachers' use of the strategies has on student achievement.

Additionally, future research should examine the extent to which CREDE classrooms address issues of hegemony and elements of postcolonial education. While CREDE does not take an activist stance against these issues, there are clear structures used within these classrooms that promote anticolonial education. CREDE teachers include multiple opportunities for students to share and critique others' opinions, views, and rationales; teachers are trained to value and use students' culture, heritage, and experiences to facilitate learning and development; and teachers are taught to move away from "deficit thinking" when working with culturally and linguistically diverse students to proactive thinking about what responsive instruction means in a particular community. Further, research could examine the extent to which these instructional strategies influence students' thinking about their role and position in society.

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