THE INFLUENCES OF PARTICIPATION IN A TEACHER STUDY GROUP
FOCUSING ON THE CREDE STANDARDS FOR EFFECTIVE PEDAGOGY ON
FOUR HIGH SCHOOL TEACHERS’ INSTRUCTION

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This study examined how participation in a weekly study group influenced the educational practices of four teachers from a rural high school on O'ahu, Hawai'i. The study group focused on understanding and implementing the Standards for Effective Pedagogy, principles for effective teaching that have been described by the Center for Research on Education, Diversity and Excellence (CREDE). Teachers were videotaped at the beginning and end of the school year while teaching in the classroom and during fieldwork. The videotapes were analyzed to determine the extent to which instruction reflected enactment of the Standards. Teachers were interviewed at the beginning and the end of the school year about their classroom practices and teaching philosophy and asked to maintain teaching journals relating to implementation of the Standards. Results indicate that the teachers' with the most and least teaching experience changed the most throughout the year.
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CHAPTER 1

Introduction

The purpose of this study was to investigate the extent to which participation in a study group influenced high school teachers' instruction. I analyzed how a study group focusing on the Center for Research on Education, Diversity, and Excellence (CREDE) Standards for Effective Pedagogy (Tharp, Estrada, Dalton, & Yamauchi, 2000) guided the practices of four high school teachers involved in the Wai‘anae High School Hawaiian Studies Program (HSP). HSP instruction included weekly fieldwork in a community setting with members of various supporting organizations.

Theoretical Framework

This study is framed in sociocultural theory, which posits that all psychological phenomena originate in social interaction (Vygotsky, 1978). For purposes of this study, the term “study group” is defined as a structure by which teachers by themselves or with the assistance of professional development consultants interact with one another to influence changes in educational practices (Abdal-Haqq, 1996; Clair & Adger, 1999; Saavedra, 1996). Study groups are one type of reform effort, along with networking and mentoring relationships, which offer teachers’ professional development opportunities based on research that supports best practices of instruction (Garet, Porter, Desimone, Birman, & Yoon, 2001). The HSP study group was designed to provide a supporting environment for the teachers to ask questions, dialogue, and reflect on their current teaching methods.

I studied how HSP teachers' beliefs and practices changed as a result of their interactions in the teacher study group. The objectives of the study group included the teachers gaining an
understanding of the Standards for Effective Pedagogy, incorporating the Standards into their instruction, and analyzing changes in teacher practices (Yamauchi, 2000).

The idea that study group interactions will result in the modification of teachers’ beliefs and practices (Matlin & Short, 1991) is consistent with Vygotsky’s notion of how the inter-psychological becomes the intra-psychological. In Vygotsky’s (1978) words:

Any function in the child’s cultural development appears twice, or in two planes. First it appears on the social plane, and then on the psychological plane. First it appears between people as an interpsychological category, and then within the child as an intrapsychological category (p.163).

Like the learning child, adult learners also develop new ideas from interactions within a social context (Tharp, Estrada, Dalton, & Yamauchi, 2000). The HSP study group was designed to promote dialogue between participants. It provided the social interaction that was necessary for changes in teachers’ beliefs and other ideas about instruction.

Teacher Study Groups as Professional Development

There are a number of methods described in the literature that are designed to promote teacher change in a social context. Among these are teacher-as-researcher, action researches, literature discussions and study groups. These methods overlap in meaning. The concept of “teacher-as-researcher” is rooted in “action research,” which encourages teachers trying out new ideas to improve curriculum, teaching and learning (Johnson, 1993). In the teacher-as-researcher method, teachers put theories to practice (Herndon & Fauske, 1994; McWhorter & Bullion-Mears, 1997). Both teacher-as-researcher and action research are often organized in a “team” format, providing opportunities for dialogue and support through group interactions, while
teachers perform research relating to their own classroom (Chiu, 2002; Johnson, 1993; McWhorter & Bullion-Mears, 1997).

Teacher study groups also promote the idea of teachers exploring different approaches to teaching and then integrating these techniques into their classrooms (Abdal-Haqq, 1996). Utilizing “social collaborative aspects” of learning, these groups provide opportunities for ongoing and in-depth conversations on many topics (Gallimore, Goldenberg, and Saunders, 1997; McWhorter & Buillion-Mears, 1997). University researchers or other educational specialists are often involved in the group sessions, assisting with facilitating the discussions and bringing an “outside” perspective (Burnaford, Fischer, & Hobson, 2001; Cherubini, Zambelli, & Boscolo, 2002; Hilliard, 1997; Sandholtz, 2002; Sparks, 1994).

For decades, study groups of many kinds have offered a means for individuals to gather, often promoting dialogue among group members. Makibbin and Sprague (1991) identified three early examples of study groups in America: (a) “Friday evening meetings” organized by Benjamin Franklin; (b) “study clubs” in the nineteenth century, where women were allowed to study classical writings; and (c) “reading circles” in the late 1800s, where groups of public school teachers gathered to study various educational issues. Similar to reading circles, today there are “learning circles” where a group of learners gather to support one another in the process of learning (McEwan, 2002). In what Makibbin and Sprague (1991) refer to as the “research-sharing” study group, teachers come together to read about current educational practices and discuss how they relate to their own classrooms.

Successful study groups can foster a professional community of learners where teachers collaborate to promote each other’s learning and development (National Research Council, 1996) and improvement of their practice (Rueda, 1988). Some of the characteristics of study groups
include supporting teachers toward constructing their own knowledge, working on real-life challenges associated with their classrooms (National Research Council, 1996), and honoring teachers’ expertise (McWhorter & Bullion-Mears, 1997). Attributes important to teacher study groups include maintaining a regularly scheduled meeting date and time (Gallimore, Goldenberg, and Saunders, 1997), teachers participating on a voluntary basis, and keeping the meetings focused on teaching and learning (Makibbin & Sprague, 1991).

Some study groups promote teachers conducting research in their classrooms (Briscoe & Wells, 2002; National Research Council, 1996; Zeichner, 1999). Study groups can be productive if teachers are open to trying out new strategies and modifying current practices in order to determine what methods are most effective (Saavedra, 1996). In study groups, teachers investigate personal theories and discuss, understand and further develop their teaching practices (Abdal-Haqq, 1996; Clair & Adger, 1999; Jones, 1997; Makibbin & Sprague, 1991; McWhorter & Bullion-Mears, 1997; Saavedra, 1996). Makibbin and Sprague (1991) argue that study groups are more effective when educators choose to participate and study their own topic of interest. "Top-down approaches," where researchers or other non-teachers are directing teacher-change efforts are often not as effective as teachers conducting research on topics they identify themselves (Boggs, 1996; Lomax & Evans, 1995; McWhorter & Bullion-Mears, 1997). Teachers who are actively involved in their own research tend to tackle issues related to “everyday practical problems” encountered in the classroom, instead of “theoretical problems” that are defined and addressed by researchers (Nixon, 1989).

Teacher study groups may also incorporate journal writing or “research diaries” (Altrichter, Posch & Somekh, 1993). Burnaford and colleagues (2001) refer to journal writing as the “lost and found” of the self. Journal writing opens the door for teachers to question, wonder,
and find answers that may not be immediate or concrete (Spalding & Wilson, 2002). Because keeping a journal can be time consuming, not all teachers may be receptive to adopting this practice. Yet, once a commitment is made to journal writing many teachers recognize the benefits of keeping a journal on their professional growth. As one teacher commented:

Through the process of keeping a journal, I recognized how I had gone through my teaching life seeing it as a series of lesson plans; I had not been highly reflective, and seemed to move from one year to the next without really looking at why I was doing things (Bumaford et al., 2001, p. 122).

Journal writing allows teachers to stand back from their activity to pause and mull things over and make connections between what they already know and what they are learning (Altrichter et al., 1993; Bumaford et al., 2001).

**CREDE and the Standards for Effective Pedagogy**

CREDE is a national research center funded by the U.S. Department of Education (USDE). In its first five years, CREDE sponsored 31 projects nationwide that studied issues of diversity in education from preschool to higher education. The HSP was chosen by CREDE to participate in one of its projects because researchers observed that there were examples of the Standards already emerging in HSP teachers’ instructional practices.

The HSP is one of two CREDE research and demonstration schools. It is located in Hawai‘i, on the western coast of the island of O‘ahu at Wai‘anae High School. Wai‘anae is a rural area where the largest Native Hawaiian population in the world lives (Yamauchi, 2000). Within the public school system, Hawaiian students are overrepresented in special education

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1 In this thesis, I refer to those of Hawaiian and part-Hawaiian descent as Native Hawaiians.
(Benham & Heck, 1998; Office of Hawaiian Affairs, 1994) and underrepresented in higher education (Office of Hawaiian Affairs, 1998). At Wai‘anae High School, the percentage of students in special education is the highest in the state. It is within this context that the HSP attempts to overcome stereotypes about “Hawaiian Studies” and “Hawaiian students” as being less academically oriented.

CREDE strives to develop new methods for teaching “all major linguistic, cultural, and ethnic groups, including those suffering all four identified risk factors for educational failure: limited English proficiency, poverty/economic disadvantage, race, and geographic location” (Tharp, 1997, p. 1). The Standards for Effective Pedagogy represent a consensus among CREDE researchers regarding research-based principles of best practices for students from diverse backgrounds. The Standards were derived from CREDE and other research studies focusing on how to best educate at-risk students (Tharp, 1997; Tharp, 1999; Tharp et al., 2000). In the following section, I describe each of the Standards in detail.

**Standard I: Joint Productive Activity (JPA).**

The first Standard promotes teachers and students collaborating to produce something tangible or intangible together. This idea differs from cooperative learning. Although both practices involve small groups of students working together, cooperative learning does not necessarily include involvement of the teacher beyond setting up the groups. In a JPA, teachers work together with students toward a common goal. Hilberg and her colleagues describe a tangible JPA product in their example of a classroom of students who worked together on a bulletin board display (Hilberg, Doherty, Epaloose, & Tharp, in press). Students were engaged in many activities within their small groups (e.g., cutting, taping, and rearranging, collaborating with one another) while the teacher worked with one group at a time on a particular section of
the bulletin board. Within each small group, the teacher asked students to explain the significance of their specific pieces of work that were added to the whole-class display board. The teacher also inquired with students as to the motivations and decisions behind their designs and creations, to share suggestions for placement of pictures or text, or to simply discuss the project with her facilitation. The activity was considered an “Enacting” JPA because the students were working together within their groups and the teacher collaborated amongst different groups of students on a whole-class project.

An example of a Joint Productive Activity within the Hawaiian Studies Program was observed in a lesson introducing students to various plant species. Students were instructed to work together to create a classroom map, detailing various plant stations located throughout the classroom. Within small groups, students took turns recording information and drafting pictures of the multiple plants as they were laid out in the classroom. Because the teacher was not observed collaborating with the students within their small groups, despite collaboration among the students, the activity was rated at the “Developing” level.

An example of a JPA resulting in an intangible product was observed in a mathematics class in which the goal of all students was to locate the center of a circle without the use of any tools other than a paper circle (Hilberg et al., in press). Students worked with each other and the teacher to obtain the solution that required folding the paper and creating creases marking the center of the circle. The product of the activity, the solution, was intangible. Intangible products can include gaining a better understanding of a concept or other idea without the presence of a tangible object.
Standard II: Language and Literacy Development.

This Standard emphasizes the importance of promoting language development in all content areas not just language. According to Tharp and his colleagues (2000), science, mathematics, history, literature and art each have a language of their own. In order for students to truly understand the content of any given subject, they must be able to use and understand the academic language of that content area. Enactment of this Standard involves providing constant opportunities for students to engage in both verbal and written communication while also promoting interaction, both written and verbal, amongst students themselves (Hilberg et al., in press). Teachers can also facilitate language development through restating, modeling, offering alternative phrasing, and questioning (Tharp et al., 2000).

Hilberg and colleagues (in press) present an example of Language and Literacy Development at the “Enacting” level within a sixth grade social studies classroom. In small groups representing different communities within various African nations, students were asked to identify problems within their respective communities and to create a list of ideas they felt might improve the problem. The students were instructed to categorize these improvements into one of five groups: social, health, economic, environmental, or political. Working with one group at a time, the teacher facilitated each group’s activity, “encouraging the students to speak in complete sentences, rephrasing, and questioning” them to promote participation in the discussion (p. 17). The setting afforded many opportunities for students to express themselves orally, while the teacher assisted the students in improving their language expression.

An example of this Standard from the HSP involves a Hawaiian language lesson designed to increase Hawaiian language usage. Students were asked to read sentences in English and then translate them into Hawaiian. The teacher also stated single Hawaiian words aloud,
“aia, eia, kou, ko’u,” and asked students to use the words in a sentence. Students were challenged not only to construct a sentence, but also to first identify and understand the meaning of the word and correct usage. This lesson meets the Language and Literacy Development Standard, at the Developing level, in that the teacher is providing the students the opportunity to be involved in both sustained reading and speaking activities.

**Standard III: Contextualization.**

This Standard emphasizes that new information is best learned when it is embedded in the experiences and skills of the students' home and community (Tharp et al., 2000). New ideas and concepts being presented to students must somehow be connected to what they already know and understand (Hilberg et al., in press; Tharp et al., 2000; Yamauchi, 2000). According to Hilberg and colleagues (in press), there are three specific sources from which students' prior knowledge originates: students' individual experiences, experiences at school, and experiences within their respective communities.

Cultural and educational literature suggests that there are three levels of contextualization: pedagogical, curricular, and political (Tharp et al., 2000). Only the former two will be discussed in further detail. Contextualization through pedagogy involves using teaching methods that are consistent with patterns of interaction from students' experiences in relationships with members within their homes and communities (Hilberg et al., in press; Tharp et al., 2000; Yamauchi, 2000). When students are faced with teaching methods that are unfamiliar or go against cultural norms, they may be less likely to participate and, therefore, not reach the objective set by the teacher for the lesson. For example, some groups, such as Native Hawaiians, tend to be more collectivist in orientation; that is, they tend to value achievement of group goals over individual achievement (Benham & Heck, 1998; Yamauchi, 2000). When
collectivist students are placed in a classroom that emphasizes individual achievement, students may be less attentive to the teacher and the assignment and more focused on gaining the attention of their peers (Tharp et al., 2000; Yamauchi, 2000). In one of CREDE’s affiliated programs, Papahana Kaiapuni, teachers contextualized their instruction by incorporating familial socialization patterns into their lesson (Yamauchi, 2002). Because siblings within Hawaiian families, regardless of age, are often encouraged to work together, Kaiapuni instructors modeled their classrooms to reflect a similar structure resulting in students working with peers from different grade levels. Contextualization in this case refers to teachers structuring the lesson to emphasize peer collaboration and collective achievement, a value commonly found mirrored within students’ homes and communities.

Contextualizing the curriculum, making it meaningful and connecting it to students’ prior experiences (Yamauchi, 2002), is equally important in that it requires teachers to incorporate concepts and materials that are familiar to students from their homes, communities, or prior learning settings. For example, consider a group of Hawaiian Studies Program students living in a rural community on the Wai‘anae coast on O‘ahu who are being introduced to basic concepts of biology and chemistry (Yamauchi, 2000). Although the ideas and terminology are new to the students, the teacher connects the concepts to the plants and animals that exist in the familiar Wai‘anae community. Because the students are able to see the relevance in the new concepts being introduced and directly relate them to their own community, they are more likely to remain motivated and interested in learning new material. This connection between classroom and fieldwork was observed in all of the HSP participants in this study.
The fourth Standard states that students must be Cognitively Challenged to go beyond simply looking for “correct” answers. Teachers who enact this Standard promote student recognition that there are many solutions and varying perspectives to answering a question (Tharp et al., 2000). Cognitive Challenge, also referred to as Challenging Activity, involves asking students “why” questions, not just “what” or “how” (Yamauchi, 2000). For example, in a Hawaiian Studies Program archaeology fieldwork exercise (Yamauchi, 2000), students work together on designing a map of a shrine, or heiau, under the guidance of a community mentor who is an archaeologist. From determining where to place the calibrated rods to obtain measurements, to making observations through a scope, followed with estimations and mathematical calculations, students were required to analyze the task of creating a map, drawing on information they already knew while also trying to connect the task to new ideas. Students needed to ask themselves and each other “why” the rod should be placed in one particular area instead of another. Once the measurers and observers conducted their readings and the students came together to discuss their findings, they needed to determine why individual calculations varied amongst themselves and with the standard measurement set by their mentor. Students were then expected to take the information they gathered in the field back to the classroom, where they were challenged to translate what they had experienced in the form of an accurate two-dimensional replication of the site. Encouraging students to ask themselves why questions reinforces the idea of analyzing various possibilities before answering, rather than seeking a single, correct answer.

An example of Cognitive Challenge was observed in a HSP science lab experiment. Within small groups, students were asked to conduct an experiment using a tray, candle and
graduated cylinder to determine how much oxygen was in the atmosphere. Students were challenged to ask themselves multiple “why” questions: Why the flame of the candle went out when covered with the cylinder; Why the cylinder was glass, not plastic; Why the water must be filled to a precise level in the tray; Why the water level in the tray rises and Why different groups of students percent results differed from the teachers.

**Standard V: Instructional Conversation (IC).**

The fifth Standard encourages the use of Instructional Conversation that is instructional in intent and conversational in quality (Tharp & Gallimore, 1987). ICs are intended to “promote learning” while providing ample opportunities for students to speak aloud “naturally and spontaneously” as they share ideas, ask questions, or have discussions with peers regarding the assigned task. A key element to ICs is that student talk occurs at higher rates than teacher talk (Hilberg et al., in press; Tharp et al., 2000; Yamauchi, 2000). Unlike many traditional classrooms structured on a “teacher-as-lecturer” followed by “student-recitation” model, ICs promote a “teacher-as-facilitator” model. In this model the teacher guides students toward making their own connections and building on what they already know. In ICs, it is important for teachers to elicit student conversations by asking guiding questions, and equally important for teachers to listen, allowing their students to ask questions and engage in discussions with other students (Ceppi, 1999; Hilberg et al., in press; Tharp, 1999; Yamauchi, 2000).

An example of an IC was observed in a preschool classroom setting in which the teacher was reading a story aloud to the students (Yamauchi, 2002). As the teacher paused intermittently between pages, students interjected with statements and questions. Instead of shushing the students so that she could continue, or not acknowledging them at all, the teacher paused and listened to what the students said and conversed with them. The teacher asked students “why”
questions (e.g., “Why do you think that?”) encouraging them to explore their own thought processes.

In a whole class lesson lead by the HSP history instructor, students took turns reading paragraphs of a newspaper article relating to “Beach Access.” Between paragraphs, the teacher asked students to restate what they had read aloud in their own words. The teacher listened carefully to the students’ interpretations, while questioning them on their views and promoting greater conversation among the class. The teacher challenged students to discuss the issue of beach access from both the public’s view, as well as the perspective of a homeowner. Although the teacher questioned, listened, and rephrased throughout the lesson to elicit student talk, because the lesson was conducted in a whole-class setting rather than a small group, the lesson was rated at the “Emerging” level.

The Waiʻanae High School Hawaiian Studies Program

The HSP at Waiʻanae High School began in the 1996-1997 school year under the leadership of two high school teachers. The teachers collaborated with the director of the Cultural Learning Center developed by Kaʻala Farm, an organization that provides community education on traditional Hawaiian culture and values (Ceppi, 1999). Kaʻala Farm remains one of the major partners of the program. Queen Liliʻuokalani Children's Center (QLCC) is also a partner and provides funding for, among other things, transportation to field sites, student part-time work stipends, and substitute teachers (Yamauchi, 2002).

During the 2001-2002 school year, there were 62 HSP students in grades 10 through 12 and four HSP teachers. The program was administered as a “school-within-a-school,” that is, students took at least three of their six courses in the program. The courses included (a) social
studies (history and anthropology); (b) English; (c) science (biology, chemistry and environmental science) and (d) Hawaiian language.

The program is open to all students ranging from special education, to honor students (Yamauchi, 2000). The HSP uses “project-based, interdisciplinary instruction” (Ceppi, 1999). Unlike traditional high schools that run on a bell schedule, Ceppi stated that students are engaged in learning content through its application to various projects. One day, students might benefit from spending 15 minutes working on mathematical computations and 3 hours writing. Another day, they might best use their time researching in the library or developing a presentation. Rather than organizing a schedule around subject and time specific periods, HSP curriculum calls for a schedule organized around project deadlines (pp. 101-102).

The HSP teachers emphasize completion of tasks towards a particular goal, rather than simply “time on task.”

The Hawaiian Studies Program strives “to empower students to become self-sufficient, productive, contributing members of their own community and of the global community, caring for the land and natural resources that make life possible” (Hawaiian Studies Program, 1997, p. 2). One of the distinguishing features of the HSP is the fieldwork where students work directly with agency mentors from within the community. Accompanied by their teacher and a community mentor, students might, for example, hike into the mountains to conduct testing on stream water in order to identify various characteristics such as the levels of dissolved oxygen, nitrates, pH, and stream volume and flow (Ceppi, 1999; Yamauchi, 2000). By working with community members in the field, students are exposed to possible career options and provided opportunities to make connections with those who share their interests. Students also relate what
is being taught in the classroom to their community and given the opportunity to work closely and interdependently with peers (Ceppi, 1999).

*The Hawaiian Studies Program Study Group*

CREDE professional development at Wai'anae High School was organized as a teacher study group. As defined earlier, a study group is a structure by which teachers by themselves or with the assistance of professional development consultants interact with one another to influence changes in individual teacher's ideas about educational practices. The study group included four HSP teachers and two CREDE researchers. Lois Yamauchi, the principal investigator for a larger project developing and studying the Hawaiian Studies Program, organized and facilitated the study group sessions. The group met weekly for 1-2 hours throughout the 2001-2002 academic school year. The sessions took place at the high school during regular school hours. A grant from CREDE allowed teachers to be released from their other duties. The teachers also received credits for a graduate level educational psychology course for their participation. Both release time and course credit earnings are common types of support built into professional development (Hauser and Batie, 1989; Joyce and Showers, 1988; Sparks and Louckes-Horsely, 1989; Ward, 1989). The goals of the study group included promoting an understanding of the CREDE Standards for Effective Pedagogy and their enactment in the HSP classroom and field settings.

*Using the Standards Performance Continuum.*

During the first semester of the 2001-2002 school year, study group sessions focused on understanding how to determine the extent to which each of the Standards was enacted in a particular lesson. The teachers read about the Standards and explored using the Standards
Performance Continuum (SPC), an index designed to measure the enactment of the Standards for Effective Pedagogy (Hilberg et al., in press). The teachers discussed the extent to which they were already integrating each of the Standards, and possibilities of how they might increase the enactment of those Standards not yet being practiced. As part of the study group activities, the group viewed videotapes of their own and other teachers’ instruction. After viewing a portion of a videotaped lesson, the teachers rated the lesson using the SPC. The group then discussed the criteria they used to determine each score. This was done to facilitate understanding of the Standards and to stimulate discussion.

Teacher Journals.

After several study groups sessions, group members decided that the teachers would keep a weekly journal about their implementation of the Standards in their classroom and during fieldwork exercises. For their journal entries, teachers were given the following instructions: “Reflect on your instruction in the Hawaiian Studies Program, including your work in the field and other settings. In what ways does your instruction reflect the Standards for Effective Pedagogy?”

The purpose of the journal entries was to allow teachers a means to actively reflect (Altrichter et al., 1993; McWhorter & Bullion-Mears, 1997), respond, and document their thoughts and feelings on each of the Standards including any of the difficulties or positive experiences they had while either preparing a lesson or actually attempting to use one of the Standards they had learned in a new lesson plan. According to Burnaford and colleagues,

Reflection is a process of making sense of one’s experience and telling the story of ones’ journey. A teacher’s current research possesses a history with stepping stones that have
led to the present and constitute a path of inquiry that can bridge the gap between teaching and researching (p. 8).

Altrichter and colleagues (1993) agree that journals are increasingly used by those involved in action research projects and are especially helpful to teachers when recording “observations, ideas and plans.”

Teacher Portfolios and Action Research Projects.

Second semester study sessions focused on how the teachers could increase their enactment of the Standards in the classroom and in the field. The teachers produced a teaching portfolio that presented examples of their enactment of each Standard. In addition, teachers, with assistance from the CREDE researchers, implemented action research projects. They planned for ways to increase their enactment of at least one of the Standards, documented those efforts, and analyzed the effects on student learning. Each participant’s action research project is summarized below.

Linda chose to focus on two Standards with her Hawaiian language students, Language and Literacy Development and Instructional Conversation, through a Puke ‘Ohana (Family Book) activity. While developing the activity, she recognized that the activity addressed several CREDE Standards. First, the activity included Joint Productive Activity as the teacher and students worked together to create family albums on the computer. Second, Language and Literacy Development was emphasized through instructional activities designed to help students learn oral and written vocabulary and sentence patterns in Hawaiian. Students prepared an oral presentation to share their family album with the rest of the class. Third, the lesson was Contextualized by basing the project on Hawaiian family values and the importance in Hawaiian culture of documenting the connections to one’s ancestors. Finally, because the teacher and her
students discussed family relationships, Hawaiian terminology, and the use of technology in small group centers, the Instructional Conversation Standard was met. Linda designed the lesson to help students to express themselves speaking in Hawaiian more often than in English.

Dan, in his English class, chose to focus on the Language and Literacy Standard. He chose to address this Standard as a means of developing effective practices for helping students learn and use vocabulary from the field work activities, including archaeology, reforestation, environmental science, and health, in their written work and oral presentations. Dan gathered word lists and had students’ select ten words to study. Students could choose to work with a small group to discuss and study the terms, work alone, or do a combination of the two.

Mike, the social studies instructor, chose to focus on the CREDE Standard of Cognitive Challenge for his grade eleven classes, Anthropology and Modern History of Hawai‘i, looking specifically at the topic of Polynesian migration. In this project, students attempted to answer the question “Where did the Polynesians come from?” They began by reading and discussing Thor Heyerdahl’s book *Kon Tiki*, which supports the theory that Polynesians came from South America. Students then examined evidence supporting Polynesian migration from Indonesia across the Pacific. Finally, the students prepared for and held a debate (the teacher randomly assigned students to one side or the other, so they needed to be prepared to debate either side). The students were required to connect information from the different sources to prepare a successful argument for the debate. The teacher gave them feedback about the quality of their arguments as the students worked in groups to prepare for the debate.

Erich decided to focus on the Standard of Cognitive Challenge, teaching Complex Thinking to students in his environmental science field rotation. He gave the students readings on various environmental issues related to their field work (stream studies) and held discussions
to try to improve students' understandings of the topics and the relevance to field work and Hawaiian studies in general. Students also wrote in their journals weekly to reflect on their experiences and document their learning. The teacher audio taped discussions and analyzed them, along with the students' journal entries, to see whether the students, over time, were able to make deeper connections between the readings and the work they were doing in the field.

*NSDC Professional Development Standards*

The structure of the HSP study group was consistent with professional development standards outlined by the National Staff Development Council (NSDC). Staff development, as defined by the NSDC, is "the means by which educators acquire or enhance the knowledge, skills, attitudes, and beliefs necessary to create high levels of learning for all students" (NSDC, 2001, p. 2). The NSDC specifies three focus areas: context, process and content standards. The HSP study group reflects those standards found in the process focus area.

The process standard consists of six criteria. Effective professional development are (a) data driven; (b) thoroughly evaluated; (c) research based; (d) appropriately designed, and (e) improve learning and (f) offer opportunities for collaboration (NSDC, 2001). In the HSP study group sessions, teachers and professional development consultants gathered evidence through journal writing, interviews, and video tapings on how the Standards for Effective Pedagogy influenced instruction. The professional development consultants and the teachers evaluated these data. The study group activities were grounded in research. The Standards for Effective Pedagogy were research based, as were activities that were designed and implemented for the teachers' action research projects. The readings, discussions, journal writings and hands-on research, provided ongoing opportunities for collaboration.
CHAPTER 2
Method

Participants

Participants included four educators teaching in the HSP during the 2001-2002 school year. There were three male participants and one female. The teachers' ages ranged between 29 and 61 years old. The three male teachers, Dan, Mike, and Erich, had less teaching experience (three to seven years) than did Linda, who had taught for nearly twenty years. Dan and Erich were new to the HSP that year. Mike had been involved for two years. Linda had been part of the program since its inception.

Participation in this study was voluntary. Each teacher signed a consent form (see Appendix A). All of the participating teachers were released from two periods weekly to attend study group sessions with the CREDE researchers. Teachers also earned three graduate level credits for their participation in the project.

Instruments

The Standards Performance Continuum

The Standards Performance Continuum (SPC) is an instrument designed to measure the enactment of the CREDE Standards within a classroom environment (Hilberg et al., in press). (See Appendix B.) While observing a live or videotaped classroom session, trained observers assign scores to indicate the extent to which each Standard was enacted. Scores range from 0-4:

0 Not Present: The Standard was not observed.
1 Emerging: One or more elements of the Standard were enacted.
2 Developing: The teacher designed and enacted activities that demonstrated a partial enactment of the Standard.
3 Enacting: The teacher designed, enacted, and assisted in activities that demonstrated a complete enactment of the Standard.

4 Integrating: The teacher designed, enacted, and assisted in activities that demonstrated skillful integration$^2$ of multiple Standards simultaneously (Hilberg et al., in press, p. 4).

In a study examining Native American students in Zuni, New Mexico (Doherty et al., in press), the SPC demonstrated good reliability ($r_s = .96$) (Doherty et al., in press). In a validity study, the SPC was used to differentiate between two groups of 8th grade mathematics classrooms: traditional classrooms that scored low on the SPC and CREDE classrooms that scored high. Examination of student outcomes indicated that students from the CREDE classrooms learned more mathematics and demonstrated greater improvement in attitudes towards mathematics than those students in the traditional group (Hilberg, Doherty, Epaloose, & Tharp, in press).

Baseline Interview Protocol

An interview protocol was developed to facilitate interviews with each of the HSP teachers at the beginning of the school year. The interviews focused on teachers' typical classroom instructional practices and their teaching philosophies. (See Appendix C for the list of interview questions.)

$^2$ Defined by Hilberg et al. (in press) as “A single activity with two or more Standards present at the enacting level.”
Follow-up Interview Protocol

A second interview protocol was used for follow-up interviews conducted at the end of the school year. The questions were based on the baseline protocol but asked teachers to reflect on practices over the past year. (See Appendix D for the list of interview questions.)

Data Sources

Videotapes of Teachers’ Instruction

During the first quarter of the 2001-2002 school year, the HSP teachers were videotaped while teaching in their classroom and in the field to determine a baseline of their enactment of the Standards. We rated the tapes using the Standards Performance Continuum. The teachers were again videotaped a second time in the classroom and in the field in May 2002. Because of scheduling difficulties, multiple videographers were used. They included CREDE researchers, students who had videotaping experience and on one occasion, a teacher who set up a video camera in the back of his classroom and recorded the lesson. All videographers were instructed to focus on the teacher while providing footage of all activities in the room.

Teacher Interviews

I interviewed each HSP two times during the 2001-2002 school year, at the end of each semester at Wai‘anae High School. The first interviews were conducted in the school library, and the follow-up interviews were held in each of the teachers’ classrooms. The lengths of the interviews were between 35 and 75 minutes. The interviews followed a semi-structured format, guided by the interview protocols. The interviews were audio taped and transcribed for analysis.
Teacher Journals

Teachers' were asked to record their thoughts and experiences regarding their enactment of the CREDE Standards. They were asked to make these reflections on a weekly basis. The journals were collected at the end of the year and photocopied.

Data Analysis

Videotaped Teacher Instruction

Teachers' instructions in the classroom and in the field were analyzed by rating the videotapes using the SPC. Scores for the two sets of videotapes (beginning and end of the school year) were compared to determine whether teachers enacted more of the Standards at the end of the year and to a greater degree. A research assistant and I were trained to use the SPC by Yamauchi, who was herself trained to use the SPC by R. Soleste Hilberg, one of the developers of the instrument. Training consisted of participating in discussions about the Standards and the SPC criteria, watching videotapes of classroom instruction, rating the tapes using the SPC, and discussing discrepancies in ratings. For this study, my assistant and I made our assessments individually and then compared our scores. When scores differed between us, we discussed the evidence we each used to determine our scores until we reached consensus regarding the score to be used (Hilberg, professional communication, 2003).

In an effort to establish inter-rater reliability, my research assistant and I independently rated five videotapes of classroom instruction that were unrelated to the current project. The inter-rater reliability coefficient was .14. Percent agreement was also calculated. Of the 25 possible scores, 52% of the scores were perfect matches; nine were within a one-point difference, and three were two rating points apart. This exceeded the “reasonable” standard of 70-75% agreement for scores within a one-point difference (The Psychological Corporation, 1993), as
88% of the scores were within this range. There was 100% agreement between our ratings for scores on the Instructional Conversation.

In order to establish even higher inter-rater reliability, my assistant and I repeated the procedure for five more videotapes of classroom instruction that were unrelated to the current project. Of the 25 possible ratings, 44% of them were perfect matches and 80% were within a one-point difference. The inter-rater reliability coefficient was .55, which was significant at the .05 level. Again, the raters discussed discrepancies between scores until reaching consensus to resolve these differences. Once again, there was 100% agreement for scores on the Instructional Conversation.

After establishing the inter-rater reliability described above, we rated the 16 HSP tapes independently. Unfortunately, the inter-rater reliability of these scores was low (.15). However 88% of scores were within one point difference (42.5 % perfect agreement), meeting the reasonable standard of agreement. Those ratings between my assistant and I which did not concur, were discussed in great detail. We each supported our ratings by citing specific examples taken from the observed video and compared the examples with specific guidelines of the Standard as stated in the SPC until we reached consensus.

Teacher Interviews

Data collected from both the pre- and post- interviews and journal data also suggest changes in teachers’ pedagogical beliefs and philosophies. In analyzing the interview data, I used a charting system (see Appendix E) in order to highlight changes from pre- and post- interview responses. Teacher interview responses were not as in-depth as I had hoped. Follow-up questions were also not readily used to probe for clarification and greater insights. As a result, the interview responses were not as informative as I would have liked.
Transcripts of the teacher interviews were analyzed by comparing the teachers' responses over time to determine if teachers' beliefs and practices changed over the school year, and in particular, whether such changes were related to the CREDE Standards. For example, a teacher who did not use small group structures at the start of the year might report using group work at the end of the year. The teacher might state that group work now seems more beneficial because it allows for Instructional Conversations with students. This would indicate change in practice and beliefs that incorporated the CREDE Standards.
CHAPTER 3

Results

In this chapter, I present data regarding the extent to which the HSP teachers' increased enactment of the five Standards for Effective Pedagogy throughout the 2001-2002 school year. The data sources include SPC ratings of the HSP teachers' classroom and field instruction, pre- and post- interviews, and teacher journals. These results are presented as case studies of each of the four teachers.

Case Study #1: Linda

Linda earned a master's degree in Special Education and had been teaching for 16 years. She lived in the same community in which she taught and was an active community member. Linda was one of the founding Hawaiian Studies Program teachers and taught Hawaiian language III and I.

Teaching philosophy. Linda entered the CREDE professional development sessions with a philosophy that all teachers must “continue developing their teaching... developing as professionals” in order to face new challenges. Some of the qualities, which Linda felt represented an exemplary teacher, included one who could “thoroughly prepare a lesson...who is creative and can get students interested in learning by relating the new information with what students already know...and who has great ideas and lots of energy” (G. L., personal interview, 2001).
When asked to describe how she perceived the process of learning occurs, Linda stated the following:

First, you have to see it. You have to be able to see how something is done. Also, why it is done. And then, you have to practice it, with somebody giving you feedback, about you know, if you are going down the right road (G. L., personal interview, 2001).

She uses the following example to illustrate the process:

It's just like canoe paddling. You can sit there and watch people paddle all day long, but if you don't get in the boat and try to paddle, and have somebody correct you, you won't really learn how to paddle the right way (G. L., personal interview, 2001).

Strengths and weaknesses. Linda stated that one of her greatest strengths as a teacher involved Contextualization. She believed that because she was able to “read” her students well, she could make connections between what students already knew and what she was trying to teach them. She provided an example of how she tried to engage all of her students from each of her classes, depending on the students’ interests:

I have one class that has a lot of sports guys, so I know I can hook on to that. Then there is another class and they are more family oriented, they just want to get married and have kids when they grow up. So you bring in examples based on who your audience is (G. L., personal interview, 2001).

As far as weaknesses, Linda suggested her teaching practices would benefit by her spending more time preparing lessons, and strengthening her technology skills so that she “doesn’t have to ask a kid to do it for her” (G. L., personal interview, 2002).

Personal goals. When asked about her personal teaching goals in the interview at the beginning of the year, Linda responded that she wanted to learn more about technology (i.e.,
video production and web page design). At the end of the school year, when asked the same question, she responded that she would like to continue doing her own research in her classroom in order to find better methods of teaching. She also indicated that she would like to continue working with her colleagues in their professional development efforts: “I like to take on new challenges and to be evaluated . . . I like getting feedback from professionals” (G. L., personal interview, 2002). These statements reflect her value on the Joint Productive Activity she experienced while working with the other teachers in weekly study group sessions.

**SPC ratings of instruction.** Table 1 presents the pre- and post- SPC rating results for Linda’s classroom and field instruction. Linda’s classroom instruction scores increased across the two observation points on every Standard, except for the Instructional Conversation, which remained the same. Her field scores did not change.

Table 1

**Linda’s SPC Classroom and Field rating results**

<table>
<thead>
<tr>
<th>Five Standards of Effective Pedagogy</th>
<th>Pre-Classroom</th>
<th>Post-Classroom</th>
<th>Pre-Field</th>
<th>Post-Field</th>
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</thead>
<tbody>
<tr>
<td>Joint Productive Activity</td>
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<td>4</td>
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<td>2</td>
</tr>
<tr>
<td>Language and Literacy Development</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Contextualization</td>
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<tr>
<td>Cognitive Challenge</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Instructional Conversation</td>
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</table>
Reflections on the study group. When specifically asked how the study group sessions influenced her teaching practices, Linda responded in the earlier interview that she was learning how to teach her students more effectively by breaking them up into small groups. At the end of the year, she said that the weekly study group sessions helped motivate her to look more closely at what she does as a teacher and how her teaching practices directly affect her students. With support and encouragement from her colleagues, she continued to be open to trying different things, “new methods and styles of teaching” (G. L., personal interview, 2002).

Journal. Linda’s journal entries were sporadic, dividing entries by date, with one entry in November 2001, three entries in January 2002, and two entries in February 2002. There were entries that specifically addressed the SPC manual, with brief discussions on each of the Standards and how they related to her Hawaiian language classes. There were also brief reflections on articles read in the study group sessions.

Although this teacher had only six total entries in her journal, each entry was approximately one typewritten page in length. This suggests that when she did find a free moment to sit down and write, Linda invested time and thought into her reflections. The following example is taken from one of Linda’s journal entries in which she reflected on the Instructional Conversation Standard. She began with an overview of what the students were involved in and ended with a brief description of how she viewed her role as teacher.

The other day the video crew met for lunch and an impromptu planning session began. There are six students in the crew now. Our leader is K.F. the only second year student. The rest are all ‘new talent’ and are sophomores except for one senior who just recently joined. The students began sharing their progress on present videos. Especially prominent was the Hawaiian Studies promo video that will be ready shortly. Students have been
working two evenings a week sometimes until 9 p.m. or until the t.v. studio kicks them out. K.F., the leader, began by reminding the others of the impending end-of-the-year video and cautioning them to finish all their other projects so that they could devote their attention to the end-of-the-year video. The others all volunteered or made deals about what they would be responsible for on this video (e.g., S [student] volunteered to do the archaeology segment and the Big Island field trip). K.F. jumped back in to remind them that they all needed to concentrate on the who, what, why, where questions when writing up their segments and arranging for interviews. There was discussion of what they had to do to get this information. For instance, whether the interviewer should supply this in the form of voice over, direct speaking to the camera or by letting the field expert (interviewee) cover the 4Ws (G. L., journal entry, Feb. 15, 2002).

Linda carefully recorded the impromptu student session, describing various students’ roles, and the objectives and guidelines for the video crew. Her journal entry continued:

My role as teacher consisted of clarifying a few questions about content, supplying anecdotes about past experiences (what can go wrong/right), and an initial caution about remembering who the audience is. Our students are very skilled technically but are young enough that considering various audiences has to be taught (G. L., journal entry, Feb. 15, 2002).

The journal entry did not include specific details on what Linda and her students said during this conversation, thus, it is difficult to determine to what extent she was enacting various Standards. Her entry did suggest performance of Instructional Conversation at least at the “Emerging” level, in that she was listening and offering students suggestions on considering who their audience is, “responding to student talk in ways that are comfortable for students” (Hilberg
et al., in press). Linda ends her journal entry on this day with a brief reflection on her role as a teacher:

This IC requires listening carefully, not intruding unless absolutely necessary (very hard for me) and using questions rather than “you should” statements. One role for me besides participation is to be sure that all commitments are written down. Interestingly enough, the kids were on this, each of them noting down the schedule and the parts of the video for which they were responsible (G. L., journal entry, Feb. 15, 2002).

The above excerpt illustrates that Linda recognized a behavior that she wanted to improve, her listening skills. She realized that by listening more, she would be speaking less. This is key to “Enacting” an Instructional Conversation because students must speak more than the teacher (Hilberg et al., in press). With further reflection, Linda might have begun asking herself how she could have rephrased her “you should” statements into questions for her students that would challenge their “views, judgments, and rationales” (Hilberg et al., in press).

Case Study #2: Dan

Dan earned a bachelor’s degree in American Studies and master’s degree in Natural Resource Management. He had taught for three years. This was his first year teaching in the Hawaiian Studies Program, teaching English, guidance, and reforestation.

Teaching philosophy. Dan believed that effective teachers motivate their students to want to learn, a quality he feels is exemplified through each of the Hawaiian Studies Program (HSP) teachers. An equally important teaching practice Dan advocated is linking classroom activities with field studies, which he stated “helps convey to students more relevance to what they are learning.” Dan described the process of learning at the beginning of the school year as a two-part process, which begins by “observing, and then by doing.” At the end of the school year, when
asked the same question, he stated that the learning process included observation, working closely with an “expert,” and also the ability to present what has been learned, to others.

**Strengths and weaknesses.** Dan credited his patient and persistent nature as personal strengths for him as a teacher. He believed that his ability to be flexible promoted a “good relationship” with students. He also felt that he was a “great motivator for students,” which is in part why he decided to join the Hawaiian Studies Program. The following is an example that Dan provided of how he tries to keep his students motivated. On the dry erase board in his classroom, he wrote the word *communication*, one of the goals he set for students that quarter.

I have a log assignment sheet and they [the students] have to fill it out each day. I tell them how many points the task is worth. Somehow that seems to be a good motivator. If they communicate with me while I am asking questions or participate in a group discussion, or if I walk around and I see that they are having discussions in their small groups, I tell them that they can add some extra points to their score... it helps them see how much on task they were for the day and whether they gained anything from the activity. If they are communicating a lot, it is part of the learning process (F. D., personal interview, 2001).

In this example, it is evident that the seeds of Joint Productive Activity, Language and Literacy Development, and Instructional Conversation are sprouting in Dan’s teaching practices. He has begun to see value in students working together in small groups and their being given the opportunity to speak more, and also the important role he plays through participation in discussions with his students. Dan recognized that communication is important to the learning process.
Dan felt that his greatest weakness as a teacher was his few years of teaching experience, as he had only taught for three years. He felt he was limited in his ability to create successful, “proven” lesson plans.

**Personal goals.** As mentioned earlier, one of Dan’s personal teaching goals at the beginning of the school year was “to motivate students to become more engaged in the learning process” (F. D., personal interview, 2002). He described his teaching style at the beginning of the year as traditional:

> ... western traditional in which [students] ... are not really working with other students

> ... and they just work by themselves, with a book or a worksheet and that is their companion for the duration of the class (F. D., personal interview, 2002).

When asked again at the end of the school year, Dan described his teaching style as “project based” teaching, in which students were in small groups, working on one big project together that was broken down into specific responsibilities for each group. He stated that by breaking students up into groups, “you have kind of a heterogeneous mix where stronger students can take more of a leading role in the group and help other students who may be having a difficult time.” This resulted in more students being engaged in the activity and overall process of learning.

In preparation for a field activity, Dan designed a lesson doing transects, in which students created a mock sample area of vegetation in the classroom. The goal of the lesson was for students to map out the transects: “to plot them, to learn species identification, talk about physical characteristics of each plant, and why certain plants had different characteristics such as being lighter in color or having a hairy type growth on them” (F. D., personal interview, 2002). Dan felt that this lesson went particularly well because students “were not just doing memory type work. They were actively involved in the activity and forced to answer why questions. What
they were learning, they were understanding, [the information was] not just something they would remember temporarily and forget the next day” (F. D., personal interview, 2002).

*SPC ratings of instruction.* Table 2 presents the pre- and post- SPC rating results for Dan’s classroom and field instruction. Dan’s scores for the Instructional Conversation Standard in both the classroom and field increased. In the field, Dan’s scores in Contextualization and Cognitive Challenge also increased.

Table 2

Dan’s SPC Classroom and Field rating results

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<tr>
<th>Five Standards of Effective Pedagogy</th>
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<tr>
<td>Joint Productive Activity</td>
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<td>Language and Literacy Development</td>
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*Reflections on the study group.* When asked how the study group sessions influenced his teaching practices, Dan said they “forced [him] to reflect” upon and “forced him to change” those teaching practices that were less effective and seek new methods of teaching” (F. D., personal interview, 2002). In addition, the sessions helped him to recognize that “different teachers have different strengths, they are strong in one area but might be weak in another” and “everyone can help each other out” (F. D., personal interview, 2002).
Journal. Dan's journal entries were broken into 31 sections, summarizing various activities throughout the school year. It is unknown whether or not his entries were entered on a daily, weekly, or monthly basis, only that they are entered beneath 31 different headings (e.g., Mākuā Access, entry 1; Honouliuli Testimony, entry 2; Wa'a Ceremony, entry 3), as there are no dates listed. There are five highlighted sections in Dan's journal (F. D., journal entry, n.d.) that appear to specifically relate to this study: (a) CREDE Meetings, (b) Pursuing Cultural Experts, (c) Reflection on learning relationships from the Big Island of Hawai‘i trip, (d) Wai‘anae High Coastal restoration site, and (d) Language and Literacy. Each of the relating references offers a sentence or two of this teacher's thoughts. Following are some examples of these entries:

CREDE Meetings:

These meetings were important because we were all working towards a common goal of continuing the HSP and making it even better. . . . Professional development was a must for me. It forced me to think about more group processes with the students.

Pursuing Cultural Experts:

At times it is a job of a teacher to be facilitator rather than a direct teacher. This can happen by finding specialists who have more experience in the areas that students can learn from.

By mid-way through the school year, Dan's journal entries started to reflect beginning signs of more introspective reflection. Under the heading of Language and Literacy, Dan wrote:

I tried to improve the literacy of words used throughout the Hawaiian Studies rotations.
Some students took it to heart to learn many of them. A large number would only remember words from their rotation. Perhaps this is a suggestion that hands-on work is best for literacy retention (F. D., journal entry, n.d.).

Here, Dan points out that Language and Literacy Development is important in promoting maximum learning. He continued in his journal:

The class came up with a list of words used in their rotations. This was a fulfilling class. Students were thinking and adding their input. Next I typed up the words and had them do a pre-test. Many of them would do words only in their rotation. The next step was to make a heterogeneous mix of students by ability and with a good mix of the different rotations in each team. There were four teams in all. Each team had a mix of mentors and first year students. The idea was to give students access to upperclassmen and people out of their rotation to find out some of the words. I don’t think many if any students took advantage of this (F. D., journal entry, n.d.).

Again, by breaking students into heterogeneous groups and encouraging them to engage in conversation with one another in order to increase their understanding of the vocabulary words, Dan was beginning to incorporate the Standard of LLD into his instruction. He continued in his journal:

Later I gave them some definitions students gave from their pre-test. The last step was to prepare them for their interviews. They were to use some of the words in their interview. I went over possible ways to use them with one-on-one practice interviews. Students were already stressed over the interviews so the added burden of using literature did not fair well with them. They did not see it as a benefit to the
interview. Students took a post-test. I did not see much improvement. After the test students did a survey to see which learning steps in the process were most useful (F. D., journal entry, n.d.).

In this particular lesson, it is difficult to interpret whether or not Dan “explicitly modeled appropriate language,” other than his stating he worked with the students one-on-one during practice interviews. It is also difficult to determine how much Dan examined his teaching practices and reflected upon possible solutions toward improving the lesson in the future. However, the example does illustrate Dan’s careful observation in assessing his students overall performance during the lesson.

Case Study 3: Mike

Mike earned his undergraduate degree in Political Science and Master’s degree in Education and Teaching. He had five years teaching experience and had taught Hawaiian history, anthropology, and Hawaiian studies for two years in the Hawaiian Studies Program.

Teaching philosophy. “Everything in teaching for me is about making connections.” Mike believed that good teaching stems from making connections with students, community members or experts who are more knowledgeable in a given subject area. He saw this as a strength of the Hawaiian Studies Program, “You don’t have all of the knowledge, necessarily, but you are able to find resources, find things out that will help engage [the] students and [then] they can learn from those experiences . . . and ultimately from the connections made” (R. M., personal interview, 2001).

Early in the school year, Mike was asked how he believed that learning occurs. His response was: “you must spark an interest in the kids . . . [then] direct them toward something that is important to them” (R. M., personal interview, 2001). When asked again at the end of the
year, Mike began by re-stating the importance in “sparking an interest” in his students, however he added that in order to do so, he must “make connections for the students, building on their knowledge base” (R. M., personal interview, 2002).

*Strengths and weaknesses.* Mike viewed one of his greatest strengths as a teacher in his ability to build relationships with his students. He believed that establishing a trusting relationship with students creates a bridge, connecting the teacher and learners and that this was important to him: “Everything in teaching is about making connections with the students.” (R. M., personal interview, 2002). Some of the weaknesses that Mike recognized in his teaching skills at the beginning of the year included assessment and bringing closure to activities. At the end of the year Mike responded:

My weakness, I’m a little disorganized ... I’m good at starting things off ... what I really need to work on is not so much closing things off, ‘cause I think I’m good at that now ... but more importantly ... truly assessing each student ... How much did they learn? How much did they do? ... Because a lot of projects are done in groups, I don’t know how much work each student is really doing. I’ll ask them, but they are not going to rat each other out and say, ‘Oh, Mister, I did all the work and this person didn’t.’ So I need to, I guess, more actively monitor, maybe participate in all the groups more.

*Personal goals.* One of the goals Mike set at the beginning of the school year was to learn and grow in his teaching practices, specifically focusing on finding “links to connect what was important to the students (their home and community) with things that were important for them to learn (curriculum).” During the study session group meetings, Mike was introduced to the CREDE Standard, Contextualization. At the end of the school year, when asked if in his lessons he tried integrating student’s prior knowledge and backgrounds into the curriculum, Mike
replied, “Yes, I try to, every time ... There is always some kind of connection to something, even if it is only a small connection” (R. M., personal interview, 2002).

During his post interview, Mike cited an example in which he was trying to explain what seamarks were to his students learning about ancient Hawaiian navigation. He began by comparing the term seamark to landmark. Mike asked students to think about a time when they gave someone directions to their house or to meet somewhere. He asked for a show of hands from his students, “How many would give street directions using North, South, East or West?” Few students responded. “How many would point out familiar places, instead?” Students began shouting out various landmarks, “the big Coronets,” “Wal-Mart,” and “7-Eleven” as directional markers. The teacher went on to ask students what seamarks might look like and then provided the students with some examples: “a school of porpoises, a tan shark making lazy movements, a ray with a red spot behind the eyes, a lone noisy bird ...” (R. M., personal interview, 2002).

SPC ratings of instruction. Table 3 presents the pre- and post- SPC rating results for Mike’s classroom and field instruction. Mike’s classroom scores in both the Joint Productive Activity and Instructional Conversation Standards increased. In the field, his pre- and post-scores remained the same.
Table 3

Mike’s SPC Classroom and Field rating results

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<thead>
<tr>
<th>Five Standards of Effective Pedagogy</th>
<th>Pre-Classroom</th>
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<th>Pre-Field</th>
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<tbody>
<tr>
<td>Joint Productive Activity</td>
<td>2</td>
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<tr>
<td>Language and Literacy Development</td>
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<td>Contextualization</td>
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<td>Cognitive Challenge</td>
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Reflections on the study group. Mike attributed his progress as a teacher in part to the weekly CREDE study sessions. The meetings provided him with a comfortable environment, in a small group setting, which “motivated [him] to say what was on [his] mind,” rather than “kicking back and letting everyone else talk” (R. M., personal interview, 2002). Mike said that he appreciated having his group of HSP colleagues, who offered him support and suggestions as he needed them. He appreciated that the group provided a forum to “constructively discuss things going on in the classroom” (R. M., personal interview, 2002) on a level in which all teachers could identify with one another.

Journal. Mike’s journal entries were hand-written and included few dates or section headings. His style of writing was free flowing, somewhat like a steam of consciousness or a monologue of thought. There were many examples of Mike’s reflecting, as he attempted to understand and incorporate the Standards into his daily teaching practices. In trying to
incorporate JPA into his daily practice, Mike wrote in his journal at the beginning of the school year:

I have difficulty setting up the small group learning centers as I have seen them implemented in examples. I love having my students work in groups, but I haven’t quite figured out how to set a multitude of activities up with the content I teach (R. M., journal entry, n.d.).

At the end of the year, in his post-classroom videotaped lesson, Mike conducted a lesson on ancient Hawaiian navigation that is an excellent example of JPA. The students are broken into small groups, each group responsible for reading, summarizing, and recording on chart paper the important facts of their assigned sections (The Stars; Seamarks; the Sun; Ocean Swells; Land based Seabirds; the Moon, and Signs of Landfall). Mike wrote in his journal:

We went over the Hawaiian star compass. Students role-played different directions on the compass and simulated what a navigator would see in the night sky and learned how that info could help the navigator find direction (R. M., journal entry, 04-24-02).

Mike used his journal as a conversational tool, posing questions to himself to ponder. For example:

Am I making sense? (R. M., journal entry, n.d.)

Where did the Polynesians come from? (R. M., journal entry, n/d.)

Does this make sense? (R. M., journal entry, n.d.)

If I can’t find sources that provide each side (specifically the Asian origination theory), how can I expect my students to do so? (R. M., journal entry, n.d.)
Am I influencing their perception of their research? (R. M., journal entry, n.d.)

Each of the above questions showed that Mike was not only thinking about his thoughts and behaviors as a teacher, but he was also questioning them for clarity and effectiveness.

By January, Mike had chosen to focus on “teaching complex thinking” for his action research project. He wrote that he “needs to work on this Standard because much of the work I assign stays on the lower levels of thinking” (R. M., journal entry, n.d.).

Case Study #4: Erich

Erich earned a bachelor’s degree in Animal Ecology and a teaching certificate in biology, chemistry and general science. He began his teaching career in Iowa, before moving to O‘ahu, Hawai‘i and becoming a teacher at Wai‘anae High School (WHS). Erich has been teaching for a total of seven years. He has taught biology, chemistry and environmental science at WHS.

Teaching philosophy. Erich began the school year believing that effective teaching required “old-school lecture-lab” style instruction. He stated that he was “not a big fan of group work because you get stuck with a couple of [students not interested in participating] and then you know, what are you going to do?” When asked to elaborate on why he did not advocate group work, Erich responded by saying that “some kids don’t care…you know, they may come [to class] once a week, they don’t have any interest in it, they are like, ‘I don’t care,’ you know, it doesn’t matter to them if they fail...So, that is one of my problems working with groups” (S. E., personal interview, 2001).

When asked about his thoughts on group work again at the end of the school year Erich stated that he thought that group work was okay “as long as it’s structured the right way. I wouldn’t use it for everything...as far as labs are concerned it’s—it’s a good idea (S. E., personal interview, 2002).
Erich’s thoughts on the learning process during his pre-interview resulted in the following responses: “You have to have some prior knowledge. You have to be able to say ‘hey, you know what? That’s kind of like this and then, work into it and add onto it’” (S. E., personal interview, 2001). His end of the year response again offers more clarity on his thoughts of how students learn best; especially Hawaiian students: “one area where [the] Hawaiian Studies Program is real strong is the hands-on, the doing, part of it. And I think kids learn, especially kids out in Wai‘anae, learn well, [learn] a lot doing it that way as opposed to strictly classroom, book work” (S. E., personal interview, 2002).

Strengths and weaknesses. Erich said that his greatest strengths as a teacher are that he is confident, interested, and excited about teaching his subject matter; science. He believed that “if you are excited about what you are teaching, the kids will pick up on that and will want to learn more about the subject being taught” (S. E., personal interview, 2002). Erich stated in his interview that he felt it was “very important for students to not just be able to spit something back at you but to analyze it and really think about things” (S. E., personal interview, 2002).

One means of promoting complex thinking is by going beyond only asking students “how and what” questions, including asking them “why” questions as well (Yamauchi, 2000). Erich provided the following example of how he enacted Challenging Activities into his instruction. During their fieldwork, Erich asked one of his students why he believed that the teacher took them fishing. The student offered the following response: “The Board of Water Supply is reducing pumpage in Mākaha Valley and we like see if the streams start flowing more and how it affects aquatic life in the ocean” (S. E., personal interview, 2002).
When asked what he thought his weaknesses were as a teacher, Erich stated that he would like to "be a little bit more organized. I'm a little bit, a little messy when it comes to keeping records and stuff like that."

Personal goals. At the beginning of the school year, Erich set two goals for himself to accomplish by the end of the school year: (a) "to make kids more environmentally aware of the effects of their behaviors on the environment" and (b) "to make students conscious of why science is important in their life" (S. E., personal interview, 2001). At this point, Erich considered himself an "old school lecture-lab" teacher. He stated in his pre-interview that he was "not a big fan of cooperative learning;" although he footnoted that he was trying to work on increasing the amount of group activities in his daily lessons.

In a lab experiment towards the end of the school year, Erich designed a lab lesson incorporating group work. After reviewing the objectives of the investigation and explaining the equipment and procedures, students were broken into groups of three to five individuals. Within their small groups, students collaborated, observing, measuring, and calculating the level of oxygen in the air. After each group determined a percentage, the entire class convened to discuss their variations in results.

When asked again at the end of the year what new goals Erich set for himself, he stated that he wanted "to keep learning, continuing to find creative new ways to get students excited about learning and to keep teaching fun for himself and for his kids" (S. E., personal interview, 2002). This "old-school" instructor evolved not only to become open to trying new methods of teaching in order to keep his students interested, but now also described himself as a learner.
SPC ratings of instruction. Table 4 presents the pre- and post- SPC rating results for Erich’s classroom and field instruction. Erich’s classroom post-score for Cognitive Challenge increased. All of his other scores remained the same.

Table 4

Erich’s SPC Classroom and Field rating results

<table>
<thead>
<tr>
<th>Five Standards of Effective Pedagogy</th>
<th>Pre-Classroom</th>
<th>Post-Classroom</th>
<th>Pre-Field</th>
<th>Post-Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joint Productive Activity</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Language and Literacy Development</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Contextualization</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Cognitive Challenge</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Instructional Conversation</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Reflections on the study group. Erich stated that because of the professional development study group sessions; he was challenged to deeply examine his method of teaching. He stated that the discussions with Yamauchi and his fellow HSP colleagues motivated him to look at how his current teaching practices related to what he could be doing based on the CREDE Standards.

Journal. Erich recorded at least one journal entry per month throughout the entire school year, with the exception of March, which was the month that the school was on an inter-session break. Recall that Erich also incorporated journals into his lessons for his students, which may have allowed him the time to record his own journal entries. Similar to Mike’s, Erich’s entries went beyond describing the highlights occurring on a particular day, to include specific
references to his teaching practices and how he might improve them. Many emotions are conveyed in Erich’s journal, ranging from frustration to elation, and from uncertainty to clarity. On one occasion, he described spending a day in the field with his students, performing water quality tests and fishing, recalling the first time he went fishing when he was five years old.

Went . . . this morning to fish for *papio*. Waves were too high to fish. Did our usual water quality—I made sure to continuously quiz the kids as to what test they were doing and why. I told them we would be doing an environmental issue paper and they thought it sounded cool. Did a reading on clean water in the world. Easy to read and understand. They couldn’t believe 1 out of 6 people in this world don’t have clean drinking water. We discussed bacterial/viral H2O borne diseases, we also talked about dengue as I was getting tore up by mosquitoes. I also was recalling the first time I ever went fishing when I was 5. I used some string & a safety pin. I was catching crawdads. I also caught a small sunfish & I was so excited. I ran home to show my mom my whopper of a catch (S. E., journal entry, Jan. 31, 2002).

This reflection showed how Erich was relating his own past experiences of going fishing as a young boy to what he and his students experienced earlier in the day.

Another example was taken from Erich’s very first recorded journal entry:

- Still no H2O test kits
- Visual assessment will be introduced
- Reading
Went through 8 of 10 visual assessment protocol. It went well, most students were focused. I need to revamp data sheet to make it easier to read/understand. N [student] continued to be a clown requiring constant attention. We are keeping him back next week. Reading on value of human life (S. E., journal entry, Sept. 20, 2001).

Erich recognized that the data sheet was difficult for his students to read and understand, prompting him to note that he needed to modify it. He was also aware that one student, N, required monitoring, which took Erich's attention away from the rest of the class and would result in N's not participating in the following week's field lesson. In his entries of the days following, Erich continued to reflect on his instruction, and made reference to N's behavioral disruptions to the rest of the class. In another entry Erich wrote:

- Sunny and clear

Got two new students today, K and J. We didn’t fish as everyone forgot poles. We had a bit more relaxed pace as we hiked. It was kind of nice. We did a reading on the greenhouse effect. Everyone was involved and offered opinions on what could be done about it. I explained the reason I bought a smaller car and sometimes ride my bike to school-to cut down on CO2 emissions. Had some good [I]nstructional [C]onversation when discussing the water tests (S. E., journal entry, April 10, 2002).

In the above entry Erich cited a clear example in which he Contextualized the new information he was trying to convey to his students. He connected the effects of the CO2 emissions with using a small automobile or alternative mode of transportation, something that was familiar to the students. He also advanced their knowledge to more complex levels by asking them to problem-solve what might be done about the Greenhouse Effect.
CHAPTER 4
Conclusion

Study groups are one means of offering teachers ongoing opportunities for professional growth in a social context. The group allows teachers to explore new ideas and methods of improving their teaching performance through peer discussions, action research projects, and personal reflections via mental or written dialogue in journal writings (Bullard, 1998; Janesick, 1998; Maloch, 1999). Proponents of small group learning environments argue that when participants are engaged in activities involving topics of relevancy and importance, they are more likely to benefit from the group experience (Bullard, 1998; Maloch, 1999).

Under the guidance of Dr. Yamauchi, the HSP teachers explored the Standards for Effective Pedagogy through ongoing study group sessions. These sessions were themselves designed to enact the Standards. Yamauchi planned the sessions as Instructional Conversations so that the group, together, learned about the Standards and analyzed the enactment of the Standards in the teachers’ individual classrooms. She modeled, questioned, and provided feedback to the teachers. The study group sessions encouraged teachers to speak freely and openly about questions and concerns they had in regards to understanding the Standards, while Yamauchi interjected with clarifications and suggestions for classroom implementation as was needed.

Study Group Sessions

According to Brandt (1996), adult learners positively respond to support and feedback from peers and more knowledgeable experts. Each of the four HSP teachers responded favorably when asked about the professional development study sessions. Perhaps this is because all four
teachers stated that they enjoyed teaching and also learning. Each teacher voluntarily chose to participate in the study group, bringing with them the willingness to share and a desire to learn.

All of the teachers mentioned how time consuming the HSP was, above and beyond their overall teaching responsibilities. They viewed the study group, though adding to the time they spent on the program, as valuable to their professional development as teachers. In her interview, Linda stated that many of the school wide professional development meetings and “regular school obligations” (G. L., personal interview, 2002) were often not relevant to the HSP, and therefore, not often beneficial to the HSP teachers. Other researchers have noted that teachers value on-going weekly meetings in small groups as opposed to “one-shot workshops and presentations” that are often offered for professional development (Gallimore, Goldenberg, & Saunders, 1997; Rueda, 1998).

For Dan and Mike, the small group atmosphere provided a non-threatening environment that encouraged them to be more vocal than either believes he would have been, had he been part of a larger group. Dan said that “conversation is a little more relaxed” (F. D., personal interview, 2002), while Mike stated that “in a constructive way we are able to talk about things that are going on in our classroom on a more intimate and personal level.” (R. M., personal interview, 2002). The teachers appreciated the weekly agenda of the group that offered them the opportunity to “talk story\(^3\)” on an informal basis. The HSP participants also agreed that they were challenged to analyze their present teaching strategies and were encouraged to experiment with alternative teaching methods. The study group format might also have worked well for this group of teachers because they are a close group who values the camaraderie of working in the

\(^3\) “Talk story” is a phrase in Hawai‘i Creole English used to describe a relaxed, informal discussion.
program. The HSP uses teaming and looping to create a smaller learning environment for students within a larger high school (Yamauchi, in press). This kind of structure may also benefit teachers in creating a smaller working environment with peers. The teachers often referred to the program as “our” program and made references from a “we” rather than “I” viewpoint. Dan stated in his interview, “we’re really involved with learning with the students at the same time” (F. D., personal interview, 2002). Erich appreciated the “camaraderie” within the group, stating that if his peers had a lesson that worked well for them, they could share it with the other teachers (S. E., personal interview, 2002).

Teacher Change

Who Changed?

When considering increases in the SPC ratings from the beginning of the year to the end, Linda and Dan appeared to have made the most positive changes in their enactment of the Standards.

Compared to the other Hawaiian Studies Program teachers, Mike began the year with the greatest number of “Enacting” SPC ratings. He had a total of 4, compared to scores ranging from 0-2 among the other teachers. This suggests that Mike began the year at a higher level, which explains why his post SPC results reflect the least change. During his pre-interview, when asked how he thought the CREDE Standards would fit in with what he already did as a teacher he stated:

... they are just good teaching strategies. And I may not have been doing those things as a model, but I think to some degree some of those things I’ve tried to at least put into my teaching even before I even learned about them. So I think they’ll fit right in ... just solidifying what I do in my practices (R. M., personal interview, 2002).
Applying Vygotsky’s (1978) concept of the Zone of Proximal Development (ZPD) might help to explain why Linda and Dan changed the most. According to Vygotsky, the ZPD is the distance between what an individual is capable of accomplishing alone and what an individual can accomplish with assistance from a more capable other.

Each of the teachers began their participation in the study group at different individual levels of performance, as represented by their initial SPC scores and pre-interview responses. One reason why Linda and Dan’s scores increased more might have been because their total pre-scores, or individual levels of performance, were lower than the other two teachers’. Respectfully, they might have simply had more room for improvement. This might be particularly true for Dan, who had the least number of years teaching experience. He was also teaching English for the first time, a subject for which he was not certified.

Another consideration is each teacher’s level of assisted performance, the second level of the ZPD. Yamauchi provided assistance to the teachers in the study group sessions. Each teacher would have been able to perform at a different level with that assistance. Linda, with the most years of teaching experience, might have been more able to internalize that assistance and move more rapidly to a higher level of performance. Linda was the only teacher who reached the Integrating level (4) of performance on the SPC.

Another reason why the study group might have influenced the teachers differently may be related to variability in their personalities or interaction styles. The Five-Factor Model (FFM) of Personality divides personality traits into five categories: Negative Emotionality, Extroversion, Openness, Agreeableness, and Conscientiousness (Howard & Howard, 1995; McCrae & Costa, 1992). It is possible that Linda may have changed more than others because she might be more extraverted.
In her interview, Linda described herself as "loud" and physically and mentally "active," while other teachers considered themselves as less extroverted. Dan described himself as patient (F. D., personal interview, 2002), and Mike considered himself "easy-going" with a "laid back" style of teaching (R. M., personal interview, 2002). Linda's uninhibited temperament was observed during both interviews. In responding to the majority of questions asked during the interview, Linda rarely paused; rather, she confidently answered with whatever came to mind, with what appeared to be little mental filtering. For example, she began her pre-interview candidly and somewhat sarcastically stating that an internship at the State (Psychiatric) Hospital prepared her well for her future work within the Department of Education. It may be that an extroverted personality lends itself well to gaining assistance in a study group because someone like Linda might be more engaged in a discussion. Engagement or practice is what, according to Vygotsky (1978), leads to increased learning:

\[ \ldots \text{we have seen that where the child's egocentric speech is linked to his practical activity, where it is linked to his thinking, things really do operate on his mind and influence it. By the word things, we mean reality. However, what we have in mind is not reality as it is passively reflected in perception or abstractly cognized. We mean reality as it is encountered in practice (p. 78-79).} \]

It may be that Linda asked more questions of Yamauchi and her colleagues in the study group, yielding more assistance from that process than others did.

*Where Was The Change?*

Most of the increased enactment of the Standards occurred in the classroom. Dan was the only teacher who demonstrated changes in the field. For the other three teachers, their field scores remained exactly the same across the year. In addition, Mike and Erich's field scores for
both pre- and post- ratings were identical to each other's. This latter finding might be explained by the fact that Mike and Erich both supervised students in the environmental science field rotation, and sometimes planned for their field instruction together.

One possible reason why, for the most part, change was not observed in the field is that the SPC Standards were developed for classroom instruction. All of the video examples presented to the teachers from CREDE during the study group sessions were of classroom instruction. This emphasis was also reflected in the teachers' action research projects. Erich was the only teacher who chose to conduct his research on his field instruction. The other teachers designed projects that implemented the Standards in the classroom. The teachers may have unconsciously focused more attention on implementation of the Standards primarily within the classroom rather than in the field.

The reason why Dan showed change in his field instruction might be explained by the way he viewed community experts who also participated in the field instruction. Evident in his field videotape recordings, during his interviews, and based on his journal entries, Dan indicated that he sought the support of community experts to supplement his own instruction. For example, in his first field videotape, he was accompanied by a botanist from Ka'ala farm who was leading the students in a new restoration project. In this recording, Dan's participation in the instruction was limited on this particular day. Instead, the botanist was the primary teacher who led the students through their workbook activities, discussing differences in foliage of pods, thorns, flowers and potential threats to native plants. Dan conversed very little with students and when he did, it related mostly to nonacademic topics. On another day, he wrote in his journal:

At times it is a job of a teacher to be a facilitator rather than a direct teacher. This can happen by finding specialists who have more experience in the areas that students
can learn from. We have cultural experts with Ka'ala [Farm], QLCC [Queen Lili'uokalani Children's Center], and from recent graduates (F. D., journal entry, n.d.).

During his pre-interview, Dan stated that one of his strengths was being involved in learning with his students. He viewed this as positive in that his students saw him in a learning role, when there are experts who "know a lot more than I do." It may be that in the field, Dan started off the year viewing his role as more of a learner, but by the end of the year, he was doing more instruction.

This description of Dan's field instruction contrasts with that of Linda's, who was also videotaped in the field accompanied by a community expert, a state archaeologist. In her tape, Linda was more active and verbally involved with her students. Although Linda allowed the expert to take lead at times, she continued to be involved in the instruction. For example, before inviting the expert to speak, Linda gathered her students together and re-capped what they had previously learned in the field. She continuously conversed with students building on what her guest expert was discussing. She also summarized the lesson and prepared the students for what to expect on their next field outing.

*Which Standard Changed the Most?*

When comparing the different Standards and total change across all four teachers, Instructional Conversation changed the most. The reason for this is likely because it was the Standard that the teachers collectively scored the lowest in their pre-SPC ratings results. The Instructional Conversation might be considered the most difficult Standard to achieve, as it requires structuring one’s instruction for sustained small group discussions. In addition, Enactment of the Standard depends upon student behaviors, as much as the teacher's. For example, students have to be willing to be active participants in the conversation and to speak at
rates higher than that of the teacher. These challenges help in explaining the low Instructional Conversation pre-SPC results.

The teachers' may have improved in their enactment of the IC because it was regularly "practiced" within their teacher study group. The group was designed and led by Yamauchi with a clear goal in mind and emphasis on increased student [teacher] to teacher [professional development expert] talk. As Hilberg and colleagues (in press) assert, "learning and development are inherently social, and the construction of knowledge and meaning are situated within a socially created context" (p. 3). It may be that the more the teachers’ practiced and engaged in ICs, the more familiar and comfortable they became using them in their own classrooms.

Erich is perhaps the best example of change, at least in attitude, toward Instructional Conversation. He began the school year with what Tharp and Gallimore (1987) consider "recitation instruction [that] is characterized by highly routinized or scripted interaction;" or what Erich similarly referred to as “old-school lecture” style of instruction. He stated in his pre-interview:

I still like the old school lecture-lab. You know, you tell them [students] what something is about and then you do a lab on it so that they can see it for themselves. I’m not a big fan of cooperative learning but I have been doing more of that (S. E., personal interview, 2001).

At the end of the year, Erich’s attitude toward what he called “cooperative learning” had changed. He said he valued “prompting them [students] toward whatever specific objectives you have for them” by asking questions rather than “telling” them what to do.

The two other Standards, Joint Productive Activity and Contextualization merit mention because although there was little change in their enactment across the year, they were
collectively the most highly “Enacted” both in the pre- and post- SPC results. This could be explained by the fact that the enactment of these two Standards were the reason that the HSP was chosen as a CREDE demonstration site. That is, these were Standards that the teachers were already implementing before participating in professional development sessions.

Limitations of the Study

Reactivity

Reactivity refers to participants changing their behavior because they know they are being observed. According to Jones and Davis (1965), “most people want to gain the rewards implicit in approval from authority figures, most people wish to manifest what is required of them” (p. 300). One limitation to this study is that the teachers may have been answering in socially desirable ways when they responded in the interviews and in their journals, as they were aware that their responses might eventually circle back to Yamauchi. Furthermore, both the pre- and post- video recordings were scheduled in consultation with the teachers, enabling them to prepare a lesson geared toward implementation of the Standards, which may not have been typical of other lessons. Similarly, the students may have been reacting to being videotaped and behaved in ways that did not reflect how they would behave without the presence of a video camcorder.

SPC Ratings

A major limitation was the low-inter-rater reliability of the SPC scores. The raters found that some of the definitions of the Standards were ambiguous, leaving room for subjective interpretation. Despite the fact that the raters viewed a total of 62 videotaped excerpts between them: five training videos, ten practice videos, and sixteen total pre- and post- HSP classroom and field video recordings, with an estimated total of 310 individual SPC rating scores, the raters
still struggled to obtain consistent SPC ratings. With the exception of the training videos, each rater individually scored 26 videotape recordings, convening to discuss differences until consensus was reached. Total discussion time between raters in order to reach 100% consensus for the HSP classroom and field video tapings was estimated at 14 hours. Doherty and colleagues (in press) suggest that training in using the SPC be between “10 to 20 hours, depending on [the] trainees’ expertise” (p. 19). In calculating the total hours the raters for this study invested in training, the total hours far exceed 20.

When raters had difficulty in reaching consensus, Yamauchi and Hilberg, the SPC developer, were consulted for further clarification on some of the more apparent and recurring differences between ratings. Hilberg supplied both raters with a list of “Informal Key Questions for making SPC Ratings,” which both raters found helpful. With the assistance of these Key Questions, the raters were able to reach consensus on all of their non-matching ratings. Differences between raters, according to Hilberg, are common (Hilberg, professional communication, 2003). In her experience, often one of the raters overlooks something or interprets something differently.

The low inter-rater reliability might have been due to differences in the raters’ backgrounds. One rater was newly trained and had engaged in more recent discussions about the SPC with Yamauchi. The other rater had not actively participated in conducting SPC ratings for nearly one year. According to the authors of the SPC, retraining is recommended to be continuous to insure that the observer’s skills to not deteriorate over time (Doherty et al., in press). Another difference was that one rater was enrolled in a teacher education program, while the other rater did not have formal classroom teaching experience. The rater with teaching experience was sometimes better able to identify the objectives of a lesson.
Another limitation was that both raters knew which video tape recordings were taken at the beginning of the school year, and those taken at the end. The raters may have unconsciously given higher scores on the post ratings, assuming that the teachers should have improved.

**Teacher Journals**

In evaluating the journals of the HSP teachers, it is evident that all teachers were not totally committed to recording their daily, weekly, or monthly reflections, perhaps due to time constraints (O’Brien & O’Brien, 1997). For example, Linda stated that because she is a very active teacher, both physically and mentally, she did not have the time that she felt would be sufficient to accurately record her daily reflections. Yet, despite the limited written entries in her journal, she stated that she was constantly thinking about her teaching performance and how she might improve. During her pre-interview, Linda illustrated that she regularly reflects on her performance. When asked about how she goes about planning a lesson she stated:

I modify all the time, from period to period. Because if I teach Hawaiian one all day and I see Hawaiian first period I miss something. You know, I say, ‘Oh, they just didn’t get that.’ . . . I tell them in the beginning of the year, I say, ‘We have this thing called **hana hou**, retake or redo.’ And I say, ‘Cause you should have never failed [a] test, and if a whole bunch of you fail the test then I have to look right back at myself and say I either didn’t teach that or I didn’t test it right.’ And I say, ‘We’ll go back and do it again together’ (G. L., personal interview, 2002).

**Future Directions**

This study focused on teacher outcomes that were related to participation in a study group. The results of this study offer a number of possibilities for future research. One future study might investigate how teachers’ involvement in a study group influences students learning
outcomes. Another study might investigate possible reasons for low inter-rater reliability among SPC raters and methods for improving this aspect of the instrument. Although this study did not find improvement in the field instruction, future research might focus on ways to enact the Standards more in field instruction. As there is little research on instruction outside of the classroom, this kind of research would contribute to the literature. Furthermore, because the literature supports teacher journal writing as a means of improving practice, perhaps a specific method might be devised to increase teacher reflection and more consistent journal writing. For example, asking teachers to submit their journal entries on a weekly basis or providing them fifteen minutes at the beginning or end of the study group session to do their journal writing, might improve the quality and depth of journal entries. Finally, because some results might be explained by personality differences, another line of study might focus on teachers who are extroverted and how they benefit from participation in study groups.
APPENDIX A

Teacher Consent Form

CREDE Demonstration School in Wai‘anae
Lois A. Yamauchi, Ph.D.
Dept. Of Education Psychology, University of Hawai‘i
1776 University Avenue Honolulu, HI 96822
Phone: (808)956-4294 fax: (808)956-6615

The purpose of this project is to highlight, develop, and evaluate the Wai‘anae High School Hawaiian Studies Program (HSP), a program that exemplifies best educational practices for culturally diverse students. The project involves assistance to program teachers, an evaluation of HSP student outcomes, and the development of the HSP into a demonstration school of the National Center for Research on Education, Diversity, and Excellence (CREDE).

You will be asked to participate in professional development activities organized around weekly study group meetings facilitated by Dr. Yamauchi. The objectives of the study group are to understand the Standards for Effective Pedagogy developed by CREDE, to increase teachers’ application of the Standards in their instruction, and to analyze the effects of these practices on student learning. Your participation in the study group will involve attending study group meetings and participating in discussions about ways to modify and evaluate instruction. Study group meetings may be audio taped or videotaped. Project researchers will observe, videotape, and photograph you while you are teaching. Other teacher participants and visitors to the demonstration site will observe your live and videotaped instruction. You will be asked to observe and analyze your own and other study group members’ live and videotaped practice, and will be asked to assist in the planning and facilitation of the teacher institute in Year 2 (2002-2003).

Your educational practices will be assessed by a teacher observation protocol. Prior to implementation of professional development activities, a trained observer will rate your instruction while working with students both in the classroom and during fieldwork. These assessments will also be made at two points after professional development activities have begun, at the end of the 2001-2002 and 2002-2003 school years. Unless you specify otherwise, your identity, with regard to these assessments, will be kept confidential, as allowable by law. The assessments will only be used for research purposes.

Videotaped and audio taped recordings, observations, and photographs of you and your students will be used to create a videotape of educational practices in the HSP, to develop a website about the project, and for journal articles, conference presentations, and other publications written about the demonstration school and research. The videotape will be widely distributed nationally to teachers and researchers who are interested in learning about the HSP. All tapes and negatives will be stored in Dr. Yamauchi’s office.
Your participation is voluntary. If you choose to participate in this project, a substitute teacher will be hired to release you from two of your classes throughout the 2001-2002 and 2002-2003 school years for the semesters you are involved. You may choose to stop participating at any time without prejudice or penalty.

You may benefit from participation in the project by receiving professional development and release time from other instructional duties. The information gathered in this project will help teachers and researchers understand what HSP students are learning and how instruction in the program can be improved. It will also be useful to other educators who work with diverse populations of students.

I have read and understand the information above. My questions about project procedures and other matters have been answered to my satisfaction. I know that I can withdraw my participation at any time without consequence.

I agree to participate in this project. I understand that by agreeing to participate, I have not given up any legal rights and that the researchers and the institutions they represent are still responsible for upholding all laws that apply.

__________________________
Signature of Participant

I agree to allow video recordings and audio recordings made of me for the above project to be reproduced on a videotape about the Hawaiian Studies Program. I understand that the videotape will be distributed nationally for those who are interested in learning more about the program.

__________________________
Signature of Participant

(If you do not receive satisfactory answers to your questions or have comments or complaints about your treatment in this study, contact: Committee on Human Studies, University of Hawaii, 2540 Maile Way, Honolulu, Hawaii 96822. Phone: (808)956-5007.)

cc: participant teacher consent form 03/10/01
## APPENDIX B

**CREDE Standards Performance Continuum**

A Rubric for Observing Classroom Enactments of CREDE’s Standards for Effective Pedagogy

<table>
<thead>
<tr>
<th>General Definition</th>
<th>Emerging</th>
<th>Developing</th>
<th>Enacting</th>
<th>Integrating</th>
</tr>
</thead>
<tbody>
<tr>
<td>The standard is not observed.</td>
<td>One or more elements of the standard are enacted.</td>
<td>The teacher designs and enacts activities that demonstrate a partial enactment of the standard.</td>
<td>The teacher designs, enacts, and assists in activities that demonstrate a complete enactment of the standard.</td>
<td>The teacher designs, enacts, and assists in activities that demonstrate skillful integration of multiple standards simultaneously.</td>
</tr>
</tbody>
</table>

### Joint Productive Activity

| Teacher and Students Producing Together | Joint Productive Activity is not observed. | Students are seated with a partner or group, AND (a) collaborate or assist one another, OR (b) are instructed in how to work in groups, OR (c) contribute individual work, not requiring collaboration, to a joint product. | The teacher and students collaborate on a joint product in a whole-class setting, OR students collaborate on a joint product in pairs or small groups. | The teacher designs, enacts, and collaborates in joint productive activities that demonstrate skillful integration of multiple standards simultaneously. |

### Language & Literacy Development

| Developing Language and Literacy Across the Curriculum | Language & Literacy Development is not observed. | The teacher (a) explicitly models appropriate language; OR (b) students engage in brief, repetitive, or drill-like reading, writing, or speaking activities; OR (c) students engage in social talk while working. | The teacher provides structured opportunities for academic language development in sustained reading, writing or speaking activities. | The teacher designs and enacts instructional activities that generate language expression and development of content vocabulary, AND assists student language expression and development through questioning, rephrasing, or modeling. |

### Contextualization

| Making Meaning – Connecting School to Students’ Lives | Contextualization is not observed. | The teacher (a) includes some aspect of students’ everyday experience in instruction, OR (b) connects classroom activities by theme or builds on the current unit of instruction, OR (c) includes parents or community members in activities or instruction. | The teacher makes incidental connections between students’ prior experience/knowledge from home, school, or community and the new activity/information. | The teacher integrates the new activity/information with what students already know from home, school, or community. |

<p>| The teacher designs, enacts, and assists in contextualized activities that demonstrate skillful integration of multiple standards simultaneously. |</p>
<table>
<thead>
<tr>
<th><strong>Challenging Activities</strong></th>
<th><strong>Instructional Conversation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Teaching Complex Thinking</em></td>
<td><em>Teaching Through Conversation</em></td>
</tr>
<tr>
<td><strong>Challenging Activity is not observed.</strong></td>
<td><strong>Instructional Conversation is not observed.</strong></td>
</tr>
<tr>
<td>The teacher (a) accommodates students' varied ability levels, OR (b) connects student comments to content concepts, OR (c) sets and presents standards for student performance, OR (d) provides students with feedback on their performance.</td>
<td>The teacher (a) responds to student talk in ways that are comfortable for students, OR (b) uses questioning, listening or rephrasing to <em>elicit student talk</em>, OR (c) converses with students on a nonacademic topic.</td>
</tr>
<tr>
<td>The teacher designs and enacts activities that connect instructional activities to academic content OR advance student understanding to more complex levels.</td>
<td>The teacher converses with a small group of students on an academic topic AND <em>elicits student talk</em> with questioning, listening, rephrasing, or modeling.</td>
</tr>
<tr>
<td>The teacher designs and enacts activities that are connected to academic content; assists and uses challenging standards to advance student understanding to more complex levels; AND provides students with feedback on their performance.</td>
<td>The teacher designs and enacts an instructional conversation (IC) with a clear academic goal; listens carefully to assess and assist student understanding; AND questions students on their views, judgments, or rationales. All students are included in the IC, AND student talk occurs at higher rates than teacher talk.</td>
</tr>
<tr>
<td>The teacher designs, enacts, and assists in challenging activities that demonstrate skillful integration of multiple standards simultaneously.</td>
<td>The teacher designs, enacts, and assists in instructional conversations that demonstrate skillful integration of multiple standards simultaneously.</td>
</tr>
</tbody>
</table>
APPENDIX C

Baseline Teachers’ Interview Questions

1. What is your name?

2. If you don't mind, would you tell me your age?

3. Could you describe your post-secondary education?

4. Why did you decide to become a high school teacher?

5. How long have you been teaching? What subjects and grade levels have you taught and where?

6. What subjects are you teaching this year?

7. How many years have you taught in the Hawaiian Studies Program? Why did you decide to get involved in the program? How has the program worked for you?

8. What do you see as the strengths and weaknesses of the program?

9. Could you describe someone you think is an exemplary teacher? (Why do you think he or she is a good teacher?)

10. How do you think learning occurs? (How would you describe the process of learning?)

11. How do you know learning has occurred in your classroom?

12. What are your goals as a teacher?

13. How would you describe your personal teaching style? (i.e., traditional, unique, etc...) Please explain.

14. Could you talk me through an example of how you go about planning a lesson?

15. Could you give me an example of a lesson that you have taught that you think went particularly well? Why do you think it was a good lesson?

16. What do you see as your strengths and weaknesses as a teacher?
17. What do you hope to get out of the CREDE professional development sessions with Lois? How, if at all, have these sessions influenced your instruction?

18. How do the CREDE Standards fit with what you do as a teacher? How do the CREDE Standards fit with what you want to do as a teacher?

19. How would you describe a typical day in your classroom? (warm-up activities, lecture, writing activities?)

20. What do you think about group work? How often do you break up your class into small groups? Could you give me an example of a time that you did this? What is your role during the group work? During an average week, how often do you or do you not use small group work?

21. What kinds of writing assignments do you have your students complete? On average, how much writing does a student in one of your classes complete per week (number of pages)?

22. When do your students express themselves orally in class? How do you get students to speak aloud in class? Do all students speak aloud in class? On average, what is the ratio of your talk to student talk?

23. How important do you think it is for you to promote “complex thinking” as described in the CREDE Standards for teaching challenging activities? Could you give me an example of how you planned instructions so that this would happen?

24. How do you provide feedback to students? How often does this occur?

25. When do you integrate student's prior knowledge and background into the curriculum? Can you give me an example? On average, how often do you think this occurs for one of your classes over a week’s time?

26. How would you describe an “instructional conversation?” During the average week, how often do you engage your students in an instructional conversation? Could you give me an example?
APPENDIX D

Follow-up Teachers' Interview Questions

(Note: Questions #2, 3, 4, 5, and 7 were asked during the first interviews only. Also, questions #18-24 were re-worded for teachers to reflect on those experiences over the final semester of the school year).

1. What is your name?

2. If you don't mind, would you tell me your age?

3. Would you describe your post-secondary education?

4. Why did you decide to become a high school teacher?

5. How long have you been teaching? What subjects and grade levels have you taught and where?

6. What subjects are you teaching this year?

7. How many years have you taught in the Hawaiian Studies Program? Why did you decide to get involved in the program? How has the program worked for you?

8. What do you see as the strengths and weaknesses of the program?

9. Could you describe someone you think is an exemplary teacher? (Why do you think he or she is a good teacher?)

10. How do you think learning occurs? (How would you describe the process of learning?)

11. What are your goals as a teacher?

12. How would you describe your personal teaching style? (i.e., traditional, unique, etc . . . Why?)

13. Could you talk me through an example of how you go about planning a lesson?

14. Could you give me an example of a lesson that you have taught that you thought/felt went particularly well? (Why did you think it was a good lesson?)

15. What do you see as your strengths and weaknesses as a teacher?

16. What do you think that you get out of the CREDE professional development sessions with Lois?
17. Are there any ways that your practices as a teacher and those of your colleagues have changed because of your participation in these sessions? During the past semester:

18. How have the CREDE Standards fit with what you do and want to do as a teacher?

19. Have you ever broken up your class into small groups (2-7 members)? Could you give me an example of a time that you did this? What is your role during the group work? What do you think about group work? During an average week, how often do you use small group work?

20. What kinds of writing assignments have you had your students complete? On average, how much writing does a student in one of your classes complete per week (number of pages)?

21. When do students express themselves orally in class? What do you do to get students to talk? Do all students talk in class? On average, what is the ratio of your talk to student talk?

22. How do you provide feedback to students? How often does this occur?

23. When do you integrate student's prior knowledge and background into the curriculum? Can you give me an example? On average, how often do you think this occurs in one particular class over a week?

24. How would you describe an "instructional conversation"? What key elements make up this type of conversation? During the average week, how often do you engage your students in an instructional conversation? Could you give me an example?
APPENDIX E

Interview Data

*Pre and Post Comparison Chart*

<table>
<thead>
<tr>
<th></th>
<th>Baseline responses</th>
<th>Follow-up responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDUCATIONAL LEVEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YEARS TEACHING EXPERIENCE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBJECT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YEARS IN HSP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<p>| Career motivations:      |                    |                    |
| Reason for becoming involved in HSP: |                    |                    |
| Strengths of HSP:        |                    |                    |
| Weaknesses of HSP        |                    |                    |
| Qualities of an exemplary teacher |                    |                    |
| Describe the process of learning |                    |                    |
| Personal evidence learning has occurred |                    |                    |</p>
<table>
<thead>
<tr>
<th>Personal goals as a teacher</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal teaching style</td>
<td></td>
</tr>
<tr>
<td>Personal strengths as a teacher</td>
<td></td>
</tr>
<tr>
<td>Personal weaknesses as a teacher</td>
<td></td>
</tr>
<tr>
<td>Expectations of PD/study sessions</td>
<td></td>
</tr>
<tr>
<td>Examples of how sessions have influenced teaching practices</td>
<td></td>
</tr>
<tr>
<td>Personal thoughts on group work</td>
<td></td>
</tr>
<tr>
<td>Average number of group activities per week</td>
<td></td>
</tr>
<tr>
<td>Average number of pages written per week</td>
<td></td>
</tr>
<tr>
<td>Average number of times students engaged in an IC per week</td>
<td></td>
</tr>
</tbody>
</table>
Other observations of teacher change:
REFERENCES


Chiu, Y. (2002). Teachers’ and administrators’ perceptions of teacher study groups as one means of professional development in Taiwanese junior high schools (China). (Digital Dissertation No. AAT 3020432)


S., E. (2002). *Personal Interview*. Wai‘anae, HI.


