

CULTURALLY CONGRUENT EDUCATION AND THE MONTESSORI MODEL:
PERSPECTIVES FROM HAWAIIAN CULTURE-BASED EDUCATORS

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ABSTRACT

The purpose of this study was to investigate why some Hawaiian language and culture-based (HLCB) educators perceived the Montessori approach to be congruent with their goals and values and to determine the salient features of the Montessori approach used by HLCB teachers who received Montessori training. Interviews and focus group discussions were conducted with 40 HLCB participants, including 15 key informants who had at least 180 hours of Montessori training. Data also included classroom and school visits and analyses of school documents. Data analysis revealed six themes and two linkages that related the themes and their elements. Four themes were related to why HLCB educators have perceived the Montessori approach to be congruent with their values and goals. These were (a) similar views regarding their work as a lifestyle, (b) common pedagogical practices, (c) shared values and beliefs as educators, and (d) an overlapping world-view. One theme described the distinctions between the approaches. The final theme included challenges to implementing and maintaining HLCB programs. The findings suggest that researchers and teacher educators interested in culturally congruent education should take into account the underlying world-view of both the research paradigm and the participants involved, and that school reform should be comprehensive, culturally congruent, and generated from within communities and other stakeholders. They also indicate that culturally congruent, place-based education may enhance academic self-efficacy and could serve as a bridge between seemingly disparate educational approaches.

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CHAPTER I

Introduction

As is common with many children of indigenous ancestry, the methods, pedagogical strategies, and structures of mainstream or conventional educational systems have not generally served Hawaiian children well (Bielenburg, 2000; Kana'iaupuni, Malone, & Ishibashi, 2005; Kamehameha Schools, 1993). Comprising over 23 percent of the students served by the State of Hawai'i Department of Education, they lag behind other children in public schools in the State of Hawai'i throughout their formal school years (Yang, 2004). Data from the SAT-9 norm-referenced reading test for 2002-2003 reveal, for example, that 26% of Grade 3 Hawaiian children, as compared to 15% of others, scored in the "below average" range, and 45% of Grade 10 Hawaiian students as compared to 31% of others scored in the "below average" range (Kamehameha Schools, 2004). The standardized test scores of Hawaiian children on the SAT-9 norm-referenced test are consistently some of the lowest in the nation (Kana'iaupuni, Malone, & Ishibashi, 2005). Other surveys and tests reveal similar results (Yang, 2004).

In addition, although Hawaiian families state that they place a high value on education (Kamehameha Schools, 2000), as a group, Hawaiian students are still under-represented in institutions of higher education. While the overall percentage of adults in the state of Hawai'i who have obtained a bachelor's degree is 26.2 %, for Hawaiians it is only about 12.6% (Kamehameha Schools, 2005). This translates to fewer managerial and professional opportunities and fewer opportunities to earn incomes commensurate with statewide averages. According to a report published by Kana'iaupuni, Malone, and Ishibashi (2005), Hawaiian families earn a mean annual income of \$55,865, substantially

less than the \$66,413 statewide average, while supporting more family members on that same income.

In what can become a vicious cycle, some research indicates that less income may translate to fewer educational opportunities, as well as fewer of the kinds of vocabulary-building opportunities children need in order to succeed in school at the kindergarten and lower elementary levels (Farkas & Beron, 2004; Yueng, Linver, & Brooks-Gunn, 2002). It may also mean that there are fewer opportunities and role models for higher education after high school.

Because conventional educational practices such as the use of a “recitation script” (Tharp & Gallimore, 1988) have not proved to be successful for many Hawaiian and other children of indigenous ancestry, alternative approaches incorporating a culturally congruent curriculum are being explored by educators and researchers (e.g. Ladson-Billings, 1994 and Yamauchi, 2003). One alternative that has been seen as promising by some indigenous educators (Pease-Pretty on Top, 2002) is the Montessori approach (Montessori, 1912/1964). This approach, with its well operationalized and replicable pedagogy (Cossentino, 2005) has been in existence for over 100 years and is found in countries around the world in a variety of socioeconomic settings (Chattin-McNichols, 1992).

While some indigenous and Hawaiian language immersion educators have incorporated the Montessori approach into their programs, stating it to be a good match for their goals and values, the possible reasons for this perceived match have not been formally documented to date. This study is an attempt to fill that gap by articulating and

analyzing the reasons for the perceived similarities through the voices of the educators and the use of grounded theory methods.

Background

This section begins with a brief overview of sociocultural learning theory, the theoretical perspective undergirding the study. The notion of a home-school mismatch is described next, with particular reference to research documenting mismatches between Hawaiian children and conventional school practices. A summary of the first experiences of Hawaiians with formal educational practices follows, leading to a description of the possible contribution of colonization to a home-school mismatch, Bandura's concept of self-efficacy, and Ogbu's theory of involuntary minorities.

Next, a description of the revitalization of the Hawaiian language and culture, a definition of culturally congruent education, and an overview of indigenous language immersion and culture-based programs in Hawai'i and other areas are provided. Some of the promising outcomes and challenges of these programs are noted. A description of the genesis of the interest of some Hawaiian language and culture-based educators in the Montessori approach follows, as the chapter concludes with a brief description of the Montessori approach and its history in bilingual and immersion education.

The Sociocultural Approach to Learning

The sociocultural approach to learning is a theory that has its roots in the cultural-historical theory of Lev Vygotsky (Forman, Minick, & Stone, 1993; John-Steiner & Mahn, 1996; Kozulin, Gindis, Ageyev, & Miller, 2003; Tobach, Falmagne, Parlee, Martin, & Kapelman, 1997). It states that individual development and learning processes can only be understood in the context of the child's social world. This theory, with its

emergent view of learning and development, is the perspective taken by this study. It states that the culture and “ways of knowing” of a people are taught and mediated through interactions between novices and those who are more expert (Vygotsky, 1978). What Rogoff (1990) called “assisted apprenticeship,” that is, joint learning activity that takes place in a particular cultural context with an expert providing guidance and assistance to a novice learner, is key in the teaching/learning process. Learning, coming from the interplay between the environment and the individual, occurs with the assistance of a more knowledgeable other. Knowledge, seen as actively constructed by learners, is mediated via the tools or symbols of the culture (Hatano & Wertsch, 2001). Language is one of the most important of these tools. Because cognition is seen as both predictably developmental in nature and dependent on the environment, both the process of going to school and the act of teaching, as it is done in school, become decisive forces in cognitive development (Scribner & Cole, 1973).

This perspective on learning is supported by the methods and world-view of cultural psychologists who believe that culture’s role in cognitive processes is of central importance (Cole, 1996; Cole, Engestrom, & Vasquez, 1997; Holland & Valsiner, 1988; Ross, 2004; Wertsch & Rupert, 1993). As a discipline, cultural psychology is closely aligned with cultural-historical learning theory (Saxe, 1999), making its theoretical perspectives and methods of special interest to educational psychologists who utilize this theory in their research. The emphasis on culture’s role in cognitive processes both allows and requires a research approach with a broader perspective than other approaches that do not take the role of culture in cognitive processes, development, and learning into account.

The major themes embedded within the theoretical perspective of cultural psychologists include the following: (a) there is interplay between development and socialization, (b) culture and how people construct meaning is implicit in each research question having to do with the mind, (c) everyday activities and settings and cultural models and settings comprise the proper units of study, and (d) history is an important aspect of culture and present practices. Through these themes, cultural psychologists challenge their mainstream counterparts to embrace the notion of “a deep structure of culture” (Greenfield, 2000, p. 229) in conceptualizing and designing research and suggest these themes can provide an overarching point of reference in problems to be investigated.

A Home-School Mismatch

Researchers who apply sociocultural theory to their studies, and who subscribe to the views of cultural psychologists regarding the central place of culture in cognitive processes, suggest that because different cultures have different ways of understanding the world and socializing their young, they may also have differing expectations about the role of school and the teacher in that socialization process (e.g., Clark, 1981; Heath, 1994; Tobin, Wu, & Davidson, 1989; Pai, n.d.; Rogers, 1985; Shweder, 1991; Tharp, 1989; Yamauchi & Tharp, 1995). In Japanese culture, for example, the ability to interact successfully as an interdependent member of a group is often more highly valued than individual accomplishment (Nisbett, 2003). Accordingly, in Japanese preschools, one role of the teacher may be to help a child become more attuned to his or her place as a member of the group. The teacher may be neither expected nor encouraged to engage in one-on-one interactions with the children. In the mainstream culture of the U.S., on the

other hand, where it is often culturally desirable to be both individualistic and independent, preschool teachers are more generally encouraged to spend one-on-one time with children. The role of the teacher is seen as supporting the child's emerging individuality (Tobin, Wu, & Davidson, 1989).

Researchers utilizing sociocultural learning theory also suggest that children may learn best when school learning is based on the patterns of expected behavior and language learned in the home and community (Gallimore, 1996; Gallimore & Goldenberg, 2001). When home routines, language, and behavioral expectations are very different from those of school, teachers may misinterpret the behavior of their students, and children may engage in what conventional teachers consider inappropriate school behavior (Heath, 1994; Phillips, 1983; Rogoff, Paradise, Arauz, Correa-Chavez, & Angelillo, 2003; Yamauchi, 1998).

In sociocultural learning theory, language is seen as one of the most important tools for mediating knowledge of cultures and ways of groups. Each language has a particular rhythm, cadence, and nuance (Barnhardt, 1982), and researchers who have studied bonded mothers and their babies describe the communication as a kind of "dance" whereby each partner responds to the rhythms and nuances of the other (Miall & Dissanayake, 2003). Children may understand teachers better when the rhythm, the cadences, and the nuances of the language of school, called discourse patterns by Taylor and Whittaker (2003), are congruent with those of their home experiences (Phillips, 1983). When the cultural practices and language of home and school are congruent, children and teachers may, in essence, dance together with less effort (Barnhardt, 1982).

Typical schooling practices in the United States, sometimes called mainstream or conventional educational practice, often closely mirror the routines, language usage, and expectations for the use of time and space, of what is called the “mainstream,” that is, the middle-class, Western-European, English-speaking dominant culture (Heath, 1994; Phillips, 1983). Banks and Banks (2004) state that children who enter school are often expected to be able to adapt to these mainstream norms, and those who find this adaptation challenging due to their non-mainstream backgrounds are considered as exceptions to the norm. Such children are seen as having problems to be corrected, deficits to be made up, and needs to be met, in order that they can join the educational mainstream as quickly as possible. Children from homes that do not share mainstream cultural practices and expectations may thus find their experiences at school to be challenging, discouraging, and demeaning.

Mismatches between expected school behavior and children’s home routines and values have been observed and documented by researchers working with Hawaiian children (Au & Jordan, 1981; Boggs, 1985; Gallimore, Boggs, & Jordon, 1974; Tharp & Gallimore, 1988). These mismatches have been found to begin as early as preschool. For example, the Kamehameha Early Education Program (KEEP) was a program developed over thirty years ago in Hawai‘i to improve the education of Hawaiian and part-Hawaiian children. KEEP researchers found that the conversational patterns in the homes of the Hawaiian preschoolers were often characterized by what the researchers described as overlapping speech and co- narration (Au & Jordon, 1981). In mainstream preschools, however, these same children were typically expected to use a speech pattern called a “recitation script” (Tharp & Gallimore 1991, p.10), characterized by turn taking and

speaking only when called upon. Other potential mismatches for Hawaiian students may include such mainstream or conventional school practices as (a) the exclusive use of Standard English, rather than Hawai'i Creole English, for all instruction, (b) a focus on individual achievement rather than collaborative group work, and (c) a classroom discourse style that emphasizes question and answer sessions where children are expected to both ask and answer questions relevant to the topic. In contrast to these conventional school practices, many Hawaiian families speak Hawai'i Creole English in their homes and communities, a language that is often discouraged and looked down upon by conventional teachers (Sato, 1991). In addition, like many Polynesians, Hawaiians may focus on cooperative effort rather than individualistic accomplishments. Finally, Hawaiian children are often expected to listen and observe without asking questions, in order to thoroughly learn what is being taught (Chun, 2006; Meyer, 2003), rather than answering or asking questions. These factors have the potential to create a school setting that is perceived as hostile and strange by Hawaiian children (Kamehameha Schools, 2000).

Early Experiences of Hawaiians with Formal Schooling

The Hawaiian people did not always struggle with this cultural mismatch between home and school. According to Chun (2006), Hawaiians in pre-contact Hawai'i had a well organized system for both informal and formal learning. Contact with non-Hawaiian traders and explorers throughout the late 1700s and early 1800s first exposed the Hawaiian people to the technology of the written word. By 1823, with the assistance of Tahitian Christians who acted as consultants, translators, and teachers, American missionaries developed the first standardized alphabet of the Hawaiian language.

Utilizing the letters of the American-English alphabet, this alphabet finally gave the Hawaiian people full access to the technology of writing (Chun, 2006). Many of the first teachers and their assistants were Hawaiian (Schütz, 1994) and were appointed by the chiefs to teach their families and the commoners. Hawaiian people at all levels of society were eager to learn the written word, and according to Benham and Heck (1998), within 20 years after the missionaries' arrival, the Hawaiian people had achieved one of the highest literacy rates in the world. In fact, Hawaiians were so eager to learn to read that there were sometimes more adults than children in the first schools. By 1832, there were over 900 schools with a total enrollment of 52,000 pupils, and by 1846 over 80% of the Hawaiian population was literate (Meyer, 2003). In addition, there were nearly 70 Hawaiian language newspapers. Many Hawaiians were both fluent and literate in both Hawaiian and English (Schütz, 1994).

Things changed drastically, however, in the short span of the 73 years from the arrival of the missionaries in 1820 to the overthrow of the Hawaiian Kingdom in 1893. Disease and loss of political power within that time resulted in the Hawaiian people becoming a minority in their own land (Osorio, 2002). Jobs utilizing the skills of educated Hawaiians were not readily available (Chun, 2006). As the power base changed, the culture of the schools changed too. Assimilationist policies, similar to those imposed on other indigenous peoples (Bielenberg, 2003; May & Aikman, 2003) downplayed and even punished the use and practice of Hawaiian ways and the Hawaiian language in school. Teachers described as "more well-trained" were brought in from the U. S. Mainland, and Hawaiian ways of learning and communicating were looked down upon as primitive (Schütz, 1994). Finally, in 1896, a 100-year ban on the use of the Hawaiian

language in schools was implemented (Benham & Heck 1998). This type of ban, called linguistic genocide by some (Crawford, 1996), was commonly employed throughout the late 1800s and early 1900s in an attempt to dominate and eradicate indigenous and immigrant languages and people. It was thought by many in power that “English Only” policies were in the best interests of non-English speaking children, as it seemed obvious that English was, and would continue to be, the dominant language of commerce, business, and power. But as Meyers (2003) states, what began as an altruistic and well-meaning effort . . . in fact, ended in scarring the cultural beliefs, vitality, and strength of a race” (p. 29). Overpowered, ignored, and marginalized by the colonizers of the Hawaiian Islands (Benham & Heck, 1998; Kimura, 1983; Meyer, 2003), Hawaiians’ ways of understanding the world were shattered as the language with which they described and understood that world was forbidden.

As was the case with the schooling of other indigenous cultures (Lipka & Ilutsik, 1995), schools in Hawai‘i became sites of cultural hegemony as the “English only” language policy was used as a way to subjugate the Hawaiian people. This policy, with other changes in the way “school” was structured, is considered by some to be instrumental in the change from Hawaiians being one of the most literate people in the world to a people struggling to keep up academically (Benham & Heck, 1998). As the social context for schooling became more and more incomprehensible to many Hawaiian children, the divide between the culture of home and the culture of school may have become too great for some to negotiate.

Colonization, Self-Efficacy, and Involuntary Minorities

The colonial perspective on education, Bandura's (1994) views on the importance of self efficacy in the learning process, and Ogbu's (1985) focus on involuntary and voluntary minorities support the notion that a home-school mismatch may be a contributing factor to the often poor academic outcomes for Hawaiian and other indigenous children. The following section describes these three views.

The colonial perspective. The colonial perspective explores the effect of colonial education and language on the culture and identity of the colonized (Crossley & Tikley, 2004; Smith, 1999). This perspective supports the notion that a home-school mismatch could be one cause for the often poor academic outcomes of Hawaiian and other indigenous children. Specifically, it suggests that the ban on the use of the Hawaiian language could have been a contributing factor to the poor academic outcomes for many Hawaiian children. Many who are interested in the revitalization of indigenous languages state that the history, activities of daily life, values, world-view, and other aspects of culture are held within the language of a people (Kimura, 1983). Schools have always served as powerful systems of socialization where those with power set the norms and make sure that the curriculum and "stories told" are such that the status quo continues to be supported (Welton, 2005). When a people are colonized, the colonizing group generally institutes its own school system and customs, its own intellectual traditions and epistemology, and, very importantly, its own language and history, requiring those who have been colonized to accommodate to the new practices (Stanley, 1998; Welton, 2005). Ng_g_ (1986) poignantly compares this experience to a cultural bomb that serves to "annihilate a people's belief in their names, in their languages, in their environment, in

their heritage of struggle, in their unity, in their capacities and ultimately, in themselves.” (p.3)

Kimura (1983), a leader in the revitalization of the Hawaiian language and culture, describes how losing one’s language can contribute to a home-school mismatch. He states that there are two levels of culture embedded within language. The first, which he calls the base or everyday culture, encompasses the daily activities of the people. The second, which he calls the aesthetic culture, encompasses the literature, stories, sayings, ceremonies, traditional customs, and philosophy and most importantly for the success of academic endeavors, the intellectual traditions of the people. Language unites the two levels. When the language of home is no longer allowed to be used in public commerce or discourse due to conquest or colonization, these two levels or functions of language are split. The language of the conquerors or colonizers (the dominating language) becomes the expression of aesthetic culture, including that of academic endeavors, while the indigenous language goes underground as the base or everyday language. When the base and aesthetic cultures become separated, people may feel compelled to choose one or the other. Most commonly, the base language is chosen, and this is what Kimura suggests happened when “English Only” became policy for school, business, and government affairs in Hawai‘i. The aesthetic culture represented by the English language, was rejected by many Hawaiian people; this led to a “rejection of intellectual development” (p. 182) as well. One result may have been a deepening of the home-school mismatch experienced by some Hawaiian children.

Self-efficacy. The work of Bandura (1994) on self efficacy is consistent with colonial perspectives on the often poor academic outcomes of many Hawaiian and other

indigenous children. Bandura's research indicates that when people see themselves in control of a situation, they may have a stronger sense of self-efficacy (a person's judgment of their capability to master a particular task), regarding the particular tasks associated with the situation (1994). Children who see themselves as in control of the tasks and requirements of school generally have a stronger sense of self-efficacy with regard to academic tasks than children who do not. People with a high sense of academic self-efficacy also set higher goals for themselves. Conversely, those with low academic self-efficacy tend to make more errors in analytic thinking and demonstrate lower performance. Research (Bandura & Locke, 2003) also indicates that self-efficacy affects motivation. If people see themselves as able to control the outcome of an event they will be more likely to see a setback to the goals they have set for themselves as *motivating*. If they feel that external events control the outcome of the goal, then they are more likely to be discouraged by a setback. Through the effects of colonialism, the Hawaiian language, culture, and identity, including intellectual identity, were severely diminished for many Hawaiians. As a result, the feeling of being in control of these aspects of their lives may have been diminished as well, possibly contributing to a lowered sense of academic self-efficacy.

Although he states it differently, Ng_g_ (1986) also suggests that there is a relationship between self-efficacy and school success. He suggests that language serves as the carrier for the culture and shared values of a people and provides the paradigm out of which one views the world. It gives children the images with which to frame their experiences. When children are taught in someone else's language, they have no choice but to see themselves through the eyes of that language. If the images of their own culture

and ways, as reflected in the other's language, are negative, their images of themselves may be negative as well. Further, the artifacts of the culture of the dominant language can never really be owned as theirs. What *is* theirs, the "natural and social environment" (Ng_g_, 1986, p. 17) of the home may be reflected through the language of the dominant others as inferior. Some feel that for many indigenous peoples this has led to a corresponding loss of sense of self-worth and self-efficacy (Batchhelder, 2000; Cajete, 1994; Fairclough, 1989; Greymorning, 2004; Kimura, 1983; May, 1998).

Ogbu's theory. The work of John Ogbu, an educational anthropologist who pursued a cultural-ecological theory utilizing cross-cultural methods (Foster, 2004) supports the notion that the effects of colonialism may have contributed to the challenges of some Hawaiian children with formal schooling practices. Although the majority of Ogbu's work focused on African-American children, his theory has also been applied to Native American, Latino, and Hawaiian students (Benham & Heck, 1998).

Ogbu (1985) identified three kinds of minority groups: (a) *voluntary minorities*, those who have come to the United States voluntarily in search of a better life, (b) *involuntary minorities*, those who have come involuntarily, as a result of slavery, colonization, or conquest, and (c) *autonomous minorities*, those who have an identity that, while distinctive from the mainstream, has a "cultural frame of reference" that demonstrates and encourages success. Ogbu was particularly interested in why, in spite of the advances that have been made in what he called the "opportunity structure" (Ogbu, 1994, p. 1), children who are members of involuntary minorities such as Hawaiians, continue to lag behind their counterparts in their school outcomes while other minority groups achieve more. (Ogbu, n.d).

Ogbu (2001) suggested that voluntary minorities tend to do better both academically and financially, because they often see the opportunity in the host societies' institutions, including schools. Additionally, voluntary minorities have a reference point "back home" by which to compare their status and experience. They may be more willing to endure hardships in school because they perceive the eventual opportunities that are better than those that were left behind. As a community they may not internalize the mistreatment they may experience, but focus instead, on opportunities to gain skills and knowledge. Because of this focus, voluntary minorities, in Ogbu's view, are able to achieve consistent academic gains (Ogbu, 2001).

When, on the other hand, a people such as the Hawaiians find themselves a minority group involuntarily through circumstances such as war, famine, disease, or political overthrow, Ogbu (2004) suggests that their collective identity may be re-formed in the context of oppression by the dominant culture. This re-formation may include a fundamentally distrustful and oppositional stance to the institutions that symbolize the dominant culture, including mainstream or conventional formal schooling practices. Research by Fordham and Ogbu (1986) suggested that even African-American young people of middle-class and upper middle-class means felt pressure to not do well in school. Doing well in school was seen as "acting white" and was a sure way to be ostracized by one's peers.

The three perspectives discussed above: the colonial perspective with its focus on the importance of language, Bandura's theory with its focus on the importance of self-efficacy, and Ogbu's theory regarding involuntary minorities, all support the notion that a cultural mis-match could be one explanation for the relatively poor performance in

formal school settings of Hawaiian children. The colonial perspective emphasizes the loss of language and subsequent loss of culture as a key factor in this cultural mis-match between home and school, Bandura's theory emphasizes the relationship of self-efficacy to high academic achievement, and Ogbu's theory emphasizes the development of an oppositional stance to the dominant Western culture as an aspect of the home-school *mismatch*.

Revitalization of the Hawaiian Language and Culture

The attempt to silence the voices of the indigenous people was almost successful. By the 1990s, out of a population of almost 200,000 Hawaiians, only 8,872 considered themselves to be fluent speakers of the Hawaiian language (Kaman_ & Wilson, 1996). In spite of the suppression of their language and culture, the loss of their land, and their status as an involuntary minority, a movement began to revitalize the Hawaiian language and culture in the 1970s that continues today. One result of this renaissance was the creation of Hawaiian language immersion, Hawaiian and English bilingual and Hawaiian culture-based English medium schools. As described by one of the founders, the movement began out of "a need, an urgent need, to help to revitalize the language and the culture for all of Hawai'i's people. Especially for the Hawaiian people, but not just for the Hawaiian people" (K. Kaman_, personal communication, May, 2005). These schools, collectively called Hawaiian language or culture-based (HLCB) schools in this paper, now serve as international models of excellence (Stiles, 1997). Their emphasis is on both the achievements of the Hawaiian people and the Hawaiian language and culture. Like schools in other parts of the country that emphasize the culture and language of indigenous people (Lipka & Ilutsk, 1995), these schools become places where the

language and culture of the Hawaiian people are revitalized. Programs are designed to make use of the cultural strengths of the Hawaiian culture and community, and children are taught that cultural differences can be seen as an asset (Meyer, 2003; Yamauchi, 2003). This sense of cultural competence through the use of a culturally congruent curriculum will lead, it is hoped, not only to a stronger sense of what it means to be Hawaiian, but also to improved academic outcomes for the children who are students in such programs (K. Kaman_, personal communication, May, 2005).

Culturally Congruent Models of Education

Utilizing what has variously been called culturally relevant (Ladson-Billings, 1995; Yamauchi, 2005) or culturally congruent (Campbell, 1997) education, such programs use the sociocultural approach to learning and education as their framework and include within their curriculum the knowledge, skills, attitudes, and beliefs that learners bring to the educational setting. Teachers and educational settings employing a culturally congruent approach build on conceptual and cultural knowledge that students bring with them to the classroom (Apthorp, D'Amato, DeBassige & Richardson, 2002; Crabtree & Sapp, 2004; Ladson-Billings, 1995; Phillips, 1983).

Unlike conventional mainstream education where minority children are expected to change to fit the approach, a culturally congruent approach changes instruction to better fit the expectations and cultural patterns of the group being served. The group's language, culture, and epistemology are built into the routines, curriculum and structure of the school. In addition to improving achievement, these models are seen as a way to perpetuate and build pride in the students' home culture (Ah-Nee Benham & Cooper, 2000; Cajete, 1994; Cantoni, 1998-9; Fordham, 1998; McCarty, 2003).

Culturally congruent education is also seen by some as a way to achieve political power. For example, Gandhi used the notion of culturally congruent education as an alternative to the British educational system, when he led the Indian people in the reconstruction of their future as a sovereign people (Mehta, 1976). Gandhi advocated the inclusion of practical and cottage skills such as traditional weaving and agriculture into the basic British model in force at the time (Trudeau, 1984). Similarly, in the U.S. today, some Native American writers and activists (Alfred, 1999; 2005) suggest that one key to the regeneration of the political power of their people and culture lies in a reorganization of political structures and educational systems to reflect indigenous knowledge, ways of learning, and ways of being.

There are many culturally congruent programs in existence today. Language immersion schools with a focus on saving indigenous languages and culture are found in several tribal schools in the U.S. Some examples include the Southern Ute Academy in Colorado (Nijhuis, 2002), the Hintil Kuu Ca preschool in Oakland, California (John, 2001), the Rock Point Community School in Arizona (Lipka, 2002), and the Kativik Schools in Nunavik, Canada (Lipka, 2002). Similar programs are found in New Zealand, Australia, Canada, and South America, (see for example, Reyher, 2000; Stiles, 1997; Brady, 1997). Culturally congruent education is now seen by some as an important factor to consider when investigating the learning process (e.g., Cahill & Collard, 2003; Giroux, 1981; Pease-Prety on Top, 2002; Yamauchi, 2003).

Hawaiian Language Immersion and Culture-based Programs

A goal of HLCB programs is the continuation of Hawaiian language and culture. Educators use curriculum and pedagogical practices that are intended to be culturally

congruent with the values and epistemology of Native Hawaiians (Meyer, 2003). One of the first programs was the 'Aha P_nana Leo (the Language Nest) program, a privately-funded, Hawaiian language immersion preschool program that was modeled after the successful Maori language immersion program, Te K_hanga Reo (Slaughter, 1997). With twelve sites statewide, the 'Aha P_nana Leo has served over 2,000 children since its founding in 1983 (Kaman_ & Wilson, 1996; Na Kula ' _lelo Hawai'i, 2003). In 1987, Papa Kaiapuni, a Hawaiian language public school program, began (Na Kula ' _lelo Hawai'i, 2003), and in the 2002-2003 academic year, the two programs served over 1,700 children statewide (Wilson & Ho'omalua 2003; Na Kula ' _lelo Hawai'i, 2003).

In 1999, the Hawaiian-culture based movement expanded to include "New Century Charter Schools." The State of Hawai'i passed legislation that provided for 25 of these schools, 12 of which, as of 2004, included as part of their mission the incorporation of the Hawaiian culture (*Hawai'i Charter Schools Network*, n.d.). These charter schools may or may not be Hawaiian language immersion programs. Some are English-medium Hawaiian culture-based programs (e.g., H_lau K_ M_na), with a mission to serve children and youth who may not have had the means to learn the Hawaiian language in their early years. During the 2004-2005 academic year Hawaiian charter schools served a combined total of approximately 1,000 students, 90 percent of whom were Hawaiian or part-Hawaiian. Some of the charter schools have partnerships with private HLCB programs. One example is M_lamap_ki'i, a private dual-language program for infants, toddlers, and their families that partners with a nearby charter school, K_nu O Ka ' _ina Learning 'Ohana.

Initial evaluations of the language immersion programs indicate that students in many of these programs are doing as well on standardized tests as their counterparts in public mainstream settings (Slaughter, 1997; Slaughter & Lai, 1994; Yamauchi, 2003). Hawaiian children attending HLCB charter schools performed at least as well, and sometimes better, on standardized tests than their counterparts in non-culture-based and conventional public school settings, (Kana'iaupuni & Ishibashi, 2005). Other indicators of interest in school such as attendance are often proportionately higher as well (Beil, 2004). At H_lau K_ M_na New Century Public Charter School, for example, almost one-third of the students had perfect attendance in the first quarter of the academic year 2005-2006, and there was a 95% attendance rate for that same time period (Nakanishi, 2005). This is in contrast to the generally high rates of absenteeism among their counterparts in non-HLCB public settings (Kana'iaupuni, Malone, & Ishibashi, 2005a).

Students, members of the community, parents, and teachers have been supportive of these programs. While challenges such as the No Child Left Behind Act are daunting to these fledgling programs (personal communication, K. Nakanishi, March 21, 2005), the success of the students is often a source of pride and commitment to the schools and their goals (Kana'iaupuni, Malone, & Ishibashi, 2005b; Yamauchi, 2003).

Challenges of HLCB Programs

The success of HLCB programs has come with challenges, however. Some are common to those attempting to diffuse an innovative educational approach or approach (Meyer, 1975) and some, such as the challenge of incorporating culturally congruent pedagogical strategies into the public school setting, are shared by other indigenous educators (Pease-Prety on Top, 2002). One challenge that is shared by other indigenous

educators is the perceived lack of a well defined and easily replicated pedagogy and curriculum that successfully incorporates traditional and holistic ways of teaching and learning with high academic standards in a school setting. While HLCB teachers are enthusiastic about their programs, they also find the necessity of constantly creating original curricula a daunting challenge (Yamauchi, Ceppi, & Lau-Smith, 1999).

The lack of an easily replicated, culturally congruent, and academically rigorous pedagogy and curriculum is not a trivial problem. A substantial body of research indicates that knowledge of content *and* knowledge of pedagogy are both important factors in the achievement of high academic outcomes for children (Angelo, 1993; Darling-Hammond 1998; Tharp & Entz, 2003). *How* educators teach is as important as *what* they teach (Tharp, Estrada, Dalton, & Yamauchi, 2000). Bielenberg (2000) argues that without access to well defined alternative pedagogical strategies and methods that support their educational goals and values, indigenous educators may be forced to fall back on conventional mainstream educational practices. Knowledge of culturally congruent pedagogical methods, strategies, and approaches that are easily adapted, with proven curriculum and materials in place, could possibly help HLCB and other indigenous educators to achieve their goals (Phillips, 1983).

The Montessori Approach

The Montessori approach to education has a unique and well defined pedagogy (Cossentino, 2005) that has been seen as a good fit pedagogically by at least some HLCB educators who learned of the approach through their graduate studies in early childhood education. This approach, begun in Italy almost 100 years ago, today serves children of differing socioeconomic backgrounds, cultures, and ages (Chattin-McNichols, 1992) and

is found in both public and private settings. It is based on principles and a belief system that are closely aligned with both the progressive/holistic educational movement of the past 100 years (Forbes, 2003) and the sociocultural approach to teaching and learning (Bodrova, 2003). Although there are over 5,000 Montessori schools in operation in the U.S. (Loeffler, 1992), comparatively little research on the approach and its efficacy has been done by mainstream researchers (Cossentino, 2005).

Bilingual, bicultural and language immersion Montessori schools. Montessori education is consistent with most current approaches to bilingual, bicultural, and language immersion models, and many Montessori educators are committed to such models. Bilingual Montessori schools are found quite regularly throughout the world (see, for example, Farmer, 1998; Renton; 1998; 2002; Rosanova, 1998). One example is the InterCultura Foreign Language Immersion School in Oak Park Illinois (Rosanova, 1998) It is one of the oldest immersion schools in the United States to utilize the Montessori approach. Utilizing a dual-immersion model to immerse children in Spanish, Japanese or French during the preschool and elementary years, it has been in existence since 1986. Other examples include Montessori language immersion programs located within Native American Reservations (John, 2001; Nijhuis, 2002). One such school is the Native Montessori School in Northeast Portland (Carter, 2005; Johnson, 2005). Begun in 2004, its goal is to increase the number of native students in preschool programs and to increase their academic readiness for first grade. According to the school's founder, the reason for choosing the Montessori approach is that it is a good fit culturally and has high expectations for academic success.

In Hawai‘i, there are at least two ‘Aha P_nana Leo preschools that have utilized the Montessori approach. The teachers in those schools see this approach as congruent with their philosophical perspective. They also see it as a practical methodology for immersion programs (K. Kelling, personal communication, 2003; E. Palakiko, personal communication, 2003).

An Intersection of Paradigms

Although the Montessori approach is officially used in over 5,000 U. S. schools (Loeffler, 1992) and in more than 6,000 other schools worldwide (D. Schapiro, personal communication, April 8, 2004) most of these are privately owned schools that reach a mostly middle-class clientele. Most of the approximately 130 training programs are privately owned businesses as well; in fact in the U. S., out of over 3,600 colleges and universities (*The College Board*, n.d.), there are currently only 20 Montessori Accreditation Commission for Teacher Education (MACTE) accredited Montessori Teacher Education (MTEP) programs in institutions of higher education (G. Warner, personal communication, October 23, 2005). Chaminade University of Honolulu, a Catholic Marianist university located on the island of O‘ahu in Hawai‘i, is one such university, with an American Montessori Society affiliated MTEP that has been in operation for over 25 years. It is where, for the past 12 years I have been a faculty member.

In many universities, the Montessori training is separate from more typical teacher education programs. However, during the time of this study, all students in the early childhood programs at Chaminade University, whether they were planning to work in a Montessori program or not, received at least 225 clock hours (or 15 credit hours) of

exposure to this pedagogy. Students who completed all requirements of the program could be eligible to receive both state licensure and the Montessori early childhood credential.

Chaminade students responded to this mandatory exposure to the Montessori approach in different ways. Some responded with hostility. Most students were neutral or mildly interested. Some adapted particular aspects to their own work in conventional settings. One group of students appeared to respond, however, with a consistently positive interest in the Montessori approach. Those were students who were either working, or planned to work, in HLCB schools. Many of those students stated that they believed the approach to be congruent with many of their beliefs and values, providing as one of them put it, “a bridge from the past to the future” (J. Palakiko, Personal Communication, April 23, 2003).

Purpose of the Study

There were two purposes for this study. The first was to investigate and document why some Hawaiian language and culture-based educators perceived the Montessori approach to be congruent with their values and goals. The second was to determine how the salient features of the Montessori approach are used in Hawaiian language and culture-based classrooms and schools by educators who have been trained in the approach. The specific reasons for this perceived fit had not been previously articulated formally.

Exploratory Research Questions

1. Why have some educators in HLCB programs perceived the Montessori approach to be congruent with their values and goals as educators in those same programs?

2. How is the Montessori approach in HLCB programs utilized by educators who have been trained in that approach?

CHAPTER TWO

The Montessori Approach

This chapter describes the Montessori approach, beginning with a historical perspective and description of its genesis and growth. A discussion of Montessori's methodology, the role of education, the teacher, and the environment, as well as the nature of the child is next. Montessori's views regarding the forces guiding development, the overarching framework for the approach, and her thoughts about the role of education in world peace follow. The chapter concludes with a summary of the Montessori approach today, including (a) its successful diffusion in the U.S. (b) its alignment with current research on learning, (c) its efficacy as a curriculum model, and (d) its current challenges.

Historical Overview

In order to fully understand the Montessori approach, it is necessary to look first at the background and history of its founder, Maria Montessori. Montessori was born in 1870 in Chiaravalle, Italy, into a cultural climate of hope and reform in a newly unified Italy. She was an intelligent, intuitive, and determined woman, and like many of her era, firmly believed in the value of science to solve problems (Association Montessori Internationale [AMI], 1970; Kramer, 1988; Montessori, 1912/1964; Trudeau, 1984). While trusting that science could help solve the problems of society, Montessori was also influenced by her Catholic faith and was raised to believe that it was important to help those who were less fortunate. Combined with what has been described as a mystic's understanding of the spirit of the child (Cohen, 1969), this world-view, more than any

pre-conceived educational philosophy, led to the innovations that would be known as the Montessori approach to education.

Although deeply spiritual, Montessori saw herself first as a scientist, and it was with the face of a scientist that she undertook her study of children, first as a pediatrician and later as an educator. At age 26, she graduated as the first female medical doctor in Italy and was invited to stay on at the teaching hospital of the University of Rome, San Giovanni. While there, she continued to do research, beginning a private practice that focused on the medical needs of women and children (Gutek, 2004).

Genesis and Growth of the Approach

Montessori's medical practice was focused on the psychiatric problems of children. One of her responsibilities was to visit the Rome asylums that housed children with special needs. As she later described, she was making rounds one day when a caretaker disdainfully pointed out the ignorance of children who were playing with crumbs of food. With her background as a medical doctor, and her commitment to social reform, Montessori saw not ignorance, but children starved for sensory stimulation and something to do. She viewed the experience as a turning point in her life (Montessori, 1912/1964).

In an attempt to better serve children with special needs, Montessori took it upon herself to read all the major works of educational theory and philosophy from the previous 200 years (Kramer, 1988), focusing especially on the works of Seguin and Itard. She was deeply influenced by their writing, and also by the works of Locke, Rousseau, Pestalozzi, and Froebel. Montessori was determined to formulate her approach to working with children based on what she called "scientific pedagogy" (Montessori,

1912/1964, p.30). She advocated using clinical observations to understand children, rather than a pre-determined philosophical perspective. As she read, and continued to work with special needs children, she began to argue that mental retardation was an educational, not a medical problem, and should be treated as such, through the scientific application of specifically designed pedagogy. Her goal was to create such a pedagogy based on empirical methods (Montessori, 1912/1964).

In 1900, Montessori was appointed to a co-directorship of the Scuola Magistrale Ortofrenica, the Orthophrenic School (Kramer, 1988). Here, she trained teachers, continued to work directly with special needs children, and continued to evolve her methods. She observed, experimented, took notes, and tried out what she was learning, as she designed and manufactured her own materials. By the end of two years, her methods were so effective that some of the eight-year old children in her charge were able to pass the state examinations given to normally developing children.

In 1902, in an effort to understand why typically developing children were not doing better on the state examinations, Montessori stepped down from her position at the Orthophrenic School to devote herself full time to the further study of anthropology, experimental psychology, educational philosophy, pedagogy, and hygiene [the study of nutrition and cleanliness] (Kramer, 1988). While conducting observations in the local elementary schools, she became appalled by the lack of mobility and movement, the enforced silence, the lack of attention to hygiene, and the competitiveness. Her experiences with the children at the Orthophrenic School had sensitized her to a different kind of education (Montessori, 1912/1964). She became convinced that her methods could be applied to typically developing children:

I felt that the methods which I used had in them nothing peculiarly limited to the instruction of idiots. I believed that they contained educational principles more rational than those in use, so much more so, indeed, that through their means an inferior mentality would be able to grow and develop. This feeling, so deep as to be in the nature of an intuition, became my controlling idea after I had left the school for deficient, and little by little, I became convinced that similar methods applied to normal children would develop or set free their personality in a marvelous and surprising way. (Montessori, 1912/1964, p. 33)

The “real work” begins. In 1907 when she was 37 years old, Montessori was offered the chance to try her ideas with typically developing young children in a new Children’s Center to be established in a tenement building in a low-income area of San Lorenzo, Italy. Beginning with 50 children ranging in age from two to seven, one large room, and an untrained assistant who was to be the teacher, she set to work (Montessori, 1912/1964). She wrote of the experience later. “I was enflamed and said that this work we were undertaking would prove to be very important and that some day people would come from all parts to see it . . . It was from there that the *real work* began” (Montessori, 1912/1964, p. 4).

Naming the center, *Casa dei Bambini*, the Children’s House, she solicited toys and materials from the local society matrons and began her experiment. Using some of the materials from her Orthophrenic School, she instructed the teacher to allow the children to freely choose the materials they wanted to play with. Although she did not work directly with the children, Montessori visited on a weekly basis, making observations in order to study the reactions of the children to her materials (Kramer, 1988). She then

adjusted the materials and how they were presented, based on the children's responses. What were left were materials and presentations that children were intrinsically drawn toward.

Parents were included as partners in the experiment, and in fact, were expected to participate (Montessori, 1912/1964). Mothers were invited to come and visit "at any hour of the day to watch, to admire, or to meditate upon the life there" (Montessori, 1912/1964, p. 64). They were also expected to send their children on time, in clean clothes and body, and to "show the greatest respect and deference toward the Directress [teacher] . . . once a week, at least, the mothers [were allowed to] talk with the Directress, giving her information concerning the home life of the child, and receiving helpful information from her" (Montessori, 1912/1964, p. 71). Although these rules might sound patronizing, in Montessori's day, teachers were accorded the kind of respect now reserved for members of the clergy. In fact, it was quite unusual for a parent to be invited to talk with the teacher at all (Kramer, 1988).

As a result of her observations, Montessori consciously strove to make her *Casas* as homelike as possible, with children in mixed-age groups and a homelike setting (Montessori, 1912/1964). Mixed-age grouping proved to be an enduring aspect of the approach, helping to create a sense of community. She believed that in this collaborative atmosphere, the oldest children could feel capable, and the youngest could feel a sense of security and safety (Montessori, 1912/1964). Montessori also designed the first child-sized furniture, much like that which one might find in a home (Lillard, 2005).

The responses of the children to the materials and approach astonished everyone, including Montessori who was used to working with children with special needs (Montessori, 1966). As she put it many years later,

After each new experience . . . I remained for a long time in disbelief, but at the same time quite shaken and alarmed. How often it happened that I reproved the teacher when she told me what the children were doing! “Don’t come to tell me such fantasies,” I kept saying severely, and I remember that she, without being offended, would tearfully reply; “You are right. When I see such things I think that it must be the angels who are inspiring these children.” (Montessori, 1966, p. 115)

Expansion and codification. As news of the success of her “experiment” spread, Montessori continued to open schools in Italy (Kramer, 1988). By 1909 she had written her first book, *Il Metodo della Pedagogia Scientifica applicator all’educazione infantile nelle Case dei Bambini*. In 1912 it was published in English as *The Montessori Method: Scientific Pedagogy as Applied to Child Education in the Children’s Houses*. In the book she wrote what would later become a cornerstone of the approach:

We have been mistaken in thinking that the natural education of children should be purely physical; the soul, too, has its nature, which it was intended to perfect in the spiritual life—the dominating power of human existence throughout all time. Our methods take into consideration the spontaneous psychic development of the child, and help this in ways that observation and experience have shown us to be wise. (Montessori, 1912/1964, p. 374)

While maintaining her private medical practice, teaching at the university, and opening schools, Montessori also continued to do research. Determined to find the reasons for the seeming transformation in the children at the *Casas*, she continued to experiment with, and develop, both materials and pedagogical practice (Montessori, 1912/1964) for preschool and elementary-age children. But the flood of inquiries and interest, and the continuing requests from both private parties and governments, continued unabated. People and educational societies all over the world were clamoring for training. Montessori was overwhelmed with the sheer numbers, finding that time to continue her research was becoming increasingly compromised (Kramer, 1988).

In 1910 at the age of 40, concerned about the possible ill-effects of the misuse of her approach and desperate to have the time to continue her research, Montessori made the decision to give up both the practice of medicine and her teaching appointment at the university (Montessori, 1912/1964). She decided to devote herself full-time to the dissemination of her approach. In 1913 she began the first international training program in Rome. Making the transformation complete, in 1916 she also gave up her post as the lecturer of Anthropology at the Royal University of Rome (AMI, 1970), letting go of her final connection to academia. Henceforth, her approach would be supported by training courses, lectures, and the sale of her didactic materials. The spread of her ideas would take the form of a closed, rather than an open, system. Her work was now outside the mainstream of academia, with a brand and a business to protect (Kramer, 1988).

Discoveries and Insights, Principles, Laws, and Truths

Montessori's methodology was primarily inductive, utilizing clinical and participant-observational techniques (Chattin-McNichols, 1992). Unlike her closest

American counterpart, Dewey (1938), Montessori did not start with a particular philosophy or theory of education. Instead, she determined to get at what she considered to be universal “truths” about learning and development through clinical observations. Once she believed she had discovered these “truths” she did not continue with further randomized or quantitative experimental procedures.

Although Montessori did not endorse a particular educational philosophy prior to beginning her own research (Montessori, 1912/1964), she read widely and broadly in her fields of interest prior to beginning her work. Later, in an attempt to more deeply understand her initial findings, she continued to read in other fields as well. This is congruent with the methods of many qualitative researchers today (Miles & Huberman, 1994; Bogdan & Biklen, 2003).

Similar to the methods of some contemporary qualitative researchers, Montessori observed children in a contextualized setting, attempting to understand and make sense of what she was observing in that setting. The results of those observations are documented in her early books and lectures (Montessori, 1912/1964; 1916/1965a). What she variously called “discoveries” “insights,” “principles,” “laws,” or “truths” to explain and make sense of her observations and insights about the nature of children, learning, and development (Montessori, 1912/1964), might be called themes or patterns by some qualitative researchers today.

And just as modern qualitative researchers expand on their initial findings by looking for underlying relationships among the patterns and themes, Montessori also expanded on her initial findings by looking for underlying relationships among the insights, principles, laws, and truths. She called these the “forces” underlying her

principles and laws. In her later books and lectures Montessori provided details about these forces, as well as the relationships she felt she had discovered about the nature of the child, the role of the teacher, and the environment (Montessori, 1916/1965b; 1918/1991; 1956/1970).

Finally, again in a manner similar to that of qualitative researchers who employ grounded theory methodology, Montessori explicated two overarching and interwoven frameworks: her theory about child development ensconced in what she called the *Planes of Development*, and the under girding cosmological perspective she called the *Cosmic Plan for Life* (Montessori, 1948; 1948/1973; 1955/1989; 1967/1995).

Major Contributions

There were five major areas of focus in Montessori's early writings, as she began writing of her principles, laws, and truths, discoveries, and insights. These early writings, mostly written before 1940, included a focus on (a) the universal role of studies of education, (b) the role of the teacher, (c) methods of giving lessons, (d) the prepared environment, and (e) the special qualities and characteristics of the child. Liberal use of her voice along with an attempt to present the principles in approximately the order they appeared in her books and compiled lectures has been used in the following discussion of these five areas.

The Universal Role of Studies of Education

From the beginning, Montessori (1912/1964) stated that studies of education should be made for the entire world, not for individual countries or groups. In addition, she believed that some pedagogical principles were universal for all ages. One of these universal principles was a deep respect for the personhood of the individual child

(Chattin-McNichols, 1992). Another was the need, no matter what the age, for the child to have freedom of movement and independence in choosing what to learn. Finally, she believed that while all children go through the same developmental sequence, children had within them a *particular* potential and set of unrealized gifts and talents that would only be manifested if supported by the right kind of environment.

The Role of the Teacher

Montessori (1912/1964) believed that the preparation of teachers needed to include instruction not only in the teaching of specific methods, but also in the cultivation of a desire to operate as “true scientists” in their own classrooms. This true scientist was one with a deep love for life with all its mysteries and underlying orderliness. It was also someone who was willing to be patient and humble in studying these mysteries. Patience was defined as the ability to sustain interest and to accurately apply oneself to a task, even though the object of that task was of seemingly very small importance. Humility was defined as an aspect of patience leading to an attitude that nothing was too small to “absorb all [the teacher’s] powers, to claim his entire attention, to occupy all his time” (Montessori, 1916/1965b, p.106).

We give the name scientist to the type of man who has felt experiment to be a means guiding him to search out the deep truth of life, to lift a veil from its fascinating secrets, and who, in this pursuit, has felt arising within him, a love for the mysteries of nature, so passionate as to annihilate the thought of himself It is my belief that the thing which we should cultivate in our teachers is more the *spirit* rather than the mechanical skill of the scientist. (Montessori, 1912/1964, p.8, 9)

From Montessori's perspective then, the role of the scientist included the ability to see children from an essentially spiritual perspective. She felt that just as scientists could see potentiality in what was as yet unknown, so too teachers should be able to see within each child that which was not yet manifest. Looking for the potential, teachers should have faith that the child's true spirit would reveal itself over time, through freely chosen and appropriate work.

The vision of the teacher should be at once precise like that of the scientist, and spiritual like that of the saint. The preparation for science and the preparation for sanctity should form a new soul, for the attitude of the teacher should be at once positive, scientific and spiritual (Montessori, 1914/1965a, p. 107).

Montessori (1914/1991) wrote of the need for teachers to observe in order to know what to do next. In her third book she even suggested that pre-service teachers should "undertake knowledge of the cultivation of plants, should observe living things under a microscope and should receive training in physiology" (Montessori, 1914/1965a, p. 108) so that they could become better observers of children!

In addition to operating with the passion of a scientist, the heart of a mystic, and the observational skills of a botanist, Montessori thought that teachers must also take care not to insert too much of their own personality into the lessons. Especially at the preschool level, they should ultimately rely instead on the materials themselves to attract the child. Inserting too much of one's own personality into the lessons carried the great danger of contaminating the child's true interests and squelching their as yet unrealized potential.

The teacher's job instead, she said, was to carefully prepare an environment that was adapted to the specific needs of each child and each stage of development. This meant that teachers must be well versed in the development and needs of each stage and must carefully observe in order to deeply know each child. The teacher was to be a guide, providing the link between the child and the activities or environment (Montessori, 1914/1965a). The notion of an interactive triad consisting of the teacher, (or adult), the child, and the environment, is a guiding principle of the Montessori approach (Chattin-McNichols, 1992).

Montessori (1967/1995) described three stages that teachers go through in becoming the guide she envisioned. In the first stage, usually early in the year, and certainly early in their careers, teachers were to focus most on taking care of the environment, rather than focusing too much on the "children's restlessness" (Montessori, 1967/1995, p. 276). Teachers, too, must attend to their own appearance, taking care to appear tidy, clean, calm, and dignified, with graceful and gentle movements. Once the environment was in good order, the second stage began (Montessori, 1967/1995). In the second stage, teachers focused on children, thinking of ways to help them to connect with the activities. In order to do this, teachers "enticed" children (Montessori, 1967/1995, p. 278) with their personality and charm. In this stage, before children were able to concentrate, she said that teachers were "like the flame which heartens all by its warmth, enlivens and invites" (Montessori, 1967/1995, p. 278). They were to use their personalities, their humor, and their demeanor to attract children to the activities.

In the third stage, as children began to take an interest in the materials and activities, and were beginning to be able to hold their attention on the activities, teachers were to be careful not to interfere in any way with the work of the child (Montessori, 1967/1995). Even giving a small word of praise could be, according to Montessori, enough to break a delicate concentration. She compared the ability to refrain from interfering at this point as a spiritual exercise of the highest sort. “True spirituality realizes that even to help can be a source of pride” (Montessori, 1967/1995, p.280). On the other hand, if a child showed a wish for the teacher’s approval, she should give it freely. A teacher’s role at this stage was to serve as a kind of spiritual valet to the children, being attentive to, and anticipating, their needs, but not overpowering them through the strength of her personality. “We have to help the child to act, will, and think for himself. This is the art of serving the spirit, an art which can be practiced to perfection only when working among children” (Montessori, 1967/1995, p. 281). As children chose work that met their developmental needs, their behavior changed, revealing what Montessori called their “true natures” to the teacher Montessori said (1967/1995, p. 284). When this finally happened, the teacher’s own spiritual growth would be enhanced.

To serve the children is to feel one is serving the spirit of man, a spirit which has to free itself. . . . It is the teacher who feels she has been lifted to a height she never knew before . . . [who] can say, ‘I have helped this life to fulfill the tasks set for it by creation. (Montessori, 1967/1995 pp. 283, 284)

Methods of Giving Lessons

Montessori had very specific things to say about the methods of giving lessons. The ideal teacher was not at the front of the room filling children’s heads with a pre-made

lesson. Instead, Montessori stated that giving lessons should be done in the spirit of an experiment with adult and child participating as co-partners in the experiment (Montessori, 1912/1964). Children and young people were not students; instead, they were explorers. When children first entered a Montessori environment, collective lessons were not to be given. Instead, lessons were to be *individual, brief, simple, and objective* making liberal use of precise gestures that helped to symbolize the concept to be learned.

Words are not always necessary. Very frequently all one has to do is show the child how the object is used. But when the teacher has to speak and show the child . . . the instruction should be brief. The best instruction is that which uses the least words sufficient for the task. (Montessori, 1962/1967, p. 106)

This advice was given based on her years of work with the children at the Orthophrenic hospital and her work with the children at the Casa dei Bambini. The lesson or object being demonstrated must be what the child paid attention to, not the personality of the teacher. “A teacher makes an almost timid attempt to approach the child whom she believes is ready to learn the lesson” (Montessori, 1962/1967, p. 106). Words, if used at all, were to be used to signal a cognitive transition (Cossentino, 2005). As teachers were giving a lesson they should always be watching, observing, to see how children responded, taking care always, to respect the right of the child to be free not to continue.

In terms of giving lessons, the function of the teacher was to find out what spontaneously interested the child and to work from there. “This then, is the first duty of an educator: to stir up life but leave it free to develop” (Montessori, 1962/1967, p. 111). Montessori acknowledged that her approach was different from the norm, where the teacher lectured to children as they listened in silence. Instead, with preschool age

children, the first lesson for any activity was given in silence so that the children could attend primarily, with their sense of vision. Talking about the lesson came later, once the child had gained some mastery.

These lessons may appear strange, because they are carried out in almost complete silence, while one thinks in general that a lesson signifies an oral recitation, almost a tiny lecture. Yet his wordless instruction is an actual “lesson.” We direct his attention to the movements of his body and encourage him to learn to control them perfectly. The teacher never encourages this tranquility with words, but with her own quiet sureness. (Montessori, 1956/1970, p. 137)

Although most lessons at the preschool level were to be given as silent demonstrations that the children watched and then tried for themselves, Montessori also utilized what is called the three-period lesson (Montessori, 1912/1964). First developed by Seguin (Lillard, 2005) in his work with children with special needs, the three-period lesson was a way to teach the specialized vocabulary associated with perceptual concepts such as color and shape. The first period consists of naming an object while showing it in isolation, then naming another object while showing it, too, in isolation. The second period consists of asking the child to point to or do something with the object being named while both are on display. In the second period, in order to proceed, the child must be able to choose the correct named object. If the child could not do this, the directress was to smilingly put the material away until another time. “The teacher does not repeat and does not insist; she smiles, gives the child a friendly caress and takes away the colors” (Montessori, 1912/1964, p. 109). If the child could show the objects she had

named, she moved to the third period where she showed each object, again in isolation, and asked the child to name the object.

Another teaching technique common to all levels of the approach was a methodology called “synthesis-analysis-synthesis” (Ritchey, 1996). With this technique, children were first shown the framework or whole of the activity or concept. Then the parts of the activity or concept were analyzed, and finally, the child would put the parts or pieces back together into a whole, this time with a deeper understanding of the relationship of the parts to the whole.

A third feature common to all levels of the approach was “isolation of difficulty” (Montessori, 1914/1965a). All the lessons and activities were created with only one teaching purpose in mind. The material was created such that teaching purpose was clear enough that it could be intuitively understood and used without extensive help and intervention. For example, the purpose of a didactic material called “The Long Red Rods” was to help children with the development of their visual perceptual skills. The material consisted of 10 red rectangular rods, increasing in even increments from 10 cm to one meter (Montessori, 1914/1965a). The goal of the activity was to sort the rods from smallest to largest through comparing one with the other, from a randomly mixed array. The completed activity resembled a “set of organ pipes” (Montessori, 1914/1965a, p. 75). Each rod increased by the length of the smallest rod, so children could use the smallest rod to measure whether the next longest rod had been correctly chosen from a random assortment. To isolate the “difficulty” all the other attributes of the rods were the same except their length.

Finally, the materials and lessons were self-correcting to the degree possible dictated by the child's age. For young children, color coding or having the same number of slots as there were things to put in the slots might be sufficient. For older children the control of error could be found in a control chart or booklet. A control chart was a poster-size or smaller chart showing the correct answer or correct way to put a material or activity together. Montessori did not see correcting an error to be a source of shame; instead she saw it as a way to learn and grow. She felt that children appreciated the opportunity to learn from their mistakes; to allow the materials to correct them.

Methods specific to older children. While continuing to employ the basic principles of self-correction, isolation of difficulty, synthesis-analysis-synthesis, and the three-period lesson, at the elementary level the emphasis switched from primarily silent demonstrations of individual activities, to what she called impressionistic lessons, short demonstrations utilizing props and stories that illustrated the essence of a concept such as the parts of speech. The purpose of these impressionistic lessons was to spark the child's interest in exploring the topic in depth independently or in small groups, later (Montessori, 1948/1973).

Montessori suggested that at this level children were drawn to interesting visual displays that stimulated the imagination, to timelines, to learning abstract science concepts both through hearing and experiencing what she called great stories (Duffy & Duffy, 2002), and through hands-on research and experiments demonstrating the essence of the concept to be learned. She also thought it very important that the elementary age child go out into the world to conduct such research. As part of the research process, she

imagined elementary age children to be actively engaged in planning their own excursions, preparing for such excursions, and reporting back on the results of their trips.

At the *Erdkinder* (earth child), or adolescent level, Montessori (1948/1973) suggested that students would learn best from putting into action the academic lessons learned at the elementary level. This active learning would be achieved through collaboratively building and running an actual enterprise such as a farm, while living in a communal, hostel-like setting with their peers, accompanied by house parents to provide oversight (Montessori, 1948/1973). Here, in the company of nature, the “humanistic explorer,” or adolescent, could work with head, hands, and heart as he or she grew physically and socially, and became more and more able to think philosophically (Montessori, 1948/1973).

The Prepared Environment

For teachers to conduct the experiments Montessori described (Montessori, 1912/1964), the school or what she called the “prepared environment” must allow children to freely move about and to feel physically and psychologically comfortable. “The school must permit the free, natural manifestations of the child if in the school scientific pedagogy is to be born. This is the essential reform” (Montessori, 1912/1964, p. 15). A school of this sort, where the children move freely in a comfortable, home-like atmosphere, would allow a true observational experiment to occur. “The pedagogical method of *observation* has for its base the *liberty* of the child; and *liberty* is *activity*” (Montessori, 1912/1964, p. 86). For the elementary age child, the prepared environment expanded to include the community. For adolescents, the prepared environment became the enterprise engaged in and the community with which they were interacting.

Montessori considered conventional educational methods the moral equivalent of slavery, destroying the soul and deforming the personality, commenting on “the sorry spectacle of the teacher who, in the ordinary schoolroom, must pour certain cut and dried facts into the heads of the scholars. In order to succeed in this barren task, she finds it necessary to discipline her pupils into immobility and to force their attention” (Montessori, 1912/1964, p. 21).

Movement and cognitive development. Related to the notion of the ability to freely choose activities, was Montessori’s idea that movement was vital to cognitive development (Montessori, 1912/1964). In fact, she went so far as to state that without movement there could be no learning (Montessori, 1912/1964). As a pediatrician she realized that all children’s needs, physical, emotional, and cognitive must be attended to. One without the other led to an unbalanced child. In a Montessori school, every cognitive activity consciously utilizes movement and activity, and every exercise involves materials that the children can manipulate. Montessori was particularly interested in the movements and development of the hand, which she saw as a unique tool and gift of humans that worked in the service of the mind (Lillard, 2005).

Relationship of movement to collaboration. In addition to enhancing cognitive development, Montessori believed that if children were not able to move about and freely choose their own activities, then, in a perversion of what should have been an atmosphere of cooperation and collaboration, they would begin to want to possess the things around them, creating conflict instead.

Two paths lie open in the development of personality—one that leads to the man who loves and one that leads to the man who possesses. One leads to the man who has won his

independence and works harmoniously with others, and the other to the human slave who becomes the prisoner of his possessions as he tries to free himself and who comes to hate his fellows. (Montessori, 1949/1972 p. 67)

Freedom with responsibility. Concurrent with the notion of liberty to move about and freely choose what was of most interest was the notion of responsibility to the larger community and standards of behavior. Freedom to move around and to choose the materials and activities that were of interest did not mean freedom to do anything one wished. Being independent did not mean the independence to indulge in rude behavior. “Liberty” to Montessori meant the freedom to choose purposeful work in order to fully develop one’s innate gifts and talents, not the freedom to move around aimlessly or the freedom to distract or bother one’s mates. Children had obligations and responsibilities to the community, including respecting another’s space, and there were definite standards of behavior that the children were to live up to.

Discipline of oneself in terms of ability to manage one’s movements, impulses, and ability to conform to social norms was an important aspect of liberty. As Montessori (1912/1964) put it, “The liberty of the child should have at its limit, the collective interest; as its form, what we universally consider good breeding” (Montessori, 1912/1964, p.87). She felt that a truly free and independent child was one with inner discipline, what she called “active discipline.” The child who required external rewards or punishments in order to manage his or her movements and impulses was chained, as it were, to those rewards or punishments. “A room in which all the children move about usefully, intelligently, and voluntarily, without committing any rough or rude act, would seem to me a classroom very well disciplined indeed” (Montessori, 1912/1964, p.93).

Punishments, rewards, and enforced immobility thus had no place in her system of education. Instead, misbehaving children were treated with sympathy. They were isolated from others with some of their favorite activities, much as an ill child might be isolated and solicitously attended to, until well again. The lack of rewards or punishments did not come from some pre-determined philosophy, but from her observations of the children and their lack of interest in rewards when they had the choice of interesting work (Montessori, 1912/ 1964).

Focus on nature. As a scientist interested in life and living things, Montessori held an abiding love for nature (Kahn, 1998) and believed that children should have access to the outdoors, to gardening, and to life in its many forms. Montessori advocated bringing nature to younger children via plants and animals to tend and care for. She described gardens and places outdoors where children could enjoy walking, running, working, or simply resting (Montessori, 1914/1965a). For older children, Montessori advocated the study of the relationships of living things to the earth and to each other, as well as a study of the earth itself. Rather than staying within the confines of the *Casa*, for older children this study was also to be done outdoors with hikes, observations, outdoor labs, and experiments.

A real home. Montessori wrote that school at the preschool level should resemble a real home, and in fact, should ideally be located in a home. She described a central or working room for intellectual work, a garden with shelters so the children could play or sleep under them and a clubroom where children could talk or play games. “Here,” she said, “the furnishings should be especially tasteful” (Montessori, 1914/1965a, p. 41). In the house should be framed pictures and photographs, flowering and ornamental plants,

musical instruments, large albums of colored pictures, and, “above-all, each child should have a little flower-pot, in which he may sow the seed of some indoor plant, to tend and cultivate as it grows” (Montessori, 1914/1965a, p. 43). The furniture should be child-sized, a new concept for that time, and light enough for the children to move themselves as they were to be responsible for its daily care and maintenance.

Aesthetics and cleanliness. Aesthetics and cleanliness were important to the Montessori environment (Montessori, 1918/1991) and were to be included in the design of space for children. As evidenced by the statement below, Montessori believed that the laboratory for the observation of life must be an aesthetic one, as an aesthetic environment would allow for the development of appreciation for beauty and aesthetics, two attributes that she felt were uniquely human characteristics (Montessori, 1918/1991).

But what is above all essential is that [the space] should be artistically beautiful. In this case beauty is . . . produced . . . by grace and harmony of line and colour, combined with that absolute simplicity necessitated by the lightness of the furniture If we wish to keep in touch with the principles of science we may say that the place best adapted to the life of man is an artistic environment; and that, therefore if we want the school to become “a laboratory for the observation of human life,” we must gather within it things of *beauty*. (Montessori, 1918/1991, p. 114)

Structure and materials. The first *Casas*, focused on meeting the needs of preschool age children, were divided into three main areas: (a) practical life; (b) sensorial, and (c) intellectual, education, including eventually, the teaching of reading and writing, and arithmetic. Montessori (1914/1965a) also included specific mention of

lessons on gymnastics, taking care of and the culture of plants and animals; building things, art, music, making handicrafts, and fashioning bricks to make miniature houses and villages out of clay. Later she would add an area called “Cultural Studies” to the *Casas*. It included the study of the basic principles of science, geography and history, botany and zoology, and the celebrations and customs of different peoples (Montessori, 1914/1965a). All the activities within these areas were designed with direct goals, such as the acquisition of a particular skill, and indirect goals, those that prepared children for success in later activities.

Practical life. The practical life area included within it activities, or exercises, in the following categories: (a) grace and courtesy, (b) motor development, (c) care of the self, (d) care of the environment, and (e) care of plants and animals (Montessori, 1914/1965a). All of these activities were to be adapted to the culture and circumstances of the location of the school. According to Montessori, the school must be a cultural environment that allows children to become familiar with the basic aspects of their own culture (Montessori 1955/1989). For example, a grace and courtesy activity in a school in Hawai‘i might include a lesson on how to properly give and receive *lei* (flower necklaces or garlands).

While all the activities of practical life have a practical outcome such as the ability to properly give *lei*, these are actually the indirect goals of the area. The main, or underlying goals, are the development of coordination, cooperation, concentration and independence. Montessori (Montessori, 1914/1965a) believed that these four abilities were necessary in order for children to be able to take part cooperatively in the daily life of their school/home. Current research indicates that they are also the same skills

necessary to carry out the organized sequences of activity required of academic tasks (Lillard, 2005). Because of their conscious focus on fine motor development and hand/eye coordination, also help develop the neuromotor experience necessary later for successful reading and writing (Lillard, 2005).

Sensorial. The sensorial area included a set of didactic materials adapted directly from Montessori's work with children with special needs. The direct aim of these materials was the development and refinement of each of the senses. They were designed as a series of problems to be solved, and because of the self-correcting nature of the materials, young children could work with the "puzzle" for as long they wished, until it was solved. When solved, the child could move at his or her own pace to solve the next "puzzle." The satisfaction gained by figuring out the problem the material presented was matched by the perceptual skills gained in doing the exercise (Montessori, 1914/1965a).

An important indirect goal of the sensory materials is the development of vocabulary and language associated with a particular perceptual stimulus (Montessori, 1912/1964). The name and parts for every activity were included once the first silent demonstration was given. The ability to develop a sophisticated vocabulary associated with the various perceptual processes was seen by Montessori as necessary in order to fully develop the intellect, and she was quite specific in stating that the lessons were to be given using "an exact nomenclature . . . in most cases pronouncing the necessary names and adjectives without adding anything further. These words she should pronounce distinctly" (Montessori, 1912/1964, p. 225).

Montessori (1912/1964) also taught that each piece of didactic material and each lesson should focus on the development of one sense at a time. She paid special attention to the development of the sense of touch and vision, being aware of the necessity for both to be well developed in order for children to be successful in later reading and writing.

Finally, Montessori also felt that it was through the refinement and development of the perceptual processes that one developed morality and a sense of aesthetics. The aesthetic harmony of nature is lost upon him who has coarse senses. The world to him is narrow and barren. In life about us there exist inexhaustible fonts of aesthetic enjoyment, before which men pass as insensible as the burst seeking their enjoyment in those sensations which are crude and showy, since they are the only ones accessible to them. (Montessori, 1912/1964, p. 222)

Intellectual exercises. Intellectual exercises included reading, writing, and arithmetic. These exercises had their own area of the environment and were an extension of the practical life and sensorial exercises. Here, the development of fine motor skills, eye-hand coordination, concentration, coordination, independence, and a sense of order served to support further cognitive growth. Although Montessori was reluctant at first to begin to teach this content, thinking that children should be closer to six or seven before being introduced to it, parents and the children were persistent in requesting that she teach them to read and write.

Cultural subjects. Cultural subjects in Montessori's curriculum included history, geography, social studies, and science—both the physical and biological sciences (Montessori, 1948/1991). The study of history included activities such as the use of

timelines related to the child's own life and family. The study of geography included learning first about the world through a study of globes and maps, and then learning about each of the different continents, including the land forms, the biomes, the plants and animals, and the people of each continent. Social studies included learning about children and their families throughout the world and the curriculum common needs of shelter, food, clothing, work, and play, with a focus on how different people met their needs, depending on where they lived, and the resources they had. The study of the sciences focused on learning the external parts of plants and animals, building vocabulary, and simple experiments designed to stimulate children's thinking about how the physical world works.

Assessment in a Montessori environment. For Montessori (1918/1991), assessment was a matter of tracking the child's growth and development, rather than a series of tests with grades. She devised a chart to track the work cycle of the child that showed the work the child did during a three hour cycle, how it was done, the amount of rest taken during that three hours, and notes on the child's disposition. From these charts, teachers could deduce the child's development and progress toward normalization (described later in the section).

Because each of the materials in a Montessori environment was sequenced and ordered, and because each material had a main goal, a control of error, and specific points of interest for children, teachers could know approximately where the child was, in terms of cognitive development. They could also know what lessons might be offered next as they observed how children worked with various materials. Assessments were present in a Montessori classroom; performance, oral, essay and multiple-choice tests, but they

were presented in the form of games, and only for as formative assessments. Teachers noted children's mistakes and continued to work with them to develop competence in the area, but the children were not graded, and in fact, may not have been aware of their mistakes. The notion of diagnostic teaching is one thing that sets the Montessori approach apart from educational models where the curriculum scope and sequence is determined by the time of year and age of the child (Lillard, 2005).

Qualities and Characteristics of the Child

A need for order. In her *Casas*, Montessori noted both an inherent orderliness in children's movements as well as a need for order (Montessori, 1966). Children were drawn to activities that were orderly and had a clearly discernable sequence. In fact, current research suggests that children feel a sense of security and safety when their physical environment is ordered and predictable (Lillard, 2005). When the physical boundaries do not change capriciously, research indicates children may feel freer to explore the boundaries of their physical, emotional, and cognitive domains.

Self-motivated. Montessori (Montessori, 1912/1964) also noted that children were highly self-motivated when they were free to choose activities that were intrinsically interesting. It was one of the things that most astonished Montessori when she first began working with typically developing children. She believed that all typically developing children were born with self, or inner, motivation, but that through clumsy interference and misguided adult intervention, this inner motivation could be lost. Later (Montessori, 1967/1995), Montessori wrote that this inner motivation was the manifestation of a larger force she called *horme*_, described in a later section.

Love of repetition. Related to self-motivation was the observation that often children would repeat the same activity over and over, seeming to gain satisfaction from such repetitious and concentrated focus (Montessori, 1912/1964). In fact, Montessori noted that some children would choose a particular piece of didactic material and would proceed to repeat the exercise up to forty times. The children did not seem to tire after completing such long repetitions but instead appeared refreshed and renewed (Montessori, 1966). Through such observations, Montessori came to believe that repetition of an activity was necessary for full development of the intellect and corresponded to an inner need within the child. “The lesson is a call to attention. If the object meets the inner needs of the child and is something that will satisfy them it rouses the child to prolonged activity. He masters it and uses it over and over again” (Montessori, 1967/1995, p. 106).

Love for work. Montessori (1912/1964) also saw that the children in her preschools exhibited a love for work not often observed among such young children. She believed that this came from the pleasurable feelings brought about by focused concentration on an activity, as children “lost themselves” in it. This love for the work eventually expanded to a love for the plants and animals in the environment, and finally, to a love of their peers and themselves, leading eventually to a profoundly spiritual understanding of the interrelatedness of life.

Self-Disciplined. Montessori (1912/1964) also believed that allowing children to choose their work led to the ability to be self-disciplined through exercising both the will and focused attention, both discussed later.

At a given moment it happens that a child becomes keenly interested in a piece of work, showing it by the expression of his face, by his intense attention, by his perseverance in the same exercise. At that moment that child has set foot upon the road to discipline. Whatever be his undertaking—an exercise for the senses, an exercise in buttoning up or lacing together, or washing dishes—it is all one and the same. (Montessori, 1912/1964, p. 350)

According to Kramer (1988), the self-discipline exhibited by the children was striking to the first visitors to the *Casa dei Bambini* and was revolutionary for its time.

Cycle of work. Montessori (1918/1991) noted that children seemed to have a work cycle consisting of three phases: order, feeling rested, and disorder. During a typical three-hour time frame, children would come into the environment, find something to do, and their movements would become orderly. At this time, children would ideally complete what she called a “great work,” an activity that might fully engage them for up to 90 minutes. After completing such work children would appear rested and re-energized, rather than tired and disorganized. They would then complete less focused activities, finally becoming disorganized in their actions. Completing a “great work” could only happen if the work was challenging enough to completely engage the child, and it was the job of the directress to know when to intervene and when to let the children go through what Montessori (1918/1991) called “false fatigue” on their way to the great work.

Able to concentrate deeply. Related to self-discipline was the ability to concentrate. Concentration, according to Montessori (1956) had three phases: *preparation, the great work, and contentment.* She noted that children who were allowed to complete an entire cycle of work and those who completed a great work “became extraordinarily obedient and developed an almost inconceivable patience, which is rather surprising since he has received little formal instruction in obedience or patience” (p. 87). Although she did not mention it in her first book, six years later (Montessori 1918/1991), Montessori had differentiated two components of this ability to concentrate. They were attention and the development of the will. As she described it, attention was *focused action* and will was *completed action*.

Montessori (1918/1991) compared the experience of attention to drinking water. If a person is thirsty, it is only by drinking that the person is refreshed. And if a person is thirsty for water, then offering ice cream will not help. Attention remains focused on drinking water until one is no longer thirsty, and attention will be drawn to looking for water until it is found. In a similar manner, children’s attention would be drawn to an activity that fulfilled some interior need, and their attention would continue to be focused on that particular activity until the need was fulfilled. Montessori did not think the attraction was a conscious decision on the part of the child; instead she felt that the unconscious in the child was drawn to the material because it fulfilled an inner need or “internal impulse” directed by the things necessary for its development.

Will, or the ability to inhibit impulses, helped in the development of attention; as only someone who was sufficiently able to inhibit impulses through an act of will would be able to focus their attention on something long enough to achieve the desired goals. As

children were more and more able to exercise their will, their ability to attend grew stronger and stronger as well. Attention and will developed through the liberty to move freely about (Montessori, 1918/1991). Conversely, the ability to consciously direct attention and will allowed children to utilize their liberty to its fullest.

Normalized. Montessori (1967/1995) came to call the focused behavior and self-discipline children exhibited once they found an activity that captured their interest, *normalized* behavior. A normalized child was one who had achieved inner discipline; one who was content, peaceful within him or herself, and able to work independently or collaboratively in a community of mixed-age learners on work of his or her own choosing. Normalization came about only through only the experience of deep concentration on freely chosen activities. She compared this experience of deep concentration to meditation. Montessori (1967/1995) believed that her discovery that children are able to achieve normalization through freely chosen work, was the single most important result of her work. Through her thirty years of observation and work with all types of children around the world, she saw the same pattern emerge over and over, and she ultimately came to believe that it was universal to all children.

Spiritual nature. For Montessori (1967/1995), the spirit, that part of the child that was interior and unseen, was a fundamental aspect of all children. It was to be attended to, and was an important part of the educational process. She believed that a better world would result if the spiritual or inner life of children was attended to, through being left free to develop in its own unique manner.

Guiding Forces

As she continued to refine her approach, Montessori (1949/1972) began to write first of “the spiritual embryo” (1956/1970) and “sensitive periods” (1966), and later, of “the absorbent mind,” “*horme*,” “*mneme*,” and “nebulae” (1967/1995) to try to explicate what she had observed. These were, she believed, the driving forces behind the qualities mentioned above. They were universal, and like the qualities and characteristics of the child, were shaped by culture and circumstance.

The spiritual embryo. According to Montessori, there was a plan and potential for a particular kind of physical and psychic or inner psychological development (Montessori, 1956/1970) for each child. She called this plan the *spiritual embryo*. It represented the potential of the child, which, if given freedom and encouragement to develop to its fullest, would allow children to contribute most fully to the common good; thus, leading to a society of peaceful, purposeful, humans. Later, she added a more spiritual component to her understanding of the purpose of the spiritual embryo.

We observed that the human child is a spiritual embryo, endowed with mysterious sensitivities that guide him. Like a radio set that can receive the long and short waves that are transmitted through space, the sort of instrument that a child gradually constructs in his own soul is destined to receive the holy waves transmitting divine love through the boundless spheres of eternity (Montessori, 1949/1972, p. 35).

Montessori (1966) believed that the environment had an enormous impact on the development of this spiritual embryo and firmly believed that only if children were in the right environment for their particular inner and outer growth, would they be able to

become fully developed as an integrated personality. The right environment was one that attended to their physical and psychological needs for safety, provided access to the activities they were naturally drawn to, and connected them with nature. Having access to this environment would allow the spiritual embryo to achieve its ultimate purpose: to be a transmitter of love for humanity

The child becoming incarnate is a spiritual embryo which needs its own special environment There is an interchange between the individual, the spiritual embryo, and its environment It is through the environment that the individual is molded and brought to perfection. We should regard this secret effort of the child as something sacred. That is why there must be a scientific study of the psychic needs of a child and why a suitable environment must be prepared for it. (Montessori, 1966, p. 36)

According to Montessori (1966) the spiritual embryo was able to manifest itself through the development of the senses. Two processes, both elaborations of Montessori's original ideas, helped this manifestation along. One was called "sensitive periods." The other was called, "the absorbent mind."

Sensitive periods. Montessori (1966) saw in children's behavior an analogy to what in biology is called a "critical period," a phase of development where the organism is drawn toward some particular growth activity. This activity, if not attended to during that critical period, can never fully develop. A sensitive period, then, was a time in the life of the child when his or her whole being was sensitized to learning some particular action or activity.

Absorbent mind. The sensitive periods were aided by what Montessori called the *absorbent mind* (Montessori, 1967/1995). She saw that the learning capacity of the young child from birth to age six as different from that of an adult. This difference was described as “the absorbent mind,” the full capacity of which could only manifest itself in a nurturing environment.

Montessori divided the absorbent mind into the *unconscious absorbent mind*, from birth to age three, and the *conscious absorbent mind* from age three to age six. In the period of the unconscious absorbent mind, children took in all experiences, including people, from the environment (Montessori, 1967/1995). From these experiences, concepts would begin to form, and a particular way of understanding the world was molded. As Montessori put it, “He enters upon life and begins his mysterious task; little by little to build up the wondrous powers of a person adapted to his country and its times” (Montessori, 1967/1995, p. 27). In the period of the conscious absorbent mind, children added to, and embellished, the structures begun during the previous three years.

Horme_. *Hormé* was an unconscious driving force in development (Montessori, 1967/1995; Chattin-McNichols, 1992) that guided children’s efforts toward their developmental and cosmic goals. Found within the structure of the absorbent mind, and larger than the spiritual embryo, it was the “leading force of the great intelligence that pushes all matter, living, and non-living toward its final goals” (Chattin-McNichols, 1992, p. 22). Taken from Bergson’s concept of *élan vital*, it was found at the unconscious level of the mind.

Mneme. If *horme_* was the universal intelligence, then *mneme* was the universal and hereditary memory helping to guide development. This universal memory enabled

children to unconsciously remember and incorporate the past within their own being.

This was a concept that was first introduced by Semon and further developed by Nunn (Montessori, 1967/1995).

Nebulae. Nebulae were another of the underlying forces that Montessori (1955/1989; 1967/1995) conceptualized. Nebulae were the indistinct potentialities or structural predispositions that allowed for the formation, based on the culture into which one was born, of any number of potential outcomes for a particular kind of development. Montessori called them “creative energies which will guide the child to absorb from his environment” (Montessori, 1967/1995, p. 79). She compared these creative energies to the nebulae in the universe, at first appearing as nothing until they coalesced to form stars and planets. Montessori used the concept of nebulae to explain children’s ability to effortlessly acquire the language of their birth.

From Principles, Truths, and Forces to a Theoretical and Cosmological Framework

Toward the end of her life, Montessori’s principles, truths, and forces described above coalesced into two major overarching and related frameworks (1967/1995, 1948). One was a theory of development suggesting that there is a fundamental unity to the human mind and personality. The other was a cosmology suggesting that there is a fundamental unity to all of creation.

Planes of development. Montessori conceptualized development as an unfolding holistic system, influenced by home, school, society, and the child’s temperament (Montessori, 1948/1973). She theorized that development seemed to proceed in four definite phases, each marked by its own distinctive physiological and psychological characteristics (Montessori, 1948/1973). The forces listed above, all operating at the

unconscious level, were of importance in all four stages, but especially during the first stage when the basic foundations of the personality were being laid.

Montessori (1971), called each phase of development a “plane” of development, as each was conceptualized as a triangular plane figure. There were a total of four phases, or triangular planes, with each phase spanning approximately six years. Each phase had its own particular focus of development. For example, the phase encompassing ages 6-12 was characterized by a focus on intellectual development and an interest in knowing why and how things worked: the rules of the laws of nature. The apex of each plane, ages 3, 9, 12, and 18 represented a shift from the creation phase of each plane to the mastery phase.

For example, from the ages of 6-9, children were creating their intellectual skills and abilities. From the ages of 9-12, they were gaining mastery of these same skills. Although the focus of each plane was driven primarily by biological forces, social forces could thwart or enhance the development of the particular phase. At age 24, she considered brain development to be fundamentally complete (Montessori, 1971).

The Montessori approach to education is based on a deep understanding of these developmental planes, with the curriculum and pedagogy for each stage designed particularly to meet the developmental needs of that particular stage (Montessori 1948/1973). Each stage or plane builds organically upon the other, and although each is distinct, with its own set of materials, pedagogy, and curriculum, there is also an essential unity to the whole of the system. Each educational level is designed to meet the developmental needs of that particular age, with the cosmic curriculum and the essential principles such as the notion of the spiritual embryo, the need for liberty and movement and the idea of “right” work leading to love for humanity under-girding all.

Cosmic framework. While in India during the last years of her life, Montessori integrated her previous observations, discoveries, and insights into what she called the “cosmic plan of education” (Montessori, 1948). What was a minor theme in her earlier writings now became a dominant chord, pulling all her previous work into a coherent whole, and providing a counterpoint to her theory of development.

In 1939, at age 69, Montessori was invited to Adyer, India, to give a training program on the grounds of the Theosophist compound. There were already many Montessori schools in India at this time, and many people in India were interested in endorsing her. Some of these people, such as Annie Besant, Rabindranath Tagore, and Gijubhai Badheka, were also involved with the National Freedom Movement and were helping Gandhi in his early reform efforts (Trudeau, 1984). They viewed her pedagogical method and philosophy as more closely aligned with some of their own pedagogical and philosophical goals than was the British school system at that time.

As an exile from Mussolini’s fascist government in Italy, Montessori supported and identified with Gandhi’s efforts to free the Indian people from British rule (Trudeau, 1984). Her philosophical notions about the importance of free choice in order to fully develop ran squarely against colonial and fascist rule. In fact, she had met with Gandhi earlier in London in 1931 where he had challenged her to continue her work with the poor (Kramer, 1988). While in India, she did just that, setting up a Montessori school for the untouchables in the Harriman Ashram (Trudeau, 1984).

When Sri Lanka, Madras, and Calcutta, began to be bombed, Montessori, along with many other Europeans, was sent to Kodaikanal, where Montessori was asked to begin a school (Trudeau, 1984). Since both Europeans and Asians had been evacuated to

Kodaikanal, the school was both multicultural and mixed age, consisting of nearly one hundred international children (Schaefer, 2000). For the first time, Montessori was able to see children from many cultures and places in one environment As observed by Wiknamaratne, the teacher,

She . . . began to see all of her basic cosmic background come true. The whole of the spiritual foundation of mankind, the spiritual unity of man, she could see that was true. For here were all these vastly different people . . . all this was combined in one melting pot with Montessori. And Montessori saw the cosmic value of what she was saying because, despite the disparate backgrounds, all the children reacted basically the same way . . . and the trainees too. Putting education in a cosmic setting came there, in India, because of all these international and multi-aged children (Trudeau, 1984. p. 119).

Montessori had come to believe that there was a cosmic order to all of creation, based on natural law and “obedience of the universe itself to the cosmic plan” (Trudeau, p. 68, 1984). In this cosmic plan, the universe and all creation unfolded in an orderly sequence. It started with the laws of physics and creation of the universe itself, and continued through the arrival and evolution of humans. In this cosmic plan all creatures had a specific role to play, sometimes without conscious knowledge, but always in the service of creation and what she called the “Great Purpose of Life” (Montessori, 1948, p. 1).

Montessori used the coral as an example of this cosmic plan, describing how in taking calcium carbonate from the ocean to serve its own needs for building its home, the coral polyp also served the needs of life by taking excess calcium carbonate from the

ocean, and transforming it to stone, thus purifying the waters of the oceans so they remain suitable for life.

As Montessori (1948/1991) saw it, the cosmic task of humanity was to continue the work of creation through the creative use of its intelligence and imagination. Through love for all creation, intelligence and imagination could come to full fruition in people, and conversely, all creation could express itself more fully. What had earlier been an idea of the child as the cosmic agent of construction expanded to a belief that mankind was the cosmic agent of the universe. As she stated,

All creatures who live on earth have a cosmic role to play. The maintenance of life on earth depends on many species, each one of which has a special, specific function. Animals feed and live and reproduce; each one has a life cycle that fulfills a special role in relation to the life of other species Life therefore can be regarded as an energy that maintains life itself. I would now like to pose a question: doesn't man also have a cosmic mission to fulfill on earth? Is it conceivable that this being who has such great intelligence, who is the worker par excellence, has no part to play in the labor of the cosmos? Human energy, too, has appeared on earth to undertake and fulfill a specific mission. (Montessori, 1949/1972, p. 7)

Montessori had always known that children between the ages of six and twelve needed a different kind of curriculum from that of the preschool age child; in India, she realized that these differing needs could be met through using the cosmic plan as the basis for the curriculum at the elementary level. She called this the "cosmic curriculum" and believed that in addition to meeting the overt developmental needs of

elementary age children, the cosmic curriculum could help children to discover their intended cosmic task (Baker, 2003).

Montessori's cosmic curriculum is most clearly laid out in her book, *To Educate the Human Potential*, published in 1948. As an integrated and developmentally appropriate curriculum, it utilizes a pedagogy that capitalizes on four qualities found in 6-12 year olds. These qualities include their (a) strong imaginative powers, (b) curiosity about how things work, (c) intellectual strength and relative quiescence of the physical and emotional domains, and (d) a desire to move beyond their earlier home-like setting to explore the larger environment through questions of "how" and "why" (Duffy & Duffy, 2002). The six basic components of the curriculum include (a) a unitary vision of the world; (b) an understanding of the universe as a fundamentally spiritual organizing force; (c) an appreciation of the interdependency of all things; (d) an awareness of the concept of a cosmic task; (e), a way of understanding the purpose of life; and finally (f) a pedagogy that works from the whole to the parts, and back to the whole again (Baker, 2003; Duffy & Duffy, 2002). Embedded within its precepts is the notion that education holds the potential for social change (Chattin-McNichols, 2002).

These six components are encompassed within an underlying structural foundation called the *Great Stories*, a collection of five stories, each of which tells of what Montessori considered to be a "critically important" event in the history of humankind (Lillard, 2005). The stories, told with drama and demonstrations were meant to inspire a quest for a deeper understanding of (a) the wonder of creation, (b) the needs of life, (c) the sacred nature of the earth, and life on earth, (d) the place of humans within the scheme of creation, and (e) the child's own place within that creation (Montessori,

1948). These stories, along with experiments, research into projects of personal interest to the child, and “going out” into nature and the community, were the foundational building blocks of Montessori’s elementary curriculum.

Peace and Education, the Final Focus

The experience of living through two world wars, coupled with her interest in social reform had led Montessori, during the last 12 years of her life, to focus her energies in a search for a way to end wars (Montessori, 1949/1972). Her conviction was that the way to prevent war was not merely through the absence of conflict, but through a conscious change in educational systems. In her last book and final speeches, Montessori described her ideas about how society could be restructured through the scientific application of pedagogical principles that worked with, rather than against, development. She compared education in its contemporary and conventional level to that of the bow and arrow and asked “how can we fight powerful cannons and aerial bombardments with bows and arrows?” (Montessori, 1949/1972, p. 32)

Montessori also speculated that part of the problem was that humans had constructed environments that were far removed from nature, and that these artificial environments were unsuited to children (Montessori, 1949/1972). It was only through contact with nature, she felt, and an understanding of the wonders of creation, that children could begin to appreciate their place within the scheme of things. As stated in her book, “Peace and Education” (1949/1972),

If human unity-which is a fact in nature-is going at last to be organized, it will be done only by an education that will give appreciation of all that has been done by human cooperation, and readiness to shed prejudices in the interests of common work for the

cosmic plan, which may also be called the Will of God, actively expressed in the whole of His creation. We hear much talk, largely ineffective, of world organization, but the word that should be used is rather “Organism.” When it is recognized that the world is already a living organism, its vital functions may be less impeded in their operation, and it may consciously enter on its heritage. (p. 51)

Montessori (1949/1972) returned full circle to her original premise, but this time with a new twist. She had always stated that children’s physical and intellectual development was stunted by conventional schooling; Now she said that children’s *moral* development was stymied and stunted by the requirements of conventional schooling. With her observations that children could be kind and helpful to one another given the right kind of encouragement and circumstances, Montessori now advocated for the efficacy of true community, that is, the kind of community where one’s talents could both develop and be used for the good of the community. At this point in her life, with so many different experiences of working with children in various settings around the world, she believed that children should help one another in the learning process. For these reasons, she felt that education should be a community and not just a cognitive undertaking. The opportunity to engage in a true social life promoted the development of a sense of discipline and morality, both essential to spiritual development and an ultimate goal of education. Montessori (1949/1972) eloquently states her feelings about children working in community.

The child’s attempts to learn what real justice is have been confused and misdirected. He has even been punished for charitably having tried to help schoolmates who were more oppressed and less quick-witted than he. If, on the other hand, he spied

on and denounced others, he met with tolerances Men educated in this manner have not been prepared to seek truth and to make it an intimate part of their lives, nor to be charitable toward others and to cooperate with them in order to create a better life for all. On the contrary, the education they have received has prepared them for what can be considered an interlude in real collective life--war. For the truth of the matter is that war is caused not by arms, but by man. (p. 21)

When Montessori finally returned from India to Amsterdam, her final home, she was asked what nationality she now had. Her reply was quintessential Montessori. "I live in Heaven, My country is a star which turns around the sun and is called the Earth" (AMI, 1970, p. 50). On May 7, 1952, she died at her home in Amsterdam, leaving a legacy that, for all the different cultures and variations it has been exposed to, has endured and continues to evolve today.

The Montessori Approach Today

Today the Montessori approach has been diffused throughout the world. This is in spite of being called outdated and irrelevant (Fitzpatrick, 1914) within a few years after its arrival in the U. S. and experiencing a steep decline in its popularity soon after. As late as the early 1960s it was considered merely a dying fad by some (personal correspondence of Ann Keppel, 1964). By 1992, however, there were over 5,000 private and public schools and programs utilizing the Montessori approach in the U.S. alone (Loeffler, 1992). In addition, there were at least 6,000 Montessori schools outside of the U.S., world-wide (D. Schapiro, personal communication, April, 2004). In some public Montessori magnet schools there are waiting lists of more than 200 students (Simon, 2005).

According to Lillard (2005), one reason the Montessori approach has endured is that it includes a full curriculum complete with sequenced didactic materials, and a three-year scope and sequence. In addition, for the first 45 years of the movement, Montessori personally trained all the teachers who were approved to implement the model. This resulted, according to Cossentino (2005), in a ritualized methodology that was resistant to change. Today, for example, training programs around the world include in their courses, the same six components of the prepared environment (Appendix A). This codification of the approach, along with the use of a year-long internship model for student teaching, prepares novice Montessori teachers to enter their first years of teaching with a well-defined teaching methodology and philosophical framework congruent with their work setting.

Successful Diffusion

Although initially very successful in the U.S., by the 1960s the Montessori approach appeared to be another of a long line of educational fads destined to die out. (Kramer, 1988). Disagreements over various business aspects of the training, a scathing attack by Fitzpatrick (1914), and changing ideas about educational reform contributed to this decline (Kramer, 1988). Nancy McCormick Rambusch is credited with the re-discovery and successful diffusion (the spread of an innovative idea) of the Montessori approach in the U.S. (Meyer, 1975). She saw that her children were ready for much more in terms of intellectual activities than the “expert” preschool and nursery school teachers of the day were willing to allow, and was looking for an alternative. Rambusch found her ideas to be in sync with other young, well-educated and middle class parents (Rambusch, 1992). She founded the American Montessori Society which today, as the largest

Montessori society in the world includes over 90 affiliated training centers and programs (G. Warner, personal correspondence October 18, 2005).

Current Research on Learning and the Montessori Approach

Current research regarding the efficacy of the Montessori approach indicates that many of its aspects are compatible with what has been called “best practice,” (Humphryes, 1998) a term indicating research-based methods and pedagogy in education, and particularly early childhood education. Some researchers (e.g., Chattin-McNichols, 1992; Elkind, 2003; Loeffler, 1992; Marsak, 1994; McClellan & Kinsey, 1999) assert that the Montessori approach is supported by current research on children’s learning and development. Lillard (2005) suggested that the approach is consistent in eight ways with current research on effective early learning strategies and concluded that these key concepts particularly enhance learning and developmental growth. Stated in modern terms, the eight key concepts are listed below.

1. Movement and cognition are interwoven and movement enhances cognition.
2. A sense of control over one’s life enhances learning and well-being.
3. Intrinsic motivation is a key to learning.
4. Extrinsic motivation reduces motivation to engage in academic tasks when the reward is withdrawn.
5. Collaborative learning situations are conducive to learning.
6. Situated learning is more meaningful than decontextualized learning.
7. Adult interactions are important to child outcomes, and particular kinds of adult interactions are more conducive to positive outcomes than others.
8. Children respond better in orderly environments.

Efficacy of the Approach

As the Montessori approach enjoyed a resurgence of popularity in the 1960s, there were a number of studies conducted during the 1970s and 1980s on its efficacy. Chattin-McNichols (2001) reviewed over 200 such studies. Although the studies did not constitute a complete evaluation of its efficacy, the results indicated that in the areas of attentional strategies, general intelligence, achievement in academic areas and in maintaining their gains over time, children in Montessori programs tended to outperform those from peers in other programs. In addition, although direct instruction programs tended to produce faster gains in the areas of intelligence, school readiness, and specific academic areas of training, the gains attributed to the use of the Montessori approach were more long-term, especially for boys.

Current statistics and research, while somewhat sparse, tend to substantiate earlier studies. For example, in 2003, Eagle Peak Montessori School, a four year old Charter School in Concord, California, experienced a jump of 112 points on the standardized test scores of their students (on a scale of 200 to 1,000) from the previous year and made the third largest gains over-all, in Contra Costa County (Pardington, 2003).

Another current example comes from a 2003 report on the effects of magnet school programs on the reading and mathematics performance in Prince George, County, MD, public schools (Hornsby, Tompkins, Modarresi, Yang, & Yuan, 2004). Their findings, after controlling for demographics and initial abilities, indicate that the Montessori magnet school had a higher positive effect on students' reading performance and mathematics performance at the elementary level than did other magnet or conventional models in the district. The Montessori magnet school was one of the most

effective in positively influencing both reading and mathematics performance at the elementary level and was the most effective in middle school. At the high school level, the Montessori magnet school had a positive impact on both reading and mathematics performance. In like manner, the East Baton Rouge Parish School System found that students in their Montessori magnet schools had the highest achievement scores and has proposed adding Montessori programs to the preferential admissions track (Lussier, 2005).

A final example comes from research conducted by Rodrigues, Irby, Brown, Lara-Alecio, and Galloway, (2003). These researchers analyzed a public school prekindergarten bilingual Montessori program and compared it to a traditional bilingual prekindergarten program. The results of the study indicated that children who had participated in this program “significantly outscored the children who had participated in a traditional bilingual prekindergarten program on the Spanish reading subtest of the Aprenda achievement test (p. 26). The significant differences continued through second grade, when the study concluded.

The three reports cited previously are representative of others that, according to a summary conducted by the North American Montessori Teachers Association (NAMTA), tend to substantiate the notion that utilization of the Montessori approach can be an effective strategy for supporting high academic achievement among children of all socio-economic strata (*Montessori Research Summary*, 1996-2005). Other smaller studies (see Chattin-McNichols, 2001) show no statistically significant differences, however, Chattin-McNichols speculates that these studies may be investigating Montessori programs that have implemented only certain aspects of the approach. He suggests that research is

needed to better evaluate the efficacy of the Montessori approach in a variety of public and private settings. Specifically, randomized studies that provide specifications for the models being researched are particularly needed, along with longitudinal data..

Obstacles to implementation

Although both the academic and social outcomes of children attending Montessori schools generally compare favorably to those utilizing more conventional methods (Chattin-McNichols, 1992), there are obstacles to implementing the Montessori approach on a large scale. One such obstacle is that there are few Montessori programs in universities with pre-service teacher education programs. Of a total of over 120 Montessori training programs in the U.S., currently only 20 are located in university education departments (G. Warner, personal communication, October 18, 2005). This means that most teachers are not exposed to this approach when they take teacher education courses. In addition, because textbook manufacturers are focused on meeting the needs of large university systems, the Montessori approach is seldom, or briefly, mentioned in most educational textbooks.

Another and related obstacle is that despite the fact that the Montessori approach has a generally positive track record and pedagogical strategies that exemplify current best practice (Humphryes, 1998), most state departments of education still do not recognize Montessori teacher training when evaluating the credentials and experience of potential teachers. The Montessori system is outside of the mainstream. Those who want to work in a public Montessori system must generally get both a state teaching license and also, the Montessori credential for the level they wish to teach. In the state of Hawai'i for example, students who wish to receive a Kindergarten through Grade-6 (K-6) or a

Preschool through Grade-3 teaching license are not allowed to use any student teaching done in a Montessori setting toward the fulfillment of their state licensure requirements. (C. Burrows, personal communication, April 15, 2005).

Another set of obstacles that are particularly relevant for indigenous educators who are interested in adopting the approach, are a lack of trained teachers, the expense of the materials necessary to start a classroom, and a lack of space for new start-up Montessori schools (Schapiro, 2005). Training programs and sites lag behind the demand, and without those, teachers cannot receive their training.

A final challenge lies in the change to the educational landscape due to the No Child Left Behind Act of 2002 (Meier & Wood, 2004) and the Strategic Plan for the United States Department of Education [USDE] (*United States Department of Education*, 2002). Both specify the use of standardized testing along with the implementation of curricula and pedagogical designs based on research designs difficult to implement in Montessori settings. Standards-based instruction and the standardized testing that goes along with it prescribe, regardless of developmental or cultural differences, what children of a certain age must learn in any given year, and then test whether the content has been learned in the time allotted to it. This is the antithesis of the Montessori approach (Schapiro, 2005) and provides a challenge to the 250 public Montessori programs across the U.S. In addition, educational research such as that preferred by the USDE requires the introduction of a prescribed procedure performed in a randomized test setting in order to determine how that procedure has affected students. This is difficult to implement in a Montessori environment, where children are encouraged to make their own curriculum decisions from a wide range of available choices.

In spite of these obstacles the appeal of the Montessori approach remains strong for some educators, including some HLCB educators. Chapter 3 describes the methods used in an exploratory case study that focused on understanding why some of these educators see it as a good fit with their values and goals, and on how the salient features of the approach are used by Montessori-trained teachers in HLCB classrooms.

CHAPTER THREE

Method

This research project was an exploratory case study utilizing qualitative methods. I wanted to understand the research situation from a contextually situated perspective. I was also attempting to generate hypotheses about why HLCB educators seemed, in some cases, to believe the Montessori approach was a good match for their goals and values as educators. According to Miles and Huberman (1994), Yin (1994), and Merriam (1988), exploratory case studies are appropriate when these are the researcher's goals.

The notion of culture as integral to learning provided an overarching point of reference throughout the investigation. Researchers who subscribe to the notion that culture's role in learning is of central importance (Cole, 1996; Ross, 2004), do not believe it possible to fully understand the functioning of the mind through the use of quantitative methods alone. They argue that qualitative methods and descriptive data are necessary to more fully understand the research situation, and suggest that an analysis of both the processes underlying the data and the major themes and constructs embedded within the data are important aspects of the research process (Wolcott, 1994).

Grounded theory methodology (Denzin & Lincoln, 1994; Strauss & Corbin, 1994; Strauss & Corbin, 1998) guided the overall design strategy of the study. Grounded theory methodology is an analytic approach using a case perspective, whereby theory is derived from both inductive reasoning and deductive analysis. It draws upon an emic understanding of the world, utilizing the categories, themes, and patterns drawn from the participants themselves, and the focus tends to be on making the implicit more explicit. This approach does not test theory through hypothesis testing. Instead, emergent methods

of analysis are utilized to derive theory from the data. This allows for design flexibility so that researchers can be open to adapting their methods as understanding deepens, situations change, or unexpected patterns emerge from the data (Strauss & Corbin, 1998).

Participants

There were 40 participants, all of whom were either currently working, or had recently worked, in HLCB programs. Fifteen of the 40 were key informants who were chosen because they had experience as both Montessori and HLCB educators. Twenty five others were focus group participants (Krueger, 1994) who were chosen because they did not have prior Montessori training. With the exception of two, all participants were currently working in HLCB settings. The two participants who were not currently working in an HLCB setting had both been hired to help a local Montessori school set up a bilingual Hawaiian/English language program. The administrator had worked for both Montessori and HLCB schools in the past, and the teacher had worked for many years as an HLCB educator in a program next door to the Montessori school where he was currently employed.

The work settings of the participants, which included private, public, and charter schools and programs, ranged in size from as few as 6 to as many as 200 students. They were located in urban, rural, and suburban areas on three islands. On O‘ahu they were in urban, suburban, and rural areas; on Maui and Hawai‘i they were located in rural areas. The majority of participants (57%) taught in Hawaiian language immersion programs. The rest taught in culture-based English-medium (27%) or Dual English-Hawaiian language immersion programs (16%).

Key Informants

The 15 key informants were asked to participate specifically because, in addition to being HLCB educators, they also had a minimum of at least 135 hours of formal training in the Montessori approach to education. The key informants were 14 females and 1 male, all of whom had been raised in Hawai'i. Fourteen of the 15 were fluent in the Hawaiian language and 10 were of Hawaiian or part-Hawaiian ancestry. Their ages ranged from 28 to 57 years old, with a mean age of 33 years. Their experience as educators ranged from 5 to 20 years with a mean of eight years of experience. Three of the key informants also provided member checks (described later). They were “insiders” in both systems, having worked in both Montessori and HLCB schools. Some participants' real names have been used with their permission, and pseudonyms were provided for those participants who requested them. Table 1 shows more detailed demographic information for each of the key informants.

Focus Group Participants

The 25 focus group participants included 18 females and 7 males, all but one of whom had been raised in Hawai'i. Nineteen of the 25 were fluent in the Hawaiian language, and 23 were of Hawaiian or part-Hawaiian ancestry. Ages ranged from 20 to 59 years old, with a mean age of 32 years. Their experiences as educators ranged from 1 to 29 years with a mean of 8 years. Table 2 shows more detailed demographic information for each of the focus group participants.

I recruited first through personal contacts, a method of recruiting that is considered to be especially appropriate when conducting research in an indigenous

setting (Kahakalau, 2004). I was specifically interested in HLCB educators with Montessori training who represented the widest possible variety of settings and situations. After exhausting my personal contacts, I employed a modified version of the snow-ball sampling technique described by Patton (2002). The modification, in keeping with grounded theory methodology (Ezzy, 2002), was that from the total group of suggested additional participants, I invited the HLCB educators representing the widest variety of settings in order to discover if the site, or the age of the child the educators worked with, or the background of the participants seemed to make a difference in their responses.

The first 12 participants, all considered key informants, were recruited from the MTEP at Chaminade University of Honolulu where I am a member of the education faculty. These 12 former students had received the Montessori training as part of their teacher education programs. The additional three key informants and all 25 of the focus group participants were recruited either through the recommendations of the first 12 or from those recommended by the first 12. None of the participants recruited after the first 12 were former students of mine. Since generalization was not an explicit goal of this study, non-probability sampling was appropriate. Participation was voluntary. All participants provided informed consent which was an ongoing process (see Appendix B for a copy of the form).

Table 1. *Demographic Information for Key Informants*

Names	Sex	Age	Where Raised	Yrs Tchng	Ethn	Hwn Lang	School Type	School Location	Grade Tchng
Koalani	F	28	O'ahu	5	NH	NO	PR CB	SUB O'ahu	6-8
Koa	M	34	O'ahu	10	NH	YES	PR DI	URB O'ahu	4 ^h
Wailani	F	47	Hawai'i	12	PH	YES	PR DI	URB O'ahu	ADMIN
Keani	F	33	Hawai'i	8	H	YES	CH H	SUB O'ahu	4-6
Kalaunuola	F	32	O'ahu	8	PH	YES	CH H	SUB O'ahu	1-3
Kaiulani	F	29	O'ahu	8	NH	YES	CH H	SUB O'ahu	KIND
Kealohi	F	31	Maui	8	NH	YES	PU H	URB O'ahu	2-3
Liko	M	35	Maui	8	NH	YES	PU H	R Maui	3-5
Evalani	F	29	Maui	5	H	YES	PR H	R Maui	PRE
Kauanoë	F	NA	O'ahu	15	PH	YES	CH H	R Hawai'i	ADMIN
Kanani	F	47	O'ahu	11	PH	YES	CH H	SUB O'ahu	2-3
Keomailani	F	50	O'ahu	7	PH	YES	CH DI	R Hawai'i	IN/TOD
Ulu	F	35	Maui	7	H	YES	PR H	R Maui	PRE
Puanani	F	37	O'ahu	3	PH	YES	PR H	R Maui	PRE
Kapuanani	F	30	Hawai'i	9	PH	YES	PR H	SUB O'ahu	ADMIN

Key to abbreviations

NH: Not Hawaiian
PH: Part Hawaiian
H: Hawaiian

PR: Private School
CH: New Century Charter School
PU: Hawaiian Immersion Public School

PRE: Preschool
KIND: Kindergarten
IN/TOD: Infants and Toddlers

R: Rural
URB: Urban
SUB: Suburban

CB: Culture-Based English Medium
DI: Dual Hawaiian/English Immersion
H: Hawaiian Immersion

Table 2. *Demographic Information for Focus Group Participants*

Name	Sex	Age	Where Raised	Yrs Tchng	Ethn.	Hwn Lang	School Type	School Location	Grade Tchng
Lani	F	28	O'ahu	3	H	No	CH CB	URB O'ahu	6-8
Kapono	M	38	O'ahu	8	PH	No	CH CB	URB O'ahu	6- ¹ 8
Kapa`a	M	29	O'ahu	5	PH	Yes	CH CB	URB O'ahu	6 ¹ -8
Emailani	F	29	Hawai'i	5	PH	Yes	CH HI	R Hawai'i	2-3
Pua	F	31	Hawai'i	12	H	Yes	PR HI	R Hawai'i	PRE
Auhe	F	30	Hawai'i	12	H	No	PR DI	R Hawai'i	INF/TOD
Keomailani	F	34	O'ahu	18	PH	Yes	CH HI	R Hawai'i	1-2
Kalaokahaki	F	43	Hawai'i	8	H	Yes	CH HI	R Hawai'i	KIND
Kuulei	F	34	O'ahu	5	PH	Yes	CH HI	R Hawai'i	KIND-6
Lehua	F	43	Hawai'i	18	PH	Yes	CH HI	SUB O'ahu	KIND-6
Lea	F	20	O'ahu	1	PH	Yes	CH HI	SUB O'ahu	PRE
Ipu	F	23	Maui	1	PH	Yes	CH HI	SUB O'ahu	1-2
Hina	F	23	O'ahu	2	PH	Yes	CH HI	SUB O'ahu	3-4
Puamana	F	25	O'ahu	2	H	Yes	CH HI	R Hawai'I	1-2
Pele	F	26	Hawai'i	2	PH	Yes	CH HI	R Hawai'i	PRE
Kaiolo	F	26	O'ahu	3	PH	Yes	CH HI	R Hawai'i	KIND
Nailima	F	43	Hawai'i	18	H	Yes	CH HI	R Hawai'i	3-4
Pau	M	59	Hawai'i	29	PH	Yes	CH HI	R Hawai'I	KIND
Kanani	F	34	O'ahu	8	PH	Yes	CH HI	R Hawai'i	5
Lanakila	M	29	O'ahu	2	PH	No	CH CB	SUB O'ahu	9-12
Maile	F	32	Hawai'i	8	PH	No	CH CB	SUB O'ahu	9-12
Kai	M	28	Maui	5	H	Yes	CH CB	SUB O'ahu	9-12
Kamaka	M	29	O'ahu	6	PH	No	CH CB	SUB O'ahu	9-12
Sol	M	38	O'ahu	12	NH	Yes	CH CB	SUB O'ahu	9-12
Eric	M	35	Calif	10	NH	No	CH CB	SUB O'ahu	9-12

Key to abbreviations

NH: Not Hawaiian
 PH: Part Hawaiian
 H: Hawaiian

PR: Private School
 CH: New Century Charter School
 PU: Hawaiian Immersion Public School

PRE: Preschool
 KIND: Kindergarten
 IN/TOD: Infants and Toddlers

R: Rural
 URB: Urban
 SUB: Suburban

CB: Culture-Based English Medium
 DI: Dual Hawaiian/English Immersion
 HI: Hawaiian Immersion

Procedures

Data Sources

Data were collected over a period of five months from January to May, 2005. Data sources included semi-structured interviews, field observations, school tours, and document analysis. Twenty semi-structured interviews (Bogdan & Biklen, 2003), one with each of the 15 key informants and one with each of the five focus groups, provided the primary data sources. The majority of the key informant interviews (9 of the 15) were complete before the focus group interviews began. The rest were completed concurrently. The interviews were triangulated by field observations in the classrooms of 12 of the key informants, by school tours, and by analysis of selected documents from the schools and programs of the participants. I specifically chose participants who represented a wide range of settings in order to discover if the site, or the age of the child the educators worked with, or the philosophical background of the participants seemed to make a difference in their responses.

Key informant interviews. I conducted semi-structured interviews with the 15 key informants (Fontana & Frey, 1997). From an initial review of the literature, informal conversations with students in these programs, and my background knowledge as an experienced Montessori educator, I created a list of tentative initial codes that included (a) multi-age classrooms, (b) observation as a method for teaching, (c) values and goals of teachers in the HLCB programs, (d) hands-on materials, (e) Montessori methods in Hawaiian classrooms, (f) cosmic curriculum, (g) importance of community, and (h) the role of the teacher. These initial codes helped to form the first set of interview questions.

I began each interview by asking questions designed to create rapport (Fontana & Frey, 1997) and then proceeded to focus on the goals, values, and challenges of these educators, their view of the role of the teacher, and the perceived similarities and differences between the two approaches. They also initially included specific questions about the tentative initial codes described above. As the interviews progressed, the questions were changed slightly to better meet the needs of the study (see Appendix C for original and revised interview questions). Questioning techniques common to the social sciences, such as probing and open-ended questions were employed in order to seek both exceptions and explanations for the responses (Bogdan & Biklen, 2003). Each interview was approximately 60-90 minutes long and was conducted in English. The interviews were audio-taped and later transcribed and analyzed.

Focus-group sessions. I conducted five focus group sessions with 25 HLCB non-Montessori trained educators. Two sets of focus group participants came from one school with the balance coming from three additional schools. Each educator participated in only one focus group, with between three and seven educators per group. Each focus group session lasted 120-150 minutes and included three basic parts. The first part consisted of a 10-minute overview of the study and a 20-minute lecture on the Montessori approach, similar to one I have given at least 10 times in the past. (See Appendix D for the complete lecture.) The second part consisted of a 30-45 minute video viewing, described below. The third and final part was a 60-75 minute semi-structured interview, also described below.

Since I was a stranger to the focus group participants and an outsider to the HLCB programs, a primary goal in the first part of each session was to attempt to develop

rapport. I did this by acknowledging my status as an insider in the Montessori approach and an outsider in HLCB programs, and by explaining that the genesis of the study had come from HLCB educators themselves. I then described the purpose of the study, asked the participants for help, and explained that I would ask for permission before using their quotes in the paper. I emphasized that it was important for their voices to be heard and tried to make their role in the research clear.

Once the overview and lecture portion of each session was completed, I showed each group 30-45 minutes of commercially produced videos that focused specifically on the Montessori approach. This was to provide visual examples of Montessori classrooms for the specific age-range of the students with whom the teachers worked. One, called *Nurturing the Love of Learning* (Johnson, 2002) was shown to all the focus group participants. It describes the original Montessori approach, primarily at the early childhood level, and discusses some basic Montessori concepts. The first two focus group participants, all of whom worked in either middle or high school, were then shown a 30 minute video called *Bridge to Adulthood, a Montessori Middle School Approach* (Johnson, 1996). This video describes the *Erdkinder* (Children of the land) model for adolescent education articulated by Montessori and developed during the 1990s by Montessori educators. The other three focus groups, all of whom worked in preschool and/or elementary schools, were shown two shorter videos. The first was *Five Going on Six-Montessori Style* (Kahn, 1987), and the second was *Imagine a School-Montessori for Elementary Age Children* (Johnson, 1995).

After the video viewing, I conducted a semi-structured interview. As with the key informant interviews, the questions focused on the goals, values, and challenges of these

educators, their view of the role of the teacher, and the perceived similarities and differences between the Montessori and HLCB approaches. The interviews also initially included specific questions about the initial codes described above. After the first two interviews, the questions were changed slightly to better meet the needs of the study (Appendix E includes the original and revised focus group interview questions). Questioning techniques common to the social sciences, such as probing and open-ended questions were employed in order to seek both exceptions and explanations for the responses (Bogdan & Biklen, 2003). Each focus group interview was approximately 60-75 minutes long and was conducted in English. The interviews were audio-taped, and later transcribed and analyzed.

Field observations. I also observed the classrooms of 12 key informants who were still primarily classroom teachers to see which, if any, features of the Montessori approach were evident. Each observation took place in the morning on the same day as the interview. All observations lasted 60-180 minutes. Called naturalistic observation by some (Adler & Adler, 1997) it is often used in conjunction with other data collection methods.

During all but one of the observations, I sat in an unobtrusive location and took field notes using a running-record format (Cohen, Stern & Balaban, 1997) to guide my observations. A running-record format is commonly used for action research in a classroom setting. It is a method for observing the activities of the classroom as a whole, a part or function of the classroom, or individual children. With a running record format, the observer takes “objective” notes on what is observed, for the duration of the observation. The term “objective” refers to the habit of writing what the researcher sees

or hears without using adjectives or adverbs that attribute meaning to what one sees (Cohen, Stern & Balaban, 1997). For example, if I observed a particular child getting a drink of water, I would write ‘child X gets a drink of water.’” The observation where I did not take running record notes occurred in a program where the children were outdoors and moving from place to place during the entire visit. During that observation I recorded my impressions and observations after the visit.

After each classroom observation I also completed two checklists commonly used in MTEPs. The first was the *Checklist of Materials and Equipment* developed by the American Montessori Society. This checklist been approved by the Montessori Accreditation Council for Teacher Education (MACTE), a United States Department of Education Title IV accrediting body for Montessori Teacher Education Programs (Montessori Accreditation Commission for Teacher Education, n.d.). It includes a complete list of the materials that should be included in an approved Montessori early childhood internship site. This checklist can be found in Appendix F. The second was the *Intern Checklist* used by the Chaminade University of Honolulu MTEP to verify that its interns are meeting minimum Montessori teacher behavior qualifications. This checklist can be found in Appendix G. I have been trained to use both checklists and have been doing so for the past 15 years. Although formal inter-rater reliability for the *Intern Checklist* has not been established, in my capacity as MTEP Director, I have had the occasion at least 5 times over the past 10 years to conduct joint observations of interns with other university supervisors. In each instance, inter-rater reliability has been over 85%.

After each observation, I shared what I had observed with the teachers and went over the *Materials Checklist* to prompt them about materials that may not have been in use at that particular time. I asked, for example, “Do you have any of these stored away anywhere? I know it is not common to have all the materials out at once.” We then would look in whatever storage the teachers had available to them as they pointed out the pertinent additional materials.

School tours. Although not originally planned as part of the data collection process, I was invited on both extensive school tours and short classroom visits at each of the focus group sites. Each tour lasted from one to three hours, and for three of the focus groups, more than one visit was made. After each school tour I took field notes about the materials I had noticed, the general “tone” of the school, the protocol practices, the students, and what they were doing. I also recorded the classroom structure of the school and any conversations I had with the teachers while on tour.

Document analysis. Finally, I collected a sampling of the mission statements, newsletters, and web sites of the HLCB programs represented by the participants. I also collected and had translated three Hawaiian language newspapers that were being used in a Grade 3-5 classroom to teach history. These technical documents were used to clarify and confirm initial results from the interviews, focus group discussions, and observations (Strauss & Corbin, 1998).

Data Analysis

As is common with grounded theory methods (Ezzy, 2002; Strauss & Corbin, 1998), the data collection and data analysis process was an interactive one, moving, as described by Miles and Huberman (1994), from data collection to data reduction; from

data reduction to conclusion drawing; from conclusion drawing back to a reading of the literature, more data collection, and further data reduction. Called “constant comparison” by Strauss and Corbin (1994, p. 283), this process is considered to be a cornerstone of grounded theory methodology.

I began the data analysis process by first listening to the audio-tapes of each interview and then transcribing each with the assistance of two undergraduate student interns, one of whom spoke Hawaiian. I listened to each audio-tape immediately after the interview but before transcription commenced in order to “relive” the interview. As I did this, I was remembering nuances, thinking of possible further questions, and getting a general sense of the tone of the interview. The audio-tape was then given to one of the two interns helping with the transcription and logistics of the focus groups.

Initial Reading

As I received each transcribed interview, I read the transcription at least twice. The first reading was to check for accuracy, as I was not personally transcribing the interviews and wanted to make sure they were accurate. This review process was valuable, as in doing it I not only again mentally relived the interview itself, but also, through the more deliberate process of checking for accuracy, noticed things the participants had emphasized, as well as the things they did not seem to be able to describe. For example, as I was reviewing the first transcribed interview, I noticed that the participant seemed to be focused most on the relationship of Montessori’s cosmic curriculum to the HLCB program she is working in; in fact, she made a point to describe how the *Kumulipo* (the Hawaiian creation story) and Montessori’s cosmic plan are similar. As I read this, I made a note to follow up with other participants, as appropriate, and to follow up with more in-

depth research on Montessori's cosmic curriculum, as well as the *Kumulipo*. I also began to look for evidence of the *Kumulipo* in the curriculum and classroom materials of other participants. The next participant described how his knowledge of the Hawaiian language influenced the way he viewed the role of the teacher, and how for him, the role of the teacher was the major fit between the two approaches. The third participant focused on how, in her opinion, each approach has a spiritual basis. Each interview seemed to be contributing to an as yet unknown whole and the focus of each, as well as the areas where there was overlap, allowed me to shape the subsequent interviews.

When I finished reviewing each interview, I printed it, and then reviewed the hard copy. This time, with the review process behind me, I was specifically looking for things that did not seem clear. I took notes in the margins of the transcribed interview as I read.

After I finished reading each transcribed interview, I downloaded it into the QSR NUD*IST N6 (QSR) software program and as necessary, wrote a short attached memo that included my general impressions, notes, and possible questions.

Open Coding

Once I had the general impressions and notes from the first interview, I began what Strauss and Corbin (1998) and others (Dick, 2002; Ezzy, 2002) have called "open coding." This is a kind of micro-analysis where one assigns a descriptive label to each word, sentence, or paragraph of written data. Its purpose is to allow for the emergence of larger categories into which the various open codes or labels can fit. To assist in the coding of the transcribed interviews I utilized the "free node" feature of the QSR program that allows one to assign, or re-assign, open codes to documents at a word, sentence, or paragraph level. The term "free node" is the QSR term for what Strauss & Corbin (1998)

and other qualitative researchers (Ezzy, 2002) call an open code. I also utilized the memo feature of the QSR program to write notes about the various individual open codes in order to remind me of possible connections or ideas I might want to pursue later. I had 76 open codes when this part of the analysis was complete.

As themes began to emerge during open coding, I realized that I needed to review Montessori's own writings in some of the areas the participants had noted. I also needed to review the literature on Hawaiian values, beliefs, and epistemology, as it became clear that there were implicit themes related to these, that although not articulated, were important in understanding the meaning of the data. For example, several of the participants, including those in some of the focus groups, stated that the role of the teacher in HLCB classrooms was that of guiding children's learning experiences, a definition of the role of the teacher very similar to that of the Montessori approach. They did not, or could not, however, articulate how that role was related to their values as HLCB educators. A review of the literature on both Montessori's perspective on the role of the teacher, and Hawaiian values helped me to understand why, although an unlikely connection on the surface, the participants saw that as a connection or similarity.

As the open coding continued, I simultaneously collected data through further interviews and observations. Just as the act of coding the interviews helped to shape the direction of future questions and a further review of the literature, so each interview and observation itself helped to shape subsequent observations and interviews. For example, I was told by the first two interviewees that a common goal and value of HLCB educators was to imbed a strong sense of "place" in the curriculum. Because of this, I began to specifically ask people I interviewed later about this notion of a sense of place. Referring

to the literature on Montessori education, the mission statements of the participants' schools, and the literature on Hawaiian culture and ways of knowing, helped me to further refine the emergent categories and their possible linkages.

Emergent Themes

Through the ongoing interviews, open coding, and references to the relevant literature, categories began to emerge. As these categories began to emerge, I ordered the open codes into what are called "tree nodes" in the QSR program. Just as a free node is the equivalent of an open code in grounded theory, a tree node in QSR is the equivalent to a theme or category. Each of the emergent themes and categories described became a separate tree node, and the majority of the open codes were ordered into one of the themes or categories represented by a tree node. For example, under the tree node or emergent theme called *Goals*, the open codes of *goals for children*, *goals for the community*, *goals for the Hawaiian people*, and *goals for all culture and peoples* were included. I created a report for each open code connected to a tree node. The first six categories to emerge from the data were *Demographics*, *Stories*, *Goals*, *Challenges*, *Aspects That Fit*, and *Aspects That Don't Fit*. See Table 3 for a complete list of the first six tree nodes with their corresponding open codes.

Axial Coding

The next step in the analytic process, commonly called axial coding (Ezzy, 2002; Strauss & Corbin, 1998) was to further develop the categories in terms of their perceived and plausible relationships. This was accomplished by looking for what have been called causal conditions—the things that led to the development of the particular categories and their relationships to one another (Ezzy, 2002). I began this part of the analysis by

reflecting on how the categories seemed to be related to one another and attempted to define possible causal relationships among them. As the process of analysis continued, I looked at how both the open codes and emergent themes might be related to Montessori's writings about the teacher, the environment, and the child, the three components that are seen as intersecting and interactive in the Montessori model. I did this with the intent of further discerning possible causal conditions.

In order to more clearly understand possible implicit meaning imbedded within the interview answers I also went back to review the literature regarding the beliefs and value systems of Hawaiian people. I checked the websites and technical documents from the various programs in order to clarify and validate the conclusions that I made. For

Table 3. *Tree Nodes and Corresponding Open codes: Initial Coding Scheme*

1.0 *Demographics*

- 1.1 Age
- 1.2 Background
- 1.3 Ethnicity
- 1.4 Status as a Hawaiian Speaker
- 1.5 How the Language Was Learned

2.0 *Stories*

- 2.1 How they came to be involved
- 2.2 Why They Came to be Involved
- 2.3 The Impact on Their Lives

3.0 *Goals*

- 3.1 For children
- 3.2 For the Community
- 3.3 For Hawaiians

3.4 For all Cultures/People

4.0 Challenges

4.1 Lack of Materials in Hawaiian

4.2 Lack of good physical space

Table 3. (Continued) *Tree Nodes and Corresponding Open codes: Initial Coding Scheme.*

4.3 Lack of Time to Create Curriculum

4.4 Lack of Money/Funding

4.5 Lack of Trained Teachers

4.6 Dealing with NCLB

4.7 Creating Academic Excellence

4.8 Lack of Hawaiian Language Curriculum

4.9 Lack of Special Services

4.10 Older kids who don't understand the model

4.11 Lack of Trained Montessori Teachers

4.12 Lack of Cohesive Philosophy

4.13 Mainstream Culture is ubiquitous

4.14 Drugs/Family Problems

5.0 Aspects that Fit

5.1 Methods

5.1.1 Hands-On Learning

5.1.2 Learning by Observing

5.1.3 Multi-Age Grouping

5.1.4 Whole-Part-Whole Teaching

5.1.5 Mastery Learning

5.1.6 "Going Out"

5.1.7 Outdoor Education/Conservation

5.1.8 Storytelling

5.1.9 Life Skills Curriculum

5.1.10 Integrated Curriculum

5.1.11 Teaching Based on Development

- 5.1.12 Self-Directed Learning
- 5.1.13 Reality Based Curriculum
- 5.1.14 Observing the Child
- 5.1.15 Teaching based on Relationships

5.2 Values and Behaviors

- 5.2.1 Humble
- 5.2.2 Patient
- 5.2.3 Stewardship of the land
- 5.2.4 Harmony in Relationships
- 5.2.5 The importance of Community
- 5.2.6 Teachers as Guides
- 5.2.7 Valuing Nature
- 5.2.8 Aesthetics and Beauty
- 5.2.9 Responsible for the whole
- 5.2.10 Place -based
- 5.2.11 Knowing Your Own History
- 5.2.12 Structured Order

5.3 World-View

- 5.3.1 The spiritual nature of the child
- 5.3.2 Sacred nature of earth/ all creation
- 5.3.3 Interconnectedness of all creation
- 5.3.4 Intelligence of Love

5.4 A Way to Change Society

- 5.4.1 Not Your Mother's Factory Model
- 5.4.2 Education to Change Society

6.0 *Aspects that Don't Fit*

- 6.1.1 Looks too Western
 - 6.1.2 Too Much Equality
 - 6.1.3 It all fits
-

example, several of the first participants told me that they believed in children being independent learners. This was surprising to me and so congruent with the Montessori approach that I wondered if they might be telling me this because of their own Montessori training, or perhaps they were unconsciously telling me what they knew I would want to hear. When I went back to mission statements and other written documents, I saw that these participants were stating the things that were indeed written as values of the school.

Finally, I reviewed the running record observations and two checklists I filled out as I observed the classrooms of the key informants. I then compared these written observations of actual classroom materials and practice with statements of the participants about their beliefs and valued practices. From the comparison of the two, I was able to discern which materials and practices had been successfully transferred and also to more fully understand the nuances of the emergent patterns and themes. For example, I noted that although the majority of the participants stated that they could not see any differences in the two approaches, the classrooms I observed did not look like Montessori classrooms and teacher practices did not always match those expected from Montessori teachers. Analysis of this apparent discrepancy led to a refinement of the category, *Aspects that Fit*, into the emergent theme, *Nuanced Distinctions*.

Through the process of triangulating the data and axial coding, the open codes and categories were finally refined into six emergent themes. I called these six themes, *A Way of Teaching, A Way of Being, A Way of Knowing, A Way of Living, Nuanced Distinctions, and Challenges to the Dream*. These emergent themes were cross-classified and as a result, two additional linkages between these themes were discerned. These linkages were

(a) a taxonomical linkage between the four themes of similarity, and (b) a causal linkage between elements within *A Way of Teaching*, *Nuanced Distinctions*, and *Challenges to the Dream*. See Table 4 for a final list of the emergent themes with their corresponding elements.

Selective Coding and Core Category

Once I had reordered the original categories into the appropriate emergent themes and had defined the dimensions of the themes and categories in terms of their relationships among and between one another, the final step was selective coding.

Table 4. *Tree Nodes and Corresponding Open codes: Initial Coding Scheme*

1.0 *A Way of Living*

1.1 A sense of identity

1.2 Being drawn-In

2.0 *A Way of Teaching*

2.1 Strategies focus on self-directed learning

2.2 Strategies include the use of demonstrations

2.3 Strategies focus on hands-on learning

2.4 Strategies include mixed-age classrooms

2.5 Curriculum focuses on nature and caring for nature

2.6 Curriculum is reality-based and culturally-congruent

2.7 Curriculum is integrated and uses the sciences as the base

2.8 Strategies include observation of the student in order to know what to teach

2.9 Strategies include knowledge of child development

2.10 Strategies include teaching in a step-by step manner to mastery

2.11 Strategies include story-telling

3.0 *A Way of Believing*

3.1 Valuing Nature and the things of Nature

3.2 Belief in the Importance of Community/Responsibility to Community

3.3 Valuing Patience, Humility and Harmony

3.4 Belief in the Role of the Teacher as Guide

Table 4. (Continued) *Tree Nodes and Corresponding Open codes: Initial Coding Scheme.*

3.5 Valuing Work, Freedom of Choice, and Responsibility

3.6 Valuing Aesthetics, Order, and Closure

3.7 Belief in Education as Transformative

4.0 A Way of Knowing

4.1 All is Inter-connected

4.2 The Child has a Unique Spiritual Essence

4.3 The Earth is a Living Entity to be Protected and Cared For

5.0 Challenges to the Dream

5.1 Lack of specialized teaching materials, curriculum and resources

5.2 Lack of funding

5.3 Lack of specialized training and teachers

5.4 Academic issues

5.5 Family and student challenges

5.6 Buy-in by students and parents

6.0 Nuanced Distinctions

6.1 It all fits

6.2 Differences noted by participants

6.2.1 It looks too Western

6.2.2 Hierarchy in the role of the adult

6.2.3 Amount of free choice time

6.2.4 Amount of Physical contact

6.3 Differences noted by me

6.3.1 The use of materials and activities

6.3.2 The use of physical space and appearance

6.3.3 Class size and ratio of adults/students

6.3.4 The use of time

Selective coding is the process of identifying a core category through analysis of prior themes and axial codes, and then systematically relating that core category to all the other ones (Strauss & Corbin, 1998). In grounded theory, a core category provides the overarching theme that ties all the other themes and categories together. Through the process of reviewing the themes and their apparent linkages, the transcripts and field notes, the core theme, or what has been called the “central story” (Ezzy, 2002, p. 93) emerged. This core theme, the one that seemed to best explain the other themes and their elements, as well as their relationships with one another, became the unified grounded theory for this study. It was the theme I called *A Way of Knowing*. I then invited the participants back into the process, as I checked with them to make sure their statements were being described in the proper context, and were conveying what they had intended to say. Two minor changes based on participant’s requests were made at this point.

Explicating the Story

The final step in the data analysis was to decide how to describe the data based on the unified grounded theory. Creation of the story brought order to the data that has been described by Ezzy (2002) as, “looking at events and interpretations in a variety of ways until a story emerges from the creative engagement of researchers and participant” (p. 152). As is common with qualitative research (Strauss & Corbin, 1994), the voice of the participants was liberally used in this section in an attempt to tell the story as accurately as possible in their own words.

Trustworthiness and My Role as the Researcher

Qualitative researchers such as Altheide and Johnson (1998) suggest that there are criteria one can follow for determining validity in qualitative research. Two of these

include the credibility and dependability or trustworthiness of the researcher.

According to Denzin and Lincoln (2003) one aspect that can help to establish the trustworthiness of a qualitative research study is the experience and training of the researcher.

My experience as an educator ranges over 30 years, in a variety of conventional and alternative settings. During that time, I have worked with toddler, early childhood (ECE), and elementary education programs. Although I began my career as a conventional elementary and early childhood teacher, for 18 of the past 30 years, I focused particularly on the Montessori approach. As a Montessori educator in Hawai'i, I taught in the classroom, founded one of the first Montessori toddler programs in the state, and was the head of a Montessori preschool. I have hired Montessori teachers, served on local boards, and worked at the state level to gain recognition for the Montessori ECE credential. From 1994 to 2004, I served as the program director for the MTEP at Chaminade University of Honolulu, where, among other things, it was my responsibility to evaluate teacher-candidates for certification. At the national level, I served as an elected member of the American Montessori (AMS) Review Committee, a body that was responsible for making accreditation recommendations for all AMS Teacher Education Programs. I have also been a member of several MACTE on-site teams whose purpose was to evaluate MTEPs applying for accreditation.

This experience as a Montessori educator allowed me to better understand possible nuances and connections between the two approaches that the participants may not have been able to articulate, since only one of them was actually working in a Montessori school. I was also in a position to be aware of possible spurious connections.

In addition to local and national experience as an educator, and particularly, a Montessori educator, I am also a parent and member of the community. My experience as a parent has given me an understanding of the realities of schools and schooling in Hawai‘i that I would not otherwise have had. My experience as a member of the community has helped me to understand some of the larger dynamics and challenges to the schools and settings of the participants. Living and working on both O‘ahu and one of the neighbor islands has given me insight into the sometimes very different issues the residents of the various islands face. I have also had multiple opportunities over time, and in various settings, to interact with Hawaiian families and college students.

Another aspect that can help to establish the trustworthiness of a study involves the relationship of the researcher and the participants. As stated by Patton (2002), the researcher must be credible in the eyes of the participants, and the rapport between them must be such that the participants feel comfortable in telling the truth of their stories. Thirty years of living and teaching in Hawai‘i allowed me access to the participants that I most certainly would not have had as an outsider. My experience as a “regular” and an “alternative” Montessori educator, as well as someone whose children were raised and schooled in Hawai‘i also gave me credibility. Similarly, my prior good relationship with 12 of the 15 key informants meant that trust had already been established, and they may have been willing to share information more freely with me than with a stranger.

While helpful in establishing trustworthiness, neither experience, credibility, nor rapport, is enough. Potential threats and biases must be addressed as well. Three potential threats to the trustworthiness of this study are discussed below, along with the methods used in an attempt to mitigate their effects.

Although a strength on one level, the fact that I had a prior relationship with 12 of the key informants was also a potential source of bias. These 12 were all former students of the Montessori program while I was the director. In addition, 11 of the 12 had taken at least one course from me and had also been my advisees. Although this may have promoted an atmosphere of trust and a willingness to open their classrooms to me, it may also have caused them to be more reluctant to tell me things they thought I might not want to hear. Through either a desire to help, or their perception of me as being in a position of power, they may unconsciously have fed me the “answers” they thought I might need or want (Bogdan & Biklan, 2003). I attempted to mitigate this threat to the trustworthiness of the study in several ways. First, I distanced myself from the Montessori teacher education program and from my role as their advisor or professor. Although not done particularly for the purpose of the study, I had retired as the MTEP director 5 months prior to beginning the fieldwork for the study. I did not teach or advise any students for 6 months prior to, and during, the study. In addition, none of the key informants had been my students or advisees for at least a year prior to the beginning of the study, and only two of my former advisees were still students at Chaminade University. The average length of time that had elapsed since a key informant had been my student or advisee was 5 years. To mitigate the problem of these former students wanting to please me, I triangulated the data with focus groups consisting of HLCB educators who had not been my students and who had not attended Chaminade University. Finally, I used document analysis as another source of triangulation to check for congruency with participants’ responses. That is, I reviewed documents, including selected Hawaiian language newspapers that had been translated into English by my

interns, as well as curriculum guides for HLCB schools and programs, to determine if what the participants told me was also found in written form.

Another potential threat was the fact that although I have lived in Hawai'i for 30 years, I am not Hawaiian, nor do I speak or understand the Hawaiian language. I am thus a relative stranger to Hawaiian ways of knowing and behaving. This means that I was not able to participate in a way that allowed me to portray the Hawaiian perspective from an insider's point of view, and it is possible that I might have misinterpreted or misunderstood an interaction or answer. It is possible that due to my status as an outsider, the HLCB educators with whom I had no prior relationship did not tell me things they would have more freely discussed with an insider. Additionally, although I have lived in Hawai'i, for over 30 years, because I did not grow up here, I may have missed subtle nuances of behavior that are unique to the island local culture. In like manner, because the focus group participants did not have a Montessori background, they may have misinterpreted my presentation or the information from the videos. I attempted to mitigate both the effect of my status as an outsider and potential misinterpretation of my presentation or questions, through the use of multiple interviews and "member checks" (Denzin & Lincoln, 2003). In the latter case, I asked the participants to verify my interpretation of events and discussed pertinent sections of the paper with three key informants prior to, and during, the data analysis process. I re-checked the websites of the various schools in order to triangulate the data. I also attempted to make sure I was using language the participants were familiar with, and to limit my use of Montessori jargon.

I was somewhat concerned prior to beginning the study that my lack of ability to understand the Hawaiian language would pose a threat to the trustworthiness of the study,

as many of the classrooms I was planning to observe were conducted in Hawaiian. As a student-teacher supervisor I had successfully mentored pre-service teachers in Hawaiian immersion schools in the past. However, I wasn't sure that the experience in this case would be the same. In the past, if I had questions about anything that did not seem clear to me, I was able to follow up after class, in English, with comments and questions to clarify any details. This proved to be the case in the study, as well. When I encountered a particular teaching situation during the observation that I did not understand, I was able to get clarification during the interview later that day. All the teachers spoke in English with me during the interview. In addition, many of the things I was looking for, such as the presence or absence of mixed-age grouping were not dependent on my knowledge of the language.

Finally, member checks and multiple interviews were used in an attempt to mitigate a third source of potential bias: a possible predisposition to see connections where none actually existed, and conversely, to miss important patterns and connections because they did not fit an unconscious bias or investment in a particular outcome.

CHAPTER FOUR

Findings

Analysis of the data revealed six themes and two links connecting the various themes and their elements. Through these themes and links a grounded theory that tied the themes, their relationships, and the two research questions together, emerged. This chapter provides a description of the findings of the data collection and analysis

processes: six emergent themes, their elements and the two links that relate the themes and their elements to one another.

Four emergent themes in particular, provided insight into the research questions, “Why has the Montessori approach been perceived as congruent with at least some of the values and goals of the HLCB educators who are exposed to it?” These four, described first, revealed (a) a similar professional identification, I call *A Way of Living*; (b) similar pedagogical practices and strategies, I call *A Way of Teaching*; (c) similar values and beliefs, I call *A Way of Believing*; and (d) similar notions about the nature of reality, I call *A Way of Knowing*.

The fifth and sixth emergent themes, described next, provided particular insight into the second research question, “How are the salient features of the Montessori approach utilized by Montessori-trained HLCB educators? The distinctions between the two approaches noted by both the participants and myself are detailed in the fifth theme, called *Nuanced Distinctions*. The sixth and final theme, called *Challenges to the Dream* included the stated challenges to implementing HLCB programs.

The chapter concludes with a description of two apparent linkages that further elucidated the nuances and connections among the six themes and their elements. The first linkage described a taxonomical relationship linking the four themes of similarity, the *A Way of Teaching*, *A Way of Living*, *A Way of Being*, and *A Way of Knowing*, in a tree-like hierarchy. The second described a causal relationship that linked the theme of *Challenges to the Dream* with elements of *A Way of Teaching*, *A Way of Believing* and *Nuanced Distinctions*. From the six themes and their elements, as well as the two linkages described below, a grounded theory, the theme that best explained the rest of the

themes, their elements, and the linkages, emerged. This grounded theory will be discussed in Chapter 5.

A Way of Living

The first theme, *A Way of Living*, included identification with the goals and values of the schools and programs the participants work for. For some, it also included a stated sense that their lives have been changed as a result of their involvement with these schools and educational approaches. The contents of this theme with its two key elements emerged from the stories the participants told about how and why they became HLCB educators. The first element of the theme described the extension of the goals and values into lifestyle choices. The second described a feeling of being “drawn in,” in a sometimes life-changing way to the larger values and goals of the HLCB program where the teachers worked. Both of these elements are common to Montessori educators as well, with many Montessori educators even speaking of themselves as “Montessorians” (*Welcome to the Montessorian World*, n.d.)

A Sense of Identity

The participants presented themselves as a group of committed educators whose professional values and goals were often intertwined with their personal values and goals. For some, this sense of identity came from their experiences as students in the culture-based programs. An example of this kind of HLCB educator was Puamana, a focus group participant and Grade 1-2 first-year teacher at a school in Hilo. She responded as follows when asked how she came to be involved as an HLCB educator.

I graduated from Nawahi . . . from this school when it was only intermediate through high school, so that’s why I got involved with *this* school. But the reason

I got involved with teaching was I was asked to be a *kumu kāko* 'o [teacher's aide]. I was a teacher's aide for three years. This is what I'm supposed to be doing, and so now, I'm a teacher, and this is the first year [teaching] by myself. (Text units 64-72)

Another was Emailani, a young HLCB educator who felt the need to give back to her community through teaching. Her decision to stay in her small, rural community and teach in an HLCB school was described by her mother, Keomailani, a key informant, administrator, and co-founder of both a charter school and private preschool. As Keomailani and I talked about the importance of young people following their hearts and their dreams, she expressed that Emailani, who attended an HLCB program for part of her high school career, had been asked to continue her formal education toward a doctorate. She had recently received her bachelor's degree and teaching credential, and returned to her home town where she was currently teaching at an HLCB school.

They told my daughter they want more Hawaiian educators. And she said to me, "Mom, that would be wonderful, but truly my roots are in Waimea and what I want to give back to, is my school." And she said, "Do you know that people look down on me for that? That I want to return to the school that gave to me, and I want to give back to that school? Because it's a small charter school in a small town on the island of Hawai'i, and my professors see bigger things for me. But this is what I want." I said, "Then hold true to yourself if that's truly what you want." And I look at her, not just because she's my daughter, but as a good example of that grounding of who she is and where she's from. (Text units 589-600)

A slightly different example of the intertwining of professional and personal lives was in the way some participants described the importance and use of the Hawaiian language and cultural practices in their daily lives, not just in the classroom. Koa's description of the role of the Hawaiian language in his life was typical of other responses to my question regarding the role of the Hawaiian culture and language. He was a key informant working in a Grade 1-4 elementary program on O'ahu.

It's a part of my life, so if it's not for work, then it's in my home with my kids or just my everyday life, when I am thinking about things I think [about] things through a Hawaiian perspective or use. I like to create songs and stuff, too, [and] I can't really do it in English but in Hawaiian, somehow when I share things with people it makes sense. I think that's one of my talents If I try it in English, it's just corny, but when I think about it in Hawaiian, it just comes out. (Text units 44-50)

A Feeling of Being Drawn In

In each interview I asked the participants how they came to be HLCB educators. Although many of the teachers began their careers as HLCB educators through university courses they took in either Hawaiian studies or Hawaiian language, their paths varied. Some seemed to arrive almost by accident. Some were looking for a way to re-connect with their roots as Hawaiians. Some were attempting to preserve the Hawaiian language and culture. But no matter what their path, their stories revealed a common, and in some cases, life-changing commitment to their chosen field and to the preservation of the Hawaiian language and culture.

The story of Kealohilani, a key informant working as a Grade 1-2 teacher in an HLCB school on O‘ahu, was a good example of a non-Hawaiian HLCB educator who found her way by accident.

I was majoring in Japanese and my brother told me “You’re taking Hawaiian language,” because he loved it so much. So I took a class and it was beautiful, and it was so much fun At that early stage I think you don’t really see the beauty of the language in general. I think it’s just the general feeling that you get from being in the class. It’s like you kind of get a family sense of it. (Text units 40-44)

She continued, describing feeling welcomed by the professors and enjoying her classes so much that she decided to major in Hawaiian. The instructors made the experience “fun and light and playful and encouraging” (Text unit 80), and she was encouraged by her language instructors to volunteer at one of the Hawaiian language preschools as a way to practice her language. She made the decision to become an HLCB educator at that time and said during the interview that she has enjoyed all eight years of the experience. Later, while doing the member checks, I asked Kealohilani to read what I had included of her comments in this paper. She emailed back the following:

I could have told you so much more about what drew me into immersion or Hawaiian language . . . how I proud felt watching those children develop such a deep sense of self worth, working side by side with those inspirational teachers, the immediate connection that you feel with people when you realize that you have such a special commonality; the life changing experience of knowing Hawai‘i for what it really is (or as close as I can come to knowing it, being that

I'm not a native). I'm sorry I didn't say any of that to you during our interview.

(Kealohilani, personal communication, December 5, 2005)

This was similar to what others articulated when sharing their experiences in learning the Hawaiian language. They too, described the courses as life-changing. Koa, who was also not Hawaiian by birth, described his university classes in this way.

[The program] came about when I was still in school at UH [the University of Hawai'i at Mānoa]. I never worked with kids before, because I was always in the restaurant business, yeah? Go to school and you work at night. One day, one of my language professors told me that there were these immersion schools...

“Immersion? What? What? What is that?” So she told me about the schools, and I went over there and volunteered just to build my language but then . . . [I] felt kind of like, not like in a special club, but . . . kind of like [being] on a different wavelength And then from there it's allowed me to live in a different way. I mean if I didn't take Hawaiian language I know I'd be a different, a totally different person. (Text units 68-158)

Koa's description of how the Hawaiian language as influenced his thinking was echoed by Keomailani who is part-Hawaiian but returned to school as an adult to learn to speak the language of her ancestors. She spoke about what the Hawaiian language meant to her and why she felt drawn to what she was doing.

There's life in the language. There's also poetry in the language And it's just when you speak the language you just feel your ancestors, and you know that's where they were. And to be part of that, to be able to, to reach back and touch any part of where you came from is powerful. Awesome. (Text units 71-74)

For others, being involved with an HLCB school provided a life-changing focus. Kapa‘a, a focus group participant and high school teacher working on O‘ahu, described such an experience. He was part-Hawaiian and although he did not speak Hawaiian, he described his involvement in the HLCB movement as a life-time commitment. He spoke first of looking for his roots after the experience of 9/11.

Looking back, I grew up hating school, hating reading, hating everything about school because it was boring. So after high school, I went into college and it was just kind of getting through it to get the better job Looking back, I knew that I never learned anything about being Hawaiian. So, after, like 15, 17 years of being out there working and just not ever being satisfied, I went back to school after September 11. (Text units, 115-124)

Kapa‘a continued, and described taking a class from an instructor who talked about the importance of being involved with children as a way to make a difference—something he felt had been missing for him as a child. Kapa‘a decided to come back to O‘ahu to become a teacher, where he found out about the HLCB charter school movement and started as a volunteer reading tutor at the school where he is now working. As he ended the interview he said, “And then the next year I said, ‘I’m in.’ So I’m in for as long as they will have me” (Text units 137, 138).

Evalani, a focus group participant and preschool teacher on Maui, stated that she wanted to make a difference for the children in her community. She and her husband were committed to teaching and sharing Hawaiian values and culture in for all in her community. She shared why she felt this commitment, and like many Montessori educators, described it as a passion and a part of her identity.

I had a passion for the language and the culture. It's part of who I am, and I wanted to share that with the kids because they're the most vulnerable The kids now have no foundation, nothing to be proud of. Nothing to ground them as to who they are, or whatever, and they just get into trouble everywhere. So the reason I do this is because I want to help instill in these children, whether they are Hawaiian or not, the pride of the place they live in. This is their *one hanau*, their birthplace, or where they were born and raised. That gives them something to be proud of, something that will carry them or set them apart from the rest. (Text units 59-69)

A Way of Teaching

The second theme, *A Way of Teaching*, included 10 pedagogical practices that were described or noted as common to both approaches. Included here were practices and strategies that focus on (a) how one should go about teaching, (b) the methods and materials one should use, (c) the setting that teaching and learning should take place in, (d) the kind of curricula that should be employed, as well as (e) the role of the teacher and the student in the teaching and learning process. These pedagogical practices were often the first of the similarities to be reported and were also the most easily observable. These strategies were generally noted in direct response to the question about whether the participants thought there were any similarities between the Montessori approach and their own ways of teaching. In one or two instances, I noted a similarity in the two approaches that was not apparent to the participants. While every classroom included at least some of these practices, none had them all.

Teaching Based on Encouraging Children to be Self-Directed. The

pedagogical practice most frequently mentioned by the participants as one they valued, and as congruent with the Montessori approach, was that of encouraging children to be self-directed learners who are responsible for the consequences of their actions. It was mentioned by the key informants and focus group participants in 15 out of the 20 interviews. As described earlier in Chapter 2, it was also one of the key tenets of the Montessori approach, where students were both allowed and expected to learn from their mistakes. Practices that fostered independence and the ability of students to make their own choices as to the type of work they wished to do were mentioned most frequently when the participants were asked about their goals as educators.

All the classrooms I visited showed evidence of this practice but not to the degree I might see in a Montessori classroom, especially at the upper elementary and middle school levels. Three differences in this regard were notable. First the large blocks of free choice time essential to the notion of free choice in the Montessori approach were noticeably absent. Second, children chose from a relatively smaller array of hands-on, didactic materials than is found in a typical Montessori classroom. This was especially evident at the upper elementary and middle-school levels. Third, there were more whole-group, teacher-directed activities than is common in a Montessori classroom. For example, at one school, the children were working on a voyaging canoe activity. While they were free to choose which aspect of the activity they wished to do first, all the children were expected to complete the activity at some point, and all of them were working on the project at the same time.

In spite of these differences, several comments made by the participants were striking in their similarity to Montessori's own writings in this area. One example came from Kaiulani, a key informant and kindergarten teacher on O'ahu. Kaiulani has taught in both HLCB and Montessori settings. As she described her goals for the kindergarten children in her classroom, she mentioned that one was the development of independence in children. She also articulated the relationship of independence to the achievement of competency, for even the youngest children. This was an important linkage for Montessori (Montessori, 1912/1964).

Especially at kindergarten, for me [a goal is] seeing them as very independent. I am always trying to create this independence and showing them what they can do. A lot of them come to school having no experience with other school settings. They can't tie their shoes; they need help going to the bathroom. Seeing that they feel competent and they can do these things [is a goal for me]. (Text units 250-257)

When I asked another key informant, Kanani, who was a mathematics specialist on O'ahu, what aspects of her Montessori training were the most useful in her work as a HLCB educator, she replied, "I like the idea that they have self-directed activities. That's the one thing I really like about Montessori—learning at your own pace. I think that's one of those things that really fits" (Text units 311-314).

For Keomailani, the pedagogical practice of expecting students to be independent in their choices was related to allowing children to find their strengths and interests and then mentoring them to achieve their potential in those choices. In the following conversation, Keomailani referred to a Hawaiian educator whose work has

been important in furthering the culture-based movement in Hawai'i. Her comments resonate with Montessori's writings on the topic (Montessori, 1912/1964).

[My colleague's work] was to show Hawaiian children learning together with a cultural base and learning through projects and . . . making their own discoveries on the way. Not so much a sit down and being taught to, but learning through what is inside of your *na'au* [intestines, guts; mind, heart, affections of the heart or mind (Pukui & Elbert, 1986)] You know, if you want to be a taro farmer, then that's what you should be learning in high school. (Text units 295-302)

Kapono, a high school teacher on O'ahu and one of the focus group participants, also mentioned this practice as he discussed the things he saw as similarities in the videos I showed. His comments demonstrated another aspect of independence that Montessori (1912/1964) wrote of often: the ability or willingness on the part of adults to allow children choose their own path.

I think that's the whole goal of this school, too. It's kind of, you know, they have to pick their own path. They're going to know a hell of a lot more than you do.

You teach them the principles, and you can let them go. I think that's the best way to go. (Text units 387-389)

This sentiment was echoed by Kamaka, an administrator and focus group participant, as he explained why he thought the self-directed learning strategies employed by both approaches were the best way to work with students.

Since everybody has their own perspective, you can't really tell somebody what they're thinking, or how to think. You got to let them come to it at their own way

. . . Kids respond to that. You try and push something on them and it's like, "I no like do that." (Text units 473-480)

Teaching Through the Use of Silent Demonstration

Another pedagogical practice perceived as common to both the Montessori approach and HLCB education was teaching through the use of demonstration. This was the second most frequently mentioned pedagogical practice, noted in 14 out of the 20 interviews by both the key informants and focus group participants. Montessori wrote that children learn best when teachers show children how to do a lesson by using mildly exaggerated and slowed down motions done in silence. I observed the use of demonstration in several of the HLCB classrooms but noticed what appeared to be relatively more emphasis on the children's silence, rather than the teacher's silence, as would be common in a Montessori classroom. Like several of the other participants, Kapuanani, a key informant and administrator based on O'ahu, told me during her interview that teaching through the use of demonstration was congruent with traditional Hawaiian teaching practice, and that this aspect of the Montessori approach was especially resonant with Hawaiian ways of teaching and learning. Kapuanani is part-Hawaiian and had earlier spoken of listening to her grandmother speaking Hawaiian.

It was obvious to me when I was learning [the Montessori approach] at Chaminade that when [Montessori] said, "hands on," we say, "*Ma ka hana ka 'ike.*" There were specific '*_lelo no 'eau* [proverbs; wise sayings (Pukui & Elbert, 1986)] that matched up to all the major principles, including this one, "*I ka n_n_ no a 'ike,*" By observing, one learns, and "*Kuhi no ka lima, hele no ka maka,*" Where the hands move, there let the eyes follow, and "*N_n_ ka maka; ho'olohe*

ka pepeiao; pa ‘a ka waha,” Observe with the eyes; listen with the ears; shut the mouth. (Text units 35-41)

Puanani, a key informant and preschool teacher on Maui, validated that this was indeed a Hawaiian way of teaching and learning as she described her own experience. Her father, who was Hawaiian, taught her first how to weave a net and then how to use it to catch fish with him.

My father taught me how to weave [the net], and [taught me] how we just follow and don’t say anything. Not even one verbal thing. All he would say is, “Watch.” And I’d be like, “Okay.” And don’t ask any more questions. Just do. And if you did it wrong, he would just . . . just the eye contact, you know, and that was it. That was the whole communication about that. And then when you were done, it would be like, “Let’s go *holoholo* [go for a walk, or go out for pleasure, (Pukui & Elbert, 1986)] and throw net and catch fish.” And then that was like, “Oh, I think I did it right!” We’re used to that kind of stuff . . . The whole thing—it was so spiritual, it was like you weren’t even connected with Dad anymore. You know what you’re doing. And you’re connected with someone more divine than yourself. (Text units 323-340)

Teaching Through the Use of Hands-on Activities

In both Montessori and at least some HLCB classrooms, learning was designed to occur through the use of hands-on activities. This pedagogical practice was mentioned in 12 out of the 20 interviews by both key informants and focus group participants. Like the practice of learning by observing, the practice of learning by doing was described by Hawaiian ‘*_lelo no ‘eau*, or wise sayings, something noted by several participants. In spite

of its stated congruence with Hawaiian cultural values and ways of teaching and learning, I did not consistently see this practice enacted in the HLCB classrooms I observed.

Liko, a key informant and Grade 3-5 teacher on Maui, was one of the participants who mentioned the practice of hands-on teaching. I asked him, “If the Montessori approach was a fit for you in terms of personal values . . . how about in terms of the values and goals you have as a Hawaiian culture-based educator? In other words, did you see it as a fit in terms of what you were trying to do culturally?” He replied that he did see it as a fit, especially because of the emphasis in Hawaiian education on a hands-on pedagogy. Since he is not of Hawaiian ancestry, I asked Liko how he learned this. He replied,

In my studies of Hawaiian I was told that by my teacher, and that was one of the ways that he encouraged us to study. You want the *‘ike*, you want the knowledge, you get it by doing the work. *Ma ka hana*. (Text units 125-127)

Kapa‘a shared his own experiences with hands-on learning growing up. He saw this Montessori teaching strategy as a clear match with what he does.

Definitely there’s a match. Because that’s the way I was taught to learn. That’s the way I was taught as a child. And that’s how we do things in Hawaiian culture— hands-on. Because back then, there were no books to read, so you could not go and do research. Only by doing it, you would know it. And there’s a term we use, *ma ka hana ka ‘ike*, from doing one learns. For example, take building an *imu* [underground oven (Pukui & Elbert, 1986)]. My dad didn’t say, “Go read a book on the *imu*.” He said, “Get your butt over here and dig that hole....” So I

said, “Okay, I’d better dig that hole.” And so I learned by watching my uncles and my Dad them do it over and over, and finally, when I came of age, by participating. And as a young child you don’t get the hard jobs. Instead, maybe your job is, “Go smash the banana leaves over there.” And for you, it’s a game, because, “Yeah!” “We get to smash something!” And that’s going to be used later for the next process of building the *imu*. So for us it was a way of everyday life; whether it was fishing or hunting, no matter. And we are bringing that type of learning into this type of school, which is a Hawaiian setting. When you learn, you’re going to sit down, you’re going to observe, you’re going to watch, and then, you’re going to do. (Text units 349-367)

In Waimea, on the island of Hawai‘i, Emailani, one of the focus group participants also saw the hands-on aspect of the Montessori approach as a fit. She described the pragmatic quality of hands-on demonstrations and also suggested that it is not the only way that Hawaiian students are expected to learn.

[The Montessori approach] is so tangible and . . . sensorial. And as Hawaiians . . . that’s what we can sit in the room and agree on Tangible things like, “This is how you do *poi* [the Hawaiian staff of life, made from cooked taro (Pukui & Elbert, 1986)].” We might have a two hour discussion on how you show *aloha*, but, “This is *poi*. This is fish. This is how you clean it.” (Text units 187-192)

Teaching with Mixed-Age Classrooms

Another pedagogical practice stated as shared in common was mixed or multi-age grouping. This pedagogical practice was mentioned in 12 out of the 20 interviews by both key informants and focus group participants. According to the participants in this study,

multi-age grouping mirrored the practices of a Hawaiian home. Older children were expected to help and teach the younger ones. Conversely, younger children were expected to “mind” older siblings and to learn from them. In my observation of the HLCB classrooms, there was relatively more emphasis on the unequal role of older and younger children in the HLCB classrooms than is typically emphasized in a Montessori setting. Such a hierarchy in the relationship of older to younger is discouraged in Montessori classrooms.

Montessori utilized multi-age grouping, first because she had no choice, but later, because she observed that it worked as a pedagogical practice (Montessori, 1912/1964). She noted that the younger children learned by watching older ones and that older children acted as mentors and teachers for their younger peers. That in turn, created a sense of community and caring respect for one another that was not present in ordinary schools (Montessori 1912/1965).

For developmental reasons, Montessori advocated for a three-year age span in multi-age classes (Montessori, 1912/1964). While all but two of the HLCB classrooms I observed utilized mixed-age grouping, the age spans in the HLCB classrooms I visited varied from a two to a four-year age span and were not based on grouping by developmental likenesses. When I asked one of the key informants about why children were grouped the way they were, she told me that it was for both cultural and practical reasons. The cultural reasons had to do with a belief in mixed-age grouping; the practical reasons had to do with the numbers of children in any given age or grade.

In spite of the differences in rationale and hierarchy, a congruence between the two approaches was perceived by Lehua a focus group participant and teacher's assistant at a Hawaiian immersion school on O'ahu.

I think probably one of the biggest things that stood out in the video to me was the older helping the younger That, I think, is truly like a Hawaiian value.

[When] I saw that I felt so good because [in the video] . . . the older ones were always looking out for the younger ones. And not even [just] the oldest—like the second oldest kids and all that. So, yeah, I liked that. Especially in the classroom to see that. That's really nice. (Text units 408-415)

Kanani had long been a proponent of multi-age grouping for HLCB programs. She grew up in Hawai'i, but moved to California to go to college. While there, she worked at a Montessori elementary school and saw what seemed to be a culturally congruent teaching practice for Hawaiian children.

When I was in California [working] as a closing teacher [a teacher who works in the afternoon and closes the school], I would go into the classroom right before the main teachers would leave. Because we had first, second, and third, and then, fourth, fifth, and sixth grade classes. I just thought, "This is wonderful; this is wonderful, because this is the way the Hawaiian family is structured. I saw it right away. Right away. And the older ones would, when needed, take care of the younger ones . . . it just reflected the Hawaiian family. And I had to think about it. I think that's when I said, "I need to take this class to Hawai'i." And I still believe that multi-age is the way to go. And in fact, at my daughter's school I got labeled "the multi-age *kumu!*" (Text units 573-585)

Teaching with an Emphasis on Caring For and Understanding the Natural World

Teaching with an emphasis on caring for, and understanding the world was also seen as a similarity. This was mentioned in 11 out of the 20 interviews by both the key informants and the focus participants. Montessori was adamant about the necessity of connecting children with nature, and of the care-taking role of humanity with regard to the earth (Montessori, 1949/1972). Similarly, HLCB participants also mentioned, when discussing their goals and values, the importance of teaching children about, and connecting them with, nature and the natural world. I saw evidence of this pedagogical practice in all but one HLCB classroom. The one classroom where this was not evident was in a public school setting where the teacher bemoaned the fact that she could not get the children out because of logistical and budgetary reasons. Based on the interviews, my observations, and my readings of the documents associated with the schools, the HLCB teachers seemed to emphasize this pedagogical practice to a greater degree than do most Montessori teachers.

When Kaiulani described the things in the Montessori approach that she saw as a good match, one of the things she noted first was a shared focus on nature.

The relationship between us as humans and nature, and what Montessori, talked about: How there's that relationship [with nature], and how having that garden is important. We try to cultivate that, and build sustainability, especially in the Hawaiian immersion charter schools where they go to visit the *lo'i kalo* [taro field (Pukui & Elbert, 1987)] and learn about farming and being able to take care of themselves. (Text units 128-137)

A comment by Pua, a focus group participant who had taken two Montessori classes and had worked for many years in an HLCB preschool, provided another illustration of the concept of caring for, and incorporating nature as an integral part of the curriculum. In one of the videos, as an illustration of Montessori's focus on nature and caring for life, kindergarten-age children at a Montessori school were shown going to the goat pen located on the school grounds and feeding the goats. This is the video she referred to when making the following comment.

Something else that stood out for me, too, was when, in the video, the children went out and fed the goats and what not. That is definitely another true reflection of life, of real life meaning for us. That this is a part of it, that you, at home, will have a dog and what not, that you need to care for. Why not have animals at school? That would be my idea of school: to have a yard full of goats, and horses, and pigs, and cows, and all. (Text units 147-153)

Teaching through a Reality-based Culturally-Relevant Curriculum

Some HLCB educators in this study stated that they place an emphasis on learning through a reality-based curriculum and connected it as a pedagogical practice shared in common with Montessori educators. This was mentioned in 11 out of the 20 interviews and was evident, to some degree, at all the schools I visited.

Keomailani, for example, stated that a focus on reality is the reason she and her teachers set up the toddler and early childhood environments as they did, with many natural objects from both the nearby forest and the ocean. An example of this was a matching activity I observed. The objects to match were beautiful shells. Her comment

also illustrated the importance of knowing about the reality and history of a *particular* place.

We wanted real things and things that are of their place. We truly believe that children need to be grounded in who they are and where they're from. That is definitely something cultural. People were of the land and they . . . took care of their land and their place and didn't go to *maha'oi* or bother other people in their place. They took care of their place. And I think a lot of that is missing . . . Our children don't truly know who they are, and so we want them to have that grounding. (Text units 567-575)

Kamaka referred to one of the videos when I asked if he saw any aspects of the Montessori approach that seemed to match the goals and values of his school. The video described the goals of Montessori's *Erdkinder* program for adolescents where adolescents were building and working on a farm. They were also shown working in the community. Kamaka recalled those scenes, stating, "Well, [what the video shows is] kind of like the general theme of our school. The school emphasizes making the curriculum relate to reality" (Text unit 232-234).

On another island, Pau said essentially the same thing, while tying the focus on the outdoors and a reality-based curriculum to the use of traditional Hawaiian literature.

The learning environment is not only in the classrooms, but outside, too.

Emphasizing physical activity and learning about sea knowledge, for example.

Fruit bearing knowledge. You go down to the ocean, learn about your life skills down at the ocean, and connect that with trying to bring back the Hawaiian literature.

Kapuanani saw the use of real tools in the Montessori approach as a similarity. Unlike many conventional educators, Montessori teachers use real miniature tools and utensils in their classrooms. For example, a child-size version of a real knife made of steel with a serrated edge is used in banana cutting, a common classroom activity in a Montessori early childhood setting.

That's the other thing that I found when I was [taking the] training: the idea of tools for the children. The miniature tools like what the adults would use . . . [That is the] same way we learn. You know, young children would learn to weave . . . in traditional society, [children would learn] by watching their *tutu* [grandmother, (Pukui & Elbert, 1986)] weave, and then by having the materials there. [They] would learn to make an *imu* by watching their grandpa and their dad and their uncle prepare the *imu*. And then, by actually collecting the rock, actually doing it, and . . . by using the small materials that were similar to what the adults would be using. (Text units 156-164)

Teaching through the Use of a Science-based Integrated Curriculum

Teaching through the use of a science-based integrated curriculum was mentioned as a similarity by both key informants and focus group participants in 10 of the 20 interviews. The structure of a Montessori school and the types of activities and materials available to students in such a school support the use of an integrated approach to teaching and learning. In an integrated curriculum approach, content is taught through researching a topic or theme. A science content area such as a study of the universe, for example, or a study of the plants of a particular eco-system, might tie other content areas such as math, language arts, social studies, and the arts together. Various integrating

devices are used to link the different content areas of a research study into a whole unit. Examples of integrating devices include the use of timelines and maps to incorporate historical and geographical perspectives, the use of vocabulary and language arts assignments connected to the scientific aspects of the research project, the creation of art projects related to the topic being studied, the use of storytelling, and the use of mathematics in whatever quantitative aspects of the project might be relevant (Fogarty, 1991) Montessori advocated learning language through science, geography, and cultural studies at the preschool level and through individual research projects based on the various timelines and didactic materials, at the elementary and adolescent levels.

In several interviews, the *Kumulipo*, an oral timeline of the genesis of the Hawaiian people and creatures, was mentioned by the participants as an integrating device. Montessori (1948) advocated the use of a timeline in elementary programs. Thus, although I expected that some of the Montessori trained participants might mention this, I did not expect it from the focus group participants who did not have that training or background. But it was mentioned in two of the five focus groups and by several of the key informants.

I observed two fully integrated units of study with an emphasis on science. One was at the preschool level and utilized the *Kumulipo* as its integrating theme. The other was at Grade 4 and utilized the Hawaiian concept of the *ahupua'a*, a traditional division of land running from the mountains to the ocean. In both cases, similar to the timelines used by Montessori, the *Kumulipo* served as the focal point. An example of the use of the *Kumulipo* came from Koalani, a key informant who works at a high school on O'ahu. We

had been talking about Montessori's use of the Five Great Stories as an integrating device in concert with timelines.

It's funny you said that because just [in] the past two years we've been doing something with the *Kumulipo* for our concert. The past two years we put on a concert at the Honolulu Theatre, where the kids chanted the whole *Kumulipo*. And the *Kumulipo* is 1200 hundred lines long. And through hula, too, we do creation chants about *Pele* [goddess of the volcano (Pukui & Elbert, 1986)] coming from *Kahiki* (The old place), coming through Hawai'i and talking about the volcanoes and how it's still going on till today. And we tie all that stuff in. (Text units 741-747)

Another way that a science-based curriculum was utilized is through using a place-based curriculum, that is, through using the physical place where the children's school was located as an integrating theme. This way of integrating the curriculum was evident in all but one of the classrooms. The school Kaponono and Kapa'a worked used a place-based curriculum. The following describes how the two teachers used the content of the *Kumulipo* integrated their science curriculum..

From those stories and from those concepts you can get everything. From the science to the politics, everything can come out of that Basically, the *Kumulipo* says it all. We've made efforts, and it was pretty good, but I think we could have gone deeper with it in tying in the academics. . . . For example, when you learn at this w_ or this age of the *Kumulipo*, talking about certain plants and animals, well, that is where that science learning comes in. And when you reach the *kanaka* [human being (Pukui & Elbert, 1986)] stage, that's where the politics

side could come in, so we could have tied in a lot more academics. You could even get in math in there. (Text units 792-808)

Auheā, a focus group participant and teacher of toddlers on Hawai‘i, spoke of what she saw as the important practice of teaching children by starting with the stories of their own place and then extending this. She shared that although she and the other preschool teachers had tried different curricula over time, the one they liked the best was the year they used the stories of their own place, of Waimea, as the focus of the curriculum. She and the others in the focus group then showed me children’s books one of the high school students created, all stories about Waimea, the plants, the animals, the reasons for the names of particular places.

Other Montessori materials were mentioned by key informants who used some of them in their classrooms to integrate science and language arts activities. For example, as Kanani described one of her challenges as a lack of pre-made materials in Hawaiian, she made reference to another teacher who used the Montessori reference cards (teacher made cards with definitions and key words for science concepts) for a project-based unit of study using the *Kumulipo* as an integrating device. In Kanani’s opinion, the research cards enabled the students to do their research projects in spite of a lack of reference books in the Hawaiian language. She concluded with a comment about how the structure of the cards allows language arts, science, and social science concepts to be integrated.

You know that *Kumulipo* project that was done? The teacher worked with the third graders for research, and she . . . used the Montessori research approach where they had to identify “Where does it live, what’s its name, characteristics, the interesting facts about it, what it eats.” You know, some of the basic research

questions that Montessori already does with the cards and charts of the animal kingdom. Since we had translated the [cards and charts for the animal kingdom] already, [the children] would do the research and it wasn't actually that they had to read everything— they just had to look at the main points. And then later on they would put the main points into sentences, in their own grammar. And then the teacher would help with the grammar. So we had science, history, and language arts. (Text units 623-632)

Teaching Based on Observation of the Child

The pedagogical practice of teaching based on observation of the child was mentioned in 10 out of the 20 interviews. According to participants who discussed this particular congruency, the notion of guidance and teaching based on the observation of a child's actions and discerned talents by an elder, or elders, was a common and expected practice in the Hawaiian culture. As discussed in Chapter 2, a key to successful Montessori teaching was the ability of the teacher to observe children with discernment in order to know what to offer the child next. I saw evidence of teachers observing children in all of the HLCB classrooms. Some teachers used clipboards to record the children's progress along with self-report recordkeeping systems where the students recorded their own progress and met individually with the teacher. They also used checklists and the state standards.

Kauanoë, a key informant, administrator, co-founder, and teacher at a Hawaiian language immersion charter school brought up the notion of observation as she discussed the way things are done at her school. This example illustrated the belief that people

“come with talent” as a reason for the practice of observing in order to know what to teach.

It’s a way we think about things here. People have talents; they come with talent.

Your responsibility is to find out what they are. Be observant and find out what those talents are and guide children to come into their own. (Text units 160-164)

Although Keomailani worked at a different school than Kauanoe, she essentially stated the same thing. By observing what children are naturally drawn to work with, adults discerned where the interests and talents of the various children might lie, and then guided them to further competency in these areas.

At this age, the teachers have expressed to me that it’s difficult [to know what children’s talents are or will be] because the children’s prior knowledge is, as they say, is small. But I think it’s large. I think it’s large for who they are. They’re little guys, but they have a vast amount of knowledge already And so, it’s our role to find out what that experience is by having things in the classroom that they can use. We’re the observer. We’re watching them to see if they go into the, let’s say, the dramatic play area, and what they do there, and then we decide how we can offer them more, in order to grow those experiences and grow their knowledge. (Text units 542-553)

‘Ulu, a key informant who worked with preschool-age children at a Hawaiian immersion preschool on Maui explained the role of observation in the Hawaiian culture and her perception of its relationship to the Montessori approach.

A really good Montessori teacher finds the area of each child that needs development, or, [finds] their strengths, and then works with it. They understand

the children. And the same is true for the Hawaiian teachers. They'll really pick up quickly what the child is missing. It could be developmentally or socially-mostly socially. And they'll pick [it] up and we'll always talk about, "Okay, this child is missing her father a lot so she's going to need constant cuddling." (Text units 147-153)

Pua mentioned the similarity between the Montessori approach and the Hawaiian practice of observing children in order to know what to teach. I asked her focus group if there were any things they saw as similarities between the Montessori approach and the goals and values of HLCB educators. Pua's answer revealed the role of the family in educational decisions.

I think that the role of the teacher as a guide or observer is similar. A Montessori teacher will understand learning styles as well as approaches to learning, same way a *kupuna* [grandparent, elder, or ancestor (Pukui & Elbert, 1986)] would. So they would recognize each child. For example, maybe a child is an excellent dancer or chanter but they are so shy it's just painful for them to get up and hula. The *kupuna* would push or guide that child towards composing individually, instead. This would also be a family decision. Everyone would agree, and that would be similar to how a Montessori teacher would be able to recognize that [too]. (Text units 134-142)

And finally, Evalani added another perspective to the notion of observing children. According to her, the Hawaiian practice of *h_nai* [fostering (Pukui & Elbert, 1986)] was related to the practice of observing and encouraging children to follow their

interests. A common practice in pre-contact Hawai'i, children were given to a different family member to be raised. Evalani described why it was a common practice.

That's why with a lot of traditional practices . . . people h_naided everybody else's kids. It was like . . . if my child showed an interest in this thing, then, 'Okay, go stay with Aunty. Aunty will show you how to do that.' Cause back then, even traditionally, the parents would watch their children and see their interest and see where it would take them, instead of forcing. You know, "Because I'm a hula dancer, you're gonna be a hula dancer." If the child had no interest in that, but maybe wanted to paddle or build canoes . . . they would pass the child on to a family member, or whatever, who could teach them those things. And so, they really went by the desires of the children, instead of just enforcing, you know, "this is the law." (Text unit 643-652)

Teaching Based on Observation of the Child

Related to the practice of observing children, this pedagogical practice was mentioned in 8 out of the 20 interviews. As discussed in Chapter 2, this was a foundational Montessori principle built into the classroom design and selection of materials. While there were many developmentally appropriate practices in evidence, especially at the middle schools I visited, the rationale was based on those practices being culturally appropriate, rather than on knowledge of development. An example was one middle school's emphasis on outdoor hands-on and project-based education as a culturally congruent practice. Montessori agreed with these culturally appropriate practices, but her rationale was based on her theory of development, the *Planes of Development* (Montessori, 1971).

Kanani was one participant who mentioned age-appropriate activities in conjunction with her conversation about mixed-aged grouping, stating that the two were complementary. When her daughter was a student at a multi-age Hawaiian immersion preschool, Kanani observed that the children were able to freely choose activities around the school “according to their readiness” (Text unit 38).

Teaching Individual Activities in a Step-by-Step Manner to Mastery

The structure of a Montessori classroom includes an expectation that children will master whatever it is that they are working on, no matter how long it takes (Montessori 1912/1964). Grades are not a part of the structure, and ideally, whatever time is necessary to achieve mastery, is allowed. In addition, content to be mastered is broken down into steps that are easily mastered with minimal intervention on the part of the adult. Each activity is part of a sequence of activities, graded from easiest to hardest with each step broken down in such a way that it is understandable and doable by the youngest children. This structure was stated as similar to a traditional Hawaiian way of teaching and thinking; however, in most of the classrooms I observed, the lessons were not broken down into the procedurally discrete and orderly parts in ways I would typically see in a Montessori lesson.

Kapuanani discussed the relationship of the goals of the practical life area of a Montessori environment and what she saw as a congruency with the traditional Hawaiian way of teaching.

Montessori’s idea of coordination and control [is a match] because . . . control of your movement, or coordination to be able to do your task . . . was very important to the basics Our *k_puna* would teach . . . starting with the basics. Your

kupuna wouldn't give you a task that he or she knew you wouldn't be able to complete And even if you weren't able to do it perfectly at first that was okay. They understood that you were learning We had a talk about this when I did the training with the schools. I asked them [meaning the teachers she was training], "How did they learn when they were growing up, and what did they remember"? And those were some of the things that they said: their *k_puna* allowed them to do the task, and even if they didn't do it correctly they allowed them to go through the motions to learn, to explore the task. (Text units 332-344)

Kalaunuola, a key informant who teaches a Grade 1-2 class on O'ahu, agreed as she talked about the things she liked in the Montessori courses she took. Her response, when asked what kinds of things, if any, were a match, was the fact that the materials were self correcting and allowed children to learn at their own pace.

I like the idea . . . that they have self-corrected activities. That's one thing I really like about Montessori—learning at [their] own pace [the] things that they . . . need to know in everyday life It builds things in steps and it's just very logical. It just makes sense. (Text units 343-348)

A Way of Believing

The third theme, *A Way of Believing* included seven elements described as values and beliefs that the HLCB educators appeared to share with values and beliefs embedded in the Montessori approach. Underlying the previously discussed teaching practices and strategies, this theme included values and beliefs about the teaching and learning process, its desired outcomes, and the role of education as activist or transformative. These shared values and beliefs emerged out of interview questions about the participants' goals and

values as HLCCB educators, their challenges, and their stories, as well as from the mission statements and brochures from the various schools and programs. While the values of aesthetics, order, and closure, as well as the belief in the power of education to be transformative were mentioned in only 6 out of the 20 interviews, they are included because in each case, three of those six interviews were with focus groups, each of which had at least five participants. While all seven of the values and beliefs were in evidence in the classrooms I observed, not all seven values and beliefs were seen in every classroom.

Valuing Nature and the Things of the Natural World

The most commonly mentioned shared value or belief was valuing nature and the things of the natural world. The natural world and a corresponding focus on stewardship were stated as values in 18 of the 20 interviews and were in evidence in all but one HLCCB classroom. In fact, I noticed a stronger emphasis on this value than is common in most Montessori settings. While a large portion of the curriculum seemed to revolve around this value, I did not see the sequenced botany, zoology, and geography materials and experiments commonly used in a Montessori classroom to teach principles of biology. I also did not see, as would be expected in a Montessori classroom, specific plants and animals used as exemplars inside the classroom of particular classifications of plants or animals

In the following example, Kapuanani once again used Hawaiian proverbs to make the connection between these two approaches.

And what I did was pulled out from our ‘*lelo No‘eau*. The proverbs. Because it was obvious to me when I was learning [the method] at Chaminade that when

Montessori said, “Hands on,” we say, “*Ma ka hana [ka] ‘ike.*” And there were specific *_lelo No ‘eau* that matched up to many of the teachings. When you say, “*m_lama i ka ‘_ina, m_lama i kau wahihana,*” that means, “take care of the land, take care of your space . . . the area.” So we did a training [session] on practical life, and we implemented it, and we found out it worked. It worked. It all worked. (Text units 21-39)

Lehua, a focus group participant on O‘ahu stated that for Hawaiians, caring for the land and nature was also related to connecting with the community, the second most often mentioned value seen as similar in the two approaches. This was a focus shared by many who employ the Montessori approach, and as mentioned in Chapter 2, was a topic that Montessori focused on in her later years.

Other resources we use are in Kailua . . . where our kids . . . learn how to *m_lama* the ‘_ina [care for the land], *m_lama* the *kai* [care for the ocean] . . . and those are all important resources . . . to be connected with in order for our children to learn who they are and where they’re from. We also have another person we go to, up in Maunawili, an area in Kailua. It is a taro patch and we *m_lama* [take care of] the land there, too. (Text units 182-189)

Valuing the Community and Awareness of One’s Responsibility to the Community

The second most commonly mentioned of the perceived shared values was a belief in the value of the community, and one’s responsibility to the community. This was mentioned in 16 out of the 20 interviews both as important and as congruent with Montessori’s ideas. The content for this emergent theme came both from a direct question

the participants were asked about the importance of community and in response to questions about their goals and values as HLCB educators.

For both educational approaches, the notion of community included the idea that we strive for individual excellence in order to enhance the functioning of the entire community. In addition, in both approaches, at all levels, the neighboring community is consciously incorporated into the curriculum, however this appeared to be more highly developed in the HLCB programs than is common in Montessori environments. In the interviews I asked participants about the importance of community; as a Montessori educator, I was thinking of the classroom as a community of learners. The responses, however, typically described the larger neighborhood and surrounding community. Children in HLCB programs seemed to be taught from an early age that they had a responsibility to take care of the land and to interact with their community. Although also articulated in a Montessori environment, the emphasis on responsibility to one's own community is not generally so pronounced.

Here is how Hina a focus group participant and Grade 3-4 teacher at a school on O'ahu described the importance of the community. This quote was an example of the inter-relationship of valuing the land, hands-on activities, and valuing the community as a source of learning.

For me, the community is important because it teaches the kids it's not all about them. It's about everybody. It's about your family, it's about friends, it's about people you don't know, teaching them about who you are, why you're here, the importance of taking care of the land, and the connections like Ipu [another focus group participant] said, between the land and the people and how to survive. And

it's also good because they're not always in the classroom. It allows them to do hands-on things [when they go out into the community]. So, community is important for [our school]. (Text units 193-200)

Puanani related a personal experience in response the question about the role of community in a Hawaiian culture-based school. Her response provided a good example of the role of extended family in the Hawaiian concept of community.

This is very important, you know It takes a village to raise a child. It does. And it is so true in our community. Everybody takes a part--aunty, uncle, grandma, grandpa, mom, dad, brother, sister, everybody. Its' so important because that's who the kids are surrounded by everyday. And they're pretty much models of the children I have always been around my family. My grandmother taught my siblings and me and my cousins, the same. How to do a *lu'au* (feast). How to do the *imu* (underground oven). How to prepare . . . the dishes. Everybody has a role in this and it's all by watching. It's watching, and listening, and . . . just following and doing it. And today, now it's our role to take care of the younger ones. To teach them and pass that on. (Text Units 206-221)

Kealohilani, a key informant and Grade 1-2 teacher on O'ahu mentioned community first when asked what aspects of the Montessori approach were a good fit for her. Her response provided an example of the relationship of the value of work to the value of community. One's work was done with excellence in order to help the community.

Well, I think that the sense of community is one thing that definitely transfers over very smoothly. You know, in a Hawaiian community everyone has their

kuleana, [right, concern or responsibility, (Pukui & Elbert, 1986)] their responsibility, and everyone chips in. Nobody gets to sit on the side. Even the little children have the responsibility of learning things.(Text units 106-110)

Two of the key informants, Kalaunuola and Keani were currently working on their master's degrees and worked together at the same school. Keani worked as a Grade 3-4 teacher while Kalaunuola worked as a grade 1-2 teacher. I interviewed the two of them together and when I asked them how important the notion of community is to their school or program, Keani immediately jumped in with, "100 percent." (Text unit 528) And when I next asked if they consciously try to incorporate a sense of community in their classrooms, Kalaunuola stated: "All the time. We try to go on fields trips and involve ourselves with other groups so that they get a feel that there's not just them in the world, and that there's others that they can learn with. For instance, when we go to Kailua Beach." (Text units 529-533)

As she hesitated, Keani chimed in with the Hawaiian name of the place in Kailua Beach where they take the children, and then added,

We have a plan where we want to make it into a park so that everybody can enjoy the beauty of the native plants and that it's not a place where you throw your rubbish and your beer bottles and stuff like that. But, at the same time we wanted to invite other schools and other communities, such as the women's prison—the women and Lanikai Elementary School, which is nearby. (Text Units 534-538)

Valuing the Qualities of Humbleness, Patience, and Harmony in Relationships

These three values were mentioned in a combined total of 13 interviews, including three focus groups. They were in response to questions about goals and values for children, and my question about perceived similarities among the two approaches.

Montessori (1912/1964) believed that teachers must possess the qualities of both humbleness and patience combined with a reverence for life. She spoke of how children develop patience and obedience through focused attention on their work, and thought that that this focused attention and ability to be patient led to more harmonious relationships among children. As children's ability to be patient grew through focused attention on their work, they also became more and more able to control their impulses. The HLCB educators spoke of valuing the qualities of patience and humility as well. They stated that a humble attitude opens people, both children and adults alike, to mastery in learning.

While I observed these qualities in the classrooms I visited, there appeared to be relatively more emphasis on the role of the child as being humble and patient in the HLCB classrooms. In a Montessori classroom, it is the teachers who are admonished to be humble and patient in service of children. For example, a Montessori teacher is expected to speak quietly and respectfully to children, and to honor the concentration and work of individual children, even at the expense of the children being required to join in a group activity (Montessori, 1912/1964).

It was 'Ulu who first made me aware that being humble was a valued quality in the Hawaiian culture. As she compared the Montessori approach with Hawaiian goals and values she mentioned that she saw a connection in Montessori's focus on learning

through one's mistakes. She spoke of it in connection with a teaching practice that she and others called "scolding":

What I am speaking about [is] how some people don't really know what it means to be Hawaiian They don't understand [that] their value system is different. They don't understand what it is like to be humble. To be corrected. Two main things in the Hawaiian culture And it doesn't come as a punishment to be corrected. It's a daily thing. And Montessori puts that in all her activities, too. You correct things but that's not punishment. It's just so you can move on to the next block. (Text units 101-138)

Lea, a focus group participant on O'ahu, and a relatively young teacher, articulated the relationship of patience (that she called "understanding of") to observation and flexibility in teaching.

It is also important to be open-minded. [To] be understanding of certain kids, because each kid learns differently. And just kind of going with the flow and if something works then roll with it, and if it doesn't work then try to make it work, you know. (Text units 245-247)

Her colleague, Lehua, a much older and experienced educator who came to the HLCCB school after many years in a conventional public school, agreed with her. She used the term compassionate as she articulated the idea of being patient with children in their learning process. Patience for Lehua meant understanding that not all students are in the same place at the same time, and that the ones who tested the limits the most may be the ones who needed the most patience and love.

You have to be compassionate. I learned something here. Every school is not perfect. You have your ups and your downs We have our top students and our students who are always testing the program, but those are the students that need a lot of hugs, kisses, tender loving. We always have to keep in mind, no matter how *kolohe* [mischievous (Pukui & Elbert, 1986)] rascal the child is, that what they are seeking for is a lot of attention, a lot of love, hugs, and kisses. I like to give that the same way I would give my children at home a lot of love, and hugs and kisses. (Text units 246-254)

Montessori (1912/1964) wrote both of the importance of harmony in the classroom and of the relationship of work to a harmonious environment. Several of the HLCB educators commented on this relationship as a Hawaiian cultural value. Kauanoë, for example, explained harmony as an important aspect of being a community and described the role of a humble demeanor in this context as well. She added an interesting dimension: the relationship of spirituality to all of these values.

If we know something goes wrong and we need to fix it, we do *ho'oponopono* [to correct (Pukui & Elbert, 1986)]. It's something that everyone recognizes and deems important. The ability to do that [is different from just saying it]. You know, you can say "*ho'oponopono*," but the ability to do that, and to be humble, and to overcome perceived and sometimes real problems . . . that's also part of spirituality. Trusting, or having a sense of trust for others in the context of *ho'oponopono*, that's spirituality. (Text units 273-278)

Kauanoë suggested the notion of forgiveness as an aspect of creating harmony in the community saying “And [we have to] forgive each other also, because people are not perfect. We’re not perfect, you know.” (Text units 931-938)

In her interview, Puanani also spoke of the notion of harmony and connection to a larger whole as she described why she thinks the concept of *ho ‘oponopono* is congruent with the Montessori approach. This was a good example of the relationship of free choice to both harmony in relationships and the teaching practice of allowing children to make their own choices. As in a Montessori classroom free choice came with responsibility.

Every child has a choice . . . in the Hawaiian tradition. *Ho ‘oponopono*—I don’t know if you know what *ho ‘oponopono* is. To make right. To really have that direction and be connected. You have a choice to do . . . this. There are consequences, and you know the consequences are pretty much what you choose. And that’s what connected me with this whole thing [the Montessori approach]. I was like, “Mom, why didn’t you send me to Montessori?” (Text units 112-119)

Valuing Work, Freedom, and Responsibility

A belief in the value and intertwined nature of work, freedom, and responsibility was mentioned in 12 of the 20 interviews. Work, freedom, and responsibility were all values mentioned as being closely related to the notion that people should strive for excellence in whatever they choose to do. This perspective presumed that each of us had a particular set of talents and gifts, and it was through work responsibly and excellently done, that these talents and gifts could be made manifest. Then, these gifts and talents could be of the best use to the community.

There seemed to be relatively more emphasis on work and responsibility, and less emphasis on the relationship of freedom to the two former values, in the HLCB classrooms I observed. None of the classroom structures offered children free choice during a long stretch of time, and teachers talked of taking children as young as kindergarten-age out to the community to work on restoring and cleaning the land. Children that age in a Montessori school would typically have a long block of free-choice time, and would not typically be expected to contribute to the larger community. The emphasis on responsibility at all ages was noticeable in all the HLCB classrooms.

Several of the HLCB educators mentioned that they saw their role as helping the children achieve a balance among work, freedom, and responsibility. This was how Kamaka articulated it:

It is a mix of individual and self- knowledge and self-motivated work; and the group work or programs Be independent and self- motivated, and figure things out for yourself. And, you also need to do the work of the group. So finding that balance is also, I think, where we're looking for the right track. (Text units 195-201)

Later in the same conversation, Kamaka talked about the intertwined notions of responsibility and freedom described by Montessori. He related these concepts to the mission of his own school.

The three words that first come to mind are *mahalo*, *kuleana* and *pono*. *Mahalo* is like respect and appreciation. *Kuleana* is knowing your place, and your role, and your responsibility, both the obligation and the privilege side of it. And *pono* is knowing what is right balance, what is the appropriate, just, fair thing to do. And

if they can learn and live those three things and balance them, then the rest will fall in place. (Text units 392-399)

A Belief in the Role of the Teacher as Guide

In 12 out of 20 interviews, including four of the five focus groups, HLCB educators described a belief in the role of the teacher as a guide on the child's journey to adulthood. While their statements in this area described a role similar to Montessori's notion of the role of the teacher as guide, three other participants, including one focus group, stated that there is a more hierarchal relationship in the HLCB classrooms than they observed or experienced in Montessori classrooms. I also observed more direct teaching in the HLCB classrooms than is typical in a Montessori classroom. Montessori teachers are expected to exert their authority in the classroom through supplying materials and activities that are appropriate to their students; their authority is hidden. As would be expected in A 'o Hawai'i, on the other hand, many of the HLCB educators I observed had a more overtly authoritative (as in the sense of author of the classroom and in charge of the direction of the classroom) demeanor than would be common or expected in a Montessori environment.

Puanani was one who saw a similarity in the role of the adult in the two approaches. She noted Montessori's notion of "following the child" as she described her role as carrying children. The Hawaiian word *h_pai* means to carry (Pukui & Elbert, 1986).

My role as a teacher is, I'm not even teaching. I am just *h_paiing* them- carrying them-to do what they need to do I give them the tools, but it's really up to them how they're going to use it; how they're going to come to completion in

whatever they're going to do. Once they do it, they're like, "I did it and this is my work." And they're so proud of it. So, I'm just following them- following the child, helping. Just, you know, "Come on, you guys can do it." (Text units 191-197)

Keomailani spoke of the impact this kind of mentoring role has had on her own daughter who currently attends a charter school.

I think the role of the adult is to guide them and to encourage and to offer them ways of growing their knowledge of that area. Auli'i, my daughter, is a junior in the charter school now, and she has a passion for art She's been encouraged to pursue that by creating this book that is now going to be published. I think she would have never had that opportunity anywhere else. They brought over a teacher from O'ahu who teaches them. [My daughter] has a style of art, [but she wouldn't have been able to expand on her talent] without this teacher helping her to, to grow that or to expand on the knowledge she had I think for all of the teachers at the charter school, and here, we all know that children come with prior experiences and some knowledge. And then it's our role to help them to grow that. Expand on that. (Text units 525-553)

Ipu, a focus group participant who worked for the Hawai'i state department of education as an educational assistant for 18 years before coming to work in an HLCB school commented on what she noticed about the difference in the role of the teacher at her old setting, and in the HLCB school. She worked at her current HLCB school now because her son is a student there.

I see that the teachers here are more or less facilitators, like they guide the students on the right path and then they let the students take control. Kind of like they let the students tell their own story. You know, “This is what you need to do” but then let them do it in their own way A lot of times in regular D.O.E. [public] schools the idea of creativity and critical thinking is always forced upon the child. And when it’s forced and forced and forced upon the child, the child then turns away. So I think an important thing that happens here at the school is that the kids are able to tell their own stories. (Text units 259-267)

Her colleague, Hina, added, “Guide them, but don’t give them” (Text unit 275).

Valuing Beauty and Aesthetics, Order and Closure

Six of participants mentioned that the values of beauty and order were important to HLCB educators, however for at least one participant, the Montessori classrooms in the videos seemed to be too “clinical” or “clean” in appearance. I could understand her viewpoint: from my perspective as a Montessori educator, many of the HLCB classrooms I observe seemed somewhat “cluttered.”

In spite of the difference in the look of the classrooms, Kapuanani saw a similarity in the importance of these values to the two different kinds of educators. She mentioned beauty and aesthetics, order and closure specifically in reference to the Montessori training she got at Chaminade. In fact, during the interview she surprised me by sharing that she had taken all the six components of the prepared environment and found their counterpart in Hawaiian proverbs. She stated that she did this on her own during her original training several years earlier, and brought them to share during our interview. She spoke of beauty and aesthetics, order and closure as follows:

From Montessori: beauty, aesthetics. On our side: *ma'e ma'e kanani* and *ma'e ma'e*. *Ma'e ma'e* means to be clean. And *maiau hana*. *Maiiau* means to do things cleanly and neatly and if you can't do it, the way our *kupuna* tell us, cleanly and neatly then don't do it at all. And it's like when you're taught to mix poi; there is a certain way of mixing poi. If it's not clean, that's not right you're not doing it right. You need to clean the bowl a certain way. Everything needs to be clean and beautiful. *Ma'e ma'e* and *maiau*. Your *hana* has to be *maiau*.

Everything has a certain order-nothing chaotic. (Text units 293-299)

And in Waimea, Keomailani described things that she and the teachers in her program had done in the classroom to bring in more of the outdoors and beautify the classroom.

We wanted to be able to bring the outside indoors because the weather on this side of Waimea is not always very nice, so we're not always able to take them out. We [also wanted] to give them something beautiful. I think that's a

Montessori thing too, having it beautiful and having it nice. (Text units 560-565)

A Belief in Education as Transformative or Activist

This was a surprising category to emerge from the study. Although I was aware that Montessori was interested in issues of social justice and was also aware that at least some HLCB educators had an agenda focused on social justice for Hawaiians, I had not previously made the connection between the two. It took a combination of re-reading Montessori's own writings during the middle of the study, discovering her connection with the Indian Independence Movement (see Trudeau, 1984), and listening to HLCB educators describe their goals and some of the outcomes, for the connection to become

explicit for me. In six of the interviews, including three focus groups, participants mentioned the notion of school as an avenue for social justice, stating that it could positively influence the community, and that things could be made better through a different kind of education. This was congruent with Montessori's writings throughout her career (Kramer, 1988).

The first example came at the end of my first interview when I asked Koalani if there was anything else she wanted to add, or if there was any advice she could give to those thinking about becoming an HLCB educator.

Only that I think that Montessori should be in every school everywhere. No really. I think it's an incredible model and I don't really think that schools need to follow it to the T. But I think that every teacher can benefit from the training, the philosophy, the methodology. (Text units 938-941)

She continued, explaining why the approach made sense to her as an HLCB educator and why she thought it was a good fit.

It's so deep. It goes to the core of the person. It's not about mass educating—everybody needs to know the same thing to be on the same playing field all the time—it's about changing the way we think about ourselves and each other and it's an incredible tool for changing the society I think that's why it's so attractive. Because it really can be a tool for social change. I think that's a big push with the Hawaiian charter schools. It's about social change. (Text units 950-962)

As she concluded, she spoke passionately about the need to educate not only Hawaiian children, but children of all ethnicities born in Hawai'i.

And that's another reason why I chose to be here [at this school]. It's not just because I want to empower Hawaiian youth, but [I also want] to educate and empower non-Hawaiian youth to be active and activists in Hawai'i. (Text units 972-975)

Like Montessori's friend, Gandhi, and his followers in India, some of the HLCB educators I interviewed saw education as a way to change society and to take ownership of their culture and their language through influencing not just children, but their families and communities as well. An example of an HLCB educator who dedicated her life to this mission was Kauanoë. In her interview she described why she and others got involved as pioneers in the HLCB movement. Their focus was on reaching families through the schools and the children in an attempt to regain a language and a culture.

We choose the context of education because that's where we can reach our children and our families. Through the context of education, we work together with families, but it actually is a mission that goes far beyond the educational context. In order for culture and language to survive it has to be a part of every facet of society and economy in order to be successful, yeah? (Text units 89-94)

And later, Kauanoë stated what she believed to be a key element of this activist and transformative view of education. "We're trying to hold on to that and not compromising, you know. And that really requires clarity of vision." (Text units 686-687)

The final element of this theme involved transformation and healing at both a personal and a community level. The first focus group, a group of middle-school teachers, highlighted this element. They discussed why they felt their school made a

difference with their many placed-at-risk-students. They stated that they were very proud of their students' progress, in spite of continued low standardized test scores, as they witnessed personal change and transformation in the demeanor and attitude of many students. An example of this kind of change was provided by Kai, a focus group participant, as he described students at the state legislature testifying in support of funding for the charter schools.

And one of our older kids, he and his brother came in with a real bad attitude

And now he's pretty open-minded He actually said in his testimony to the senators, "They don't only teach me to be proud of being Hawaiian," because he is also Samoan-Chinese, "but they teach me to be proud of my Chinese side, my Samoan side." And he says, "You know, I'm reading "The Art of War" by Lao Tzu." And that was really positive. (Text units 362-370)

Lani, a focus group participant and teacher's assistant at the middle school level, described a different kind of transformation in her nephew.

He came in walking like this. (demonstrated someone with their head held down, eyes to the ground) Everywhere he went he would always look to the ground

And by the end of the half semester, he now walks like this, (demonstrated someone with their head held up) with a smile on his face wherever he goes. And he's not only doing hula and stuff, but now he plays basketball. He's starting to join other sports, and starting to come out of himself. He's starting to crack the shell now You know, it happened so fast, I barely even recognized him from before. And that is like a perfect example, because for me, seeing him transition

from a regular public school to a charter school, I've seen him grow. (Text 669-696)

She continued, describing the students' hula performance in front of a large audience and stating how surprised she was that the students, including her nephew, actually got up and performed what they learned. And then she said something that really surprised me.

So we [the nephew and her] were talking story one day, and I said, "I think it's going to be the kids that's going to make my family realize, 'Eh, we are Hawaiian, you know?' And we should be proud of who we are. Because we lost that." And to see [the kids] having the chance to learn that, and bring it home, and to have our family actually see, "Hey, we are somebody, yeah?" "We did come from a solid background." It makes me proud that, "All right. We will live again. We will survive." (Text units 690-697)

When I mentioned this conversation to another focus group and asked if they think this seemed true to them, Pele, one of the participants, responded, "You're right. In our school it is a healing. It's going back to what our families were a long time ago." (Text units 57-59)

A Way of Knowing

The fourth theme, *A Way of Knowing*, included three shared elements in the world-view of both sets of participants. The contents of this theme emerged from discussions about why the participants became HLCB educators and their hopes for the students in their programs. The key elements that emerged within this category included (a) the notion that all of life is interconnected, (b) the earth is a living entity that gives

life, and (c) the nature of the child is essentially spiritual with its own destiny to fulfill. All three elements within this theme were mentioned by the majority of the focus group participants, in addition to the key informants, something that was surprising to me.

The Interconnectedness of All Life

This was an idea that Montessori explored most fully in the latter part of her life as she came to firmly believe in the interconnectedness of all life, and to believe that it is important to teach this interconnectedness to children (Montessori, 1948). According to many of the participants in this study, this was also important to HLCB educators as a cultural underpinning. This particular element was mentioned in all five focus groups and in a total of 11 of the 20 interviews.

In the first example, one of the focus group participants, Ku‘ulei, a teacher working on the Big Island of Hawai‘i responded to what she saw in the video. She first talked about the idea that we are all connected and that children connect us to possibilities for positive change.

[The idea that] world peace starts with the teaching of children, [was] what I got out of that [video] World peace starts with the teaching of children. (Text units 159-160)

Kapuanani explained that some of Montessori’s “universal principles,” one being the notion that all of creation is interconnected in a timeless and seamless dance of life and energy, were common to many indigenous people. She said that Montessori’s focus on these universal principles, more than any particular pedagogical practice, was what she

felt the HLCB educators who first took the Montessori training at Chaminade were drawn to.

I think what got Koa [a former Chaminade student], and the others, too, was that concept [of the interconnectedness of all creation-what Montessori called the cosmic plan]. It has Montessori's name to it, but the concepts are universal

The beliefs and concepts that Montessori wrote down . . . are what indigenous people [like] our *k_puna* [grandparents, (Pukui & Elbert, 1986)] believe. This is what we felt was a match. (Text units 46-50)

Kapuanani concluded her interview by mentioning the *Kumulipo* as an example of how the *k_puna* see, like Montessori, the universe as an interconnected whole. As she put it, "We all have a place in the world. The *Kumulipo* shows that we're all related. We're related to the plants, we're related to the animals on the ground. We're related to it all." (Text units 402-404)

The Earth as a Living Entity

The earth as a living entity was mentioned in four of the five focus groups and in a total of 9 out of the 20 interviews. This theme focused on the notion that the earth is living, and people should nurture and care for it. This too, was an explicit belief of Montessori, one that she wrote and spoke about in the last years of her life (Montessori, 1948). Sol, a focus group participant and high school teacher on O'ahu explained why he agreed with Montessori's cosmic plan.

Because the whole world is part of who we are as people. Our philosophy as Hawaiians is that if you don't take care of what you have, in return, it ain't going

to take care of you. And it is like our elder sibling, the heavens and all the plants and animals, because they came before you. (Text units 760-763)

Sol explained more about the Hawaiian world-view and perspective, and concluded with one last similarity he saw between the two approaches.

And [I agree with] what they were saying. I think that everything in the universe has a purpose. And once the kids realize that, then, they realize that they have a purpose. And it's their *kuleana* to do the right thing. (Text units 782-795)

This quote provided an example of the relationship of work, a purpose, doing things to mastery, and the notion that everything has a purpose. This was Montessori's (1948) stance as well. Everything in the universe had a purpose, and its role was to fulfill its own purpose excellently.

The Child as a Spiritual Being

The child as a spiritual being was mentioned in four of the five focus groups and in six out of the 20 interviews. I found it surprising that most of the people who mentioned this particular similarity were focus group participants. This element focused on a view of reality where aspects of the child's nature are spiritual and unseen. As described in Chapter 2, Montessori (1966/1995) first developed the notion of what she called the spiritual embryo to describe this particular idea. She later added the concepts of *mneme*, *hormé*, and *nebulae*, to further explain aspects of learning that could not be seen (Montessori, 1967/1995). A Hawaiian world-view may also include the notion that there are aspects to life that are unseen and spiritual, including the unseen power or *mana* [supernatural or divine power, (Pukui & Elbert, 1986)] of each child (Pukui, Haertig, &

Lee, 1972). Hina, a focus group participant, provided a good example of the relationship of the spiritual embryo to Hawaiian cultural values and beliefs.

The spiritual embryo kind of reminded me of how the teachers are always reminding the kids to “Embed the knowledge that you learned in your *na ‘au* [intestines, heart, mind (Pukui & Elbert, 1986)].” It kind of made me think like, “Wow, like it’s not just taking the information and memorizing it, but you have got to embed it into who you are and to be able to teach it to other people.” So you have [to] further the knowledge that you do learn, because if you just take in what you learn and don’t pass it on to the next generation it’s going to be lost.

And I think that’s kind of what [the spiritual embryo does, too.] The definition of the spiritual embryo kind of made me think of the *na ‘au*. (Text units 425-434)

Puanani, one of the few key informants to note this congruence, also saw this element as congruent with Hawaiian beliefs and values. She related it to the notion that teachers can only be guides to children.

It’s a divine self, a self-identity that the kids need to connect with. They all have that in them and if they can somehow find that in them, then they’ll know that where the peace is within themselves. We try to follow the child, you know, we all do. And it’s not easy for them, not even for [the ones who go to] our school, so we just have to help them get there. (Text units 99-104)

I responded by saying, “Montessori talked about the spiritual embryo. Would you say that’s a similar kind of idea?” Puanani replied, emphatically, “Yes. I think so, and that’s what connected me to Montessori when I first entered your program. It was like,

“Oh my gosh!” She looked at me quizzically and said, “You know?” (Text units 100-108)

One focus group spoke at length about this concept, and Kalaokahaki, a Grade 5-6 teacher in the group spoke in particular about its connection with, again, Montessori’s notion of the spiritual embryo. She saw a direct connection to Hawaiian beliefs about the spiritual nature of children and people in general. In the following example she referred to the notes she had taken throughout my mini-lecture and while watching both videos.

I had written down spiritual embryo. I don’t know if I got that from you or the video, but I had written that down that the spiritual embryo is influenced by environment and by people. And for it to reach its full potential the people and the environment that influence the spiritual embryo are significant. I think that is almost at the basis of our Hawaiian culture The spiritual part of you that we nurture from infancy These are teachings that I think that are directly linked to the spiritual part of a child, of a *kanaka*, a person, that was a connection I saw in the Montessori to our own values. (Text units 117-132)

Nuanced Distinctions

The fifth theme, *Nuanced Distinctions*, includes the four differences noted the participants and one difference I saw in my field observations. Although the number of times the differences noted was small, because each difference noted by the participants came from focus group participants, they are included. This theme also includes three values stated as important to the HLCB educators, but largely absent in Montessori’s writings. Most of the participants did not report any differences between the two approaches.

It's All the Same

In 10 of the 20 interviews (seven key informants and three of the five focus groups), the response when I asked what things did not fit, was “It all fits.

This was surprising to me because the classrooms of the HLCB educators I observed, all of whom have previous Montessori training, did not “look like” typical Montessori classrooms. The following example came from a focus group that works with middle school students. During the workshop, they were shown a video describing the *Erdkinder* model for adolescents. In the video, the students, who are in Houston, saw icicles on one of their trips to work on the farm. Kapono began, saying, “I didn’t see anything that wouldn’t fit. I mean, it’s [the look of the school] is going to be different for each community.” (Text units 237-238) When I asked the group if they could think of anything at all that wasn’t a fit, he reiterated, “No, I think it will fit really well, the outdoors part will fit excellent, I think. But I didn’t see anything that wouldn’t fit” (Text Units 240-241). His colleague, Kapa’a then added, “Nah, everything kind of matches.” (Text Unit 242) Kapono responded, “Right, basically just a lot of your culture content would be different from what we saw on the video. We’re going to be working at the fishpond, for example . . .” and Kapa’a chimed in, to laughter from the whole group, “Instead of seeing icicles, we’ll be licking popsicles.” (Text Units 243-245)

Evalani’s response was typical of others who saw what Puanani called “a complete match.” (Text unit 298) When I asked Evalani what things do not seem to be a match for her she stated that “everything works” (Text unit 1011).

The teaching methods, everything. Everything works. Practical life is awesome because it's right up the alley with Hawaiian traditions. And you know, Hawaiian was not a written language and so the techniques [used] in Montessori math and English and science kind of bring the Hawaiian language and Hawaiian traditions into the 20th century kind of thing. And the kids love it because it's all hands-on. They work from the basic *odd and even* game [a mathematics game found in Montessori preschools designed to teach the concept of odd and even] or the number rods [a mathematics material found in Montessori preschools schools designed to teach the concept of "one more"] all the way to the subtraction and multiplication boards [Montessori materials designed for lower elementary]. And the kids love that. The Hawaiian immersion kids like it. Oh, yeah. Oh yeah. (Text units 1011-1020)

Differences Noted by the Participants.

It's too Western. While many did not, there were a few participants who articulated differences. One difference mentioned in three of the interviews was that the Montessori schools shown in the videos did not look like HLCB schools culturally, and that the Montessori approach seemed to be too much of a Western model. The three who noticed this commented on the formal appearance of the Montessori classrooms they saw. Nailima, a focus group participant and preschool teacher, stated that for her, the Montessori classrooms in the videos lacked the visible connection to nature that she saw as deeply embedded within the Hawaiian culture. She stated that she thought the lack of focus on nature in most schools was an outcome of Western concepts about schooling. Compared to the HLCB schools I visited, Montessori schools do tend to have fewer natural materials and items.

I like natural stuff. That's what I've learned over the years. Have the children reading about the objects that they can see at the beach, outside in the grass, leaves, [and] rocks. [When] they read . . . they can relate to it. Flowers, real flowers. Bring the outside in and the inside out, or something like that, you know. The kind of environment I would look at as a very rich environment would be both sides, I think. The child can relate to this kind of concept and I totally look at this as very good. I mean they learn a lot of educational aspects that you are trying to teach while at the same time you can relate to cultural aspects vs. non-cultural aspects. (Text units 587-597)

Wailani, a key informant who worked as an administrator in both HLCB and Montessori schools also spoke of the Western aspect of the Montessori approach, but from a slightly different perspective. She mentioned that several of the HLCB educators who first took the Montessori training on O'ahu, were surprised at the similarities between the two. They thought the Montessori approach validated the indigenous methods being developed and utilized in the HLCB programs. Through this validation they realized that it wasn't necessary to adopt a Western early childhood education program in whole, in order for their own programs to be successful. Wailani described one HLCB educator in particular who felt this way:

As she was going through her training at Chaminade [she] would come back and say, "This is nothing new. Nothing of this is new. This is something that our culture has practiced for generations." And, so she was really surprised at all of the similarities. (Text units 81-90)

Wailani also suggested that some HLCB educators were leery of turning their programs into Montessori schools. Instead, they wanted to create their own models.

I think some of the thought with some of the teachers in immersion programs, particularly when we first started doing Montessori training and stuff with other teachers is that there was a feeling of not wanting to say that we are using the Montessori model of philosophy and implementing it in our program because we've been doing this for so many years, for generations. Because they didn't want the Hawaiian cultural part to be diluted anymore than it already has been, you know. They just wanted it to make it their own. (Text units 138-145)

Adults and children are too equal. The other difference pointed out in three interviews was related to the role of the adult. While both models described the role of the adult as that of a guide, participants who noted this difference said that the definition of a guide in a Montessori classroom was not the same in an HLCB classroom. From the perspective of the HLCB educators who mentioned this, Montessori educators encouraged too much equality between the adult and the child. A teacher in a Hawaiian setting would not be seen as the equal of the child.

Kapuanani was one of the first to point out this difference. As we discussed possible differences between the two approaches, I asked if getting down to eye level with a child, as is taught in a Montessori training, was culturally appropriate. She smiled and described the elders' reaction when she and the other younger teachers first tried talking with children at eye level as taught in their early childhood courses.

Our *k_puna* who were in the classroom with us would be like – whoa! And they would be looking at us like . . . (she gave a quizzical look). They would never go down to a child’s level because that wasn’t appropriate. If I am the *makua* [parent (Pukui & Elbert, 1986)] I deserve that respect. (Text units 477-488)

Lehua, a focus group participant on O‘ahu, also noted this difference also, but from the context of explaining why, in comparison to children in the videos, the children in her school did not seem as articulate or confident when speaking with adults. Participants in the focus group she was a part of had commented on the confidence and ease with which the students in the video seemed to be able to speak to adults.

This thing about talking to adults, I don’t know, I think this is a local thing or maybe not so much Hawaiian culture, but [I think] local kids are more shy. I guess because you have that respect for your elders. So to just come out and start going, you know, talking about whatever. [Local kids] almost hold back, you know? Not like they couldn’t, but it seems like, you know, “You’re a kid and they’re an adult,” and unless they ask you a question, they’ll just come out and be like, “Oh,” you know? And there’s a way you talk to them [adults] too. (Text units 501-512)

There’s too much free choice time. Another difference, more free choice in a Montessori school, than in an HLCB school was noted by one participant. Pau was a focus group participant, kindergarten teacher, and his school’s co-founder. He spoke of visiting a Montessori school in his neighborhood and thinking there was more free choice in that school than would be comfortable, culturally, in his school.

When you came to our school, you could see that we do have some Montessori-type things, and we do have choices. Free choice time. We do have that, but we also have things that are controlled. I went to a Montessori school in the neighborhood. It was a really good environment. It's a really good school. But I noticed that they didn't have to sit down together. If they weren't ready to sit down they were free to roam. That would never happen in our classrooms. We believe that once everybody comes in, everybody participates. Culturally. So we come in, we chant, we pray. And when we have circle, everybody comes. (Text Units 623-629)

There's too little physical contact. One participant, Nailima noticed a difference in the physical contact displayed by Montessori teachers compared to her view of the role of the teacher.

How I would look at Montessori teachers is that you like to be [like] mama birds and just walk away, you know. That's how you guys like [to] be. That's good, but for us, for me it's [more] physical contact, you know. You hold them, you go "Oh *maika 'i* [good (Pukui & Elbert, 1986)]]. That's more how I would encourage them, and that's a cultural thing. (Text units 634-638)

I observed this difference as well. There were relatively more overtly physical signs of affection—more hugging, more affectionate arms over the shoulder, for example—than is generally common in most Montessori classrooms. While a Montessori preschool teacher is taught to greet children in the morning with a hand shake and a smile, I saw the HLCB educators greet children with a hug and a smile.

Other Differences I Noted

A relative lack of Montessori didactic materials and activities allowing for independent learning. Because one of my research questions was directed at how salient features of the Montessori approach were utilized in the classrooms of Montessori-trained HLCB educators, I was especially interested in learning what kinds of Montessori materials and activities might be found in their classrooms. I found that while most of the classrooms I visited had some Montessori materials and activities, none of the HLCB programs at any level had a complete set. From my perspective as a Montessori-trained educator, this was a significant difference from other “Montessori” classrooms. Those seeking Montessori certification would not likely receive it if the classrooms where they were working did not have the full set of materials

The lack of Montessori materials and activities was especially noticeable two areas. The first was in the infant and toddler programs. In a Montessori infant and toddler program, independence is encouraged in even the smallest children, and equipment that restrains a child’s freedom, such as cribs, is discouraged. The second was in the math and language arts areas at the upper elementary and middle school levels, where, in a Montessori setting an array of self-correcting and sequenced math and language arts materials should always be available. The middle school math class I observed had no Montessori math materials available.

In general, the kinds of materials and activities that appeared to be most lacking compared to a Montessori school, were the didactic materials designed to aid children in understanding complex cognitive concepts. These were the materials designed to

deliberately move children toward more abstraction in their understanding by taking advantage of the use of color, visual appeal, and metaphor combined with step-by-step procedures and verbalizations (Schonleber, 1983). One example of this kind of material, available in Montessori lower elementary classrooms, but absent in any of the HLCB classrooms I observed, was a set of hands-on grammar activities and materials that children can freely choose from. This set of materials and activities was designed to aid children in understanding the mechanics of language as they learn the parts of speech, the functions of words, and the structure of a sentence through impressionistic lessons, hands-on objects to manipulate, and eventually, pencil and paper games and tasks. Another example, found at the early childhood level, was a set of sequenced activities and materials designed to aid the child's understand of concepts and vocabulary related to the sciences, in particular, botany, zoology, and geography.

A difference in the ratio of Montessori materials and activities to each child.

Another difference was in the ratio of materials to each child. The general rule of thumb in a Montessori preschool or elementary setting is to have at least three activities for each child in the classroom. In a typical mixed-aged class of 24-30 students with two adults, for example, there were approximately 90 activities available for free choice during the course of the day. The HLCB elementary classrooms I observed had a maximum of 30 individual activities available for children with a mean class size of 13 students. While the student-teacher ratio was comparable, and certainly lower than that found in most conventional school settings (Tharp & Gallimore, 1991) the choice and variety of didactic materials that allowed for independent learning was less than half that found in a typical Montessori school.

A difference in the arrangement of the materials. The arrangement of the materials was different as well. In a Montessori setting all materials and activities are arranged on open shelves. Each shelf includes a wide range of self-correcting materials and activities for a particular content area, and they are arranged in a scope and sequence that goes from easiest to hardest in a visibly discernable way. While the contents of the materials may change from time to time, the order of the materials does not. There is a consciously chosen wide array of materials and activities that are displayed in a way designed to motivate students to choose them. Each material or activity on the shelf in a Montessori setting has been designed to help children learn only one concept or part of a complex concept.

While there were three HLCB early childhood classrooms that closely followed this model, all had some gaps in the materials sequencing. The problem with these gaps in sequencing, from the perspective of a Montessori educator, is that they represented a gap in the scope and sequence of the conceptual framework of the materials and activities. Each gap in the scope and sequence required the intervention of the teacher to explain, thus violating one of the fundamental precepts of the Montessori approach: freely chosen work.

A difference in the presentation of the materials. Related to a difference in the sequencing of materials and activities, was a difference in their presentation. Montessori teachers are expected to create aesthetic displays with the sequenced materials such that each activity is easily discernable from the other. Materials are displayed in much the same way grocers might display their fruits and vegetable for sale: in as appealing a manner as possible in order to entice the most customers to buy. Beautiful and visually

interesting trays, baskets and other visually appealing containers are chosen in order to maximize the presentation of the activity (Wentworth, 1999). Color is used judiciously and consciously used to draw children to the materials and activities, while care is taken not to use too much, thereby overloading the senses. Aesthetic displays of sequenced materials and activities in the classrooms, to the degree seen in most Montessori settings, as well as the conscious use of color as a didactic teaching aid, were not visibly present or discernable in any of the classrooms I observed.

A difference in the use of physical space and appearance. The physical appearance of the HLCB elementary classrooms and schools was also different from what one would generally find in a Montessori school. This difference was noted by one of the participants who commented on the “clinical” look of the Montessori classrooms she saw in the videos. During my classroom observations I noticed other differences as well. First, most of the classrooms were smaller than would be found in an ideal Montessori setting. Second, there were more desks for the given space, and fewer reference materials. Third, there was more visible evidence of conventional teacher practices, such as charts for good behavior, displayed on the walls.

A difference in class size and numbers of adults. With the exception of one Grade 1-2 public Hawaiian language immersion school, the numbers of students in the HLCB classrooms were smaller than those found in the typical Montessori environment. In general, there should be at least 24 children in a Montessori mixed-age classroom. Ideally, there are eight new students, eight 2nd year students, and eight 3rd year students. At the elementary level, there are typically two adults, a trained Montessori teacher and a teacher’s assistant. In the HLCB schools I visited, at the elementary level, there was

typically one teacher with an average of 13 children. Although the ratios were similar, having two teachers makes it easier to do small group and individualized lessons, and to observe both the tone of the class and the work of small groups and individuals. It also makes it easier to engage in what Tharp and Gallimore (1991) have called “the instructional conversation” (p. 2), a key component of culturally congruent instruction.

A difference in the use of time. In the elementary and middle-school HLCB classrooms, I saw more group work than is generally found in a Montessori setting. A rule of thumb is that in a Montessori setting at the elementary or high school levels, not more than an hour a day is taken up by whole-group activities (Chattin-McNichols, 1992). Instead, students work in small groups or independently on projects of their choice, while the teacher helps those small groups or individuals on an “as needed” basis. While independent work is valued in both approaches, I observed at all levels, but especially at the upper elementary and high school levels, less independent and project-based work in the HLCB classrooms compared to what is typical in a Montessori setting.

A difference in the match with classes teaching and the level of training. Although 13 of the 15 key informants had taken the Montessori Early Childhood training (for those intending to work with three to six year-olds) only five were actually working in early childhood settings. The other eight were working in elementary programs, where their early childhood training didn’t match the developmental needs of their students. Although a better match than conventional pedagogical strategies, the content knowledge and pedagogical content strategies learned in their Montessori teacher training program was a mismatch for the age student they were teaching. Only two of the key informants had taken the Montessori Elementary I training (for those intending to work with six to

ten year-old children). Only one of these two was working in an elementary setting.

The other was teaching math in a middle school. This meant that of the 15 key informants who had Montessori training only six were working in the kinds of settings for which they had received the appropriate training. In particular, they did not have the necessary specialized training in general pedagogical strategies for managing classrooms where students were expected to work in mixed-age groups on projects of their own choosing. This would be unlikely to happen in a private Montessori setting where it would be expected and understood that only teachers who had the proper training at the level for which they have been prepared, could work with a particular age-level child. For example, teachers with Montessori early childhood credentials, qualifying them to teach ages three to six, would not usually be hired to teach six to nine year olds, and certainly not nine to twelve year olds.

Goals and Values Not Shared

There were three goals and values articulated as important by the HLCB educators that were not necessarily shared by Montessori educators. One was the importance of *'ohana* or family. Montessori wrote that parents often misunderstand their own children, and may inadvertently stunt or hamper their psychological growth (Montessori, 1966). She was mostly silent on the topic of children's responsibility to their parents. Several HLCB educators, on the other hand, articulated that family was an important and integral part of school. They tried to develop the school as an *'ohana* or family and invited students' families to participate in formal education. Here is how Koalani described this integrated relationship.

I know I talked about this earlier, but just the school community itself of students, staff, administration is incredible. All we did for the first two days was team building and *m_lama ' _ina*—taking care of this place and cleaning it up--because it's so important to us that we know each other on a real level. Not superficially, but where you know somebody's strengths. You know their weaknesses. You know what buttons to push to make them laugh or cry. I think people come in and they feel it. They see it and they feel that this is a family. This is a real community where people come for support and guidance. There's community within the immediate school culture going onto the parents and the other 'ohana [family; extended family (Pukui & Elbert, 1986)] too, because like on our 'ohana days we have a lot of aunties, uncles, grandmas, cousins. (Text units 617-641)

The second was the importance of place. This appeared to be an important value to many HLCB educators and was mentioned in 10 of the interviews. It was only of peripheral importance to Montessori. Here is an example of this value as described by 'Ulu when I asked her about the practice of chanting a morning protocol that I had observed at another HLCB school.

I think it's something done in every program. We always start with [learning chants about] our area because they understand it. That's where they grew up, so the children know a lot of Maui songs. They know things about Wailuku through chant and hula. They understand that. We need them to understand, "This is Wailuku," or "This is Maui." But we also belong to the *pae ' _ina 'o Hawai 'i* [the Hawaiian archipelago (Pukui & Elbert, 1986)]. And it is part of the Hawaiian culture to teach the children

about places and what the place brings out. That's very important. (Text units 411-420).

'Ulu later explained the relationship of name to place as a part of the morning protocol and described how they begin teaching the children this protocol at the beginning of each year. In learning this protocol, children were taught that the name of the place is important.

People always ask the children, "What's your name and where do you live?" That's such a Hawaiian thing. Your name. Not your first name. Your family name. Your last name is important and where you live. That's the main thing, and if you don't know those things, you don't know who you are. (Text units 426-430)

The third value that was important to HLCB educators, but not as much to Montessori, was promoting the students' Hawaiian culture and values along with Western culture and values. While Montessori wrote that the culture of each place should be incorporated into the life of each classroom, she did not focus her attention on the restoration of indigenous culture. One of the focus group participants, Kaponu articulated his desire for this balance.

For me personally, I try to push my students to have the Hawaiian and the Western, and to be balanced in both worlds. Because after the coming of foreigners, that's how our kings and queens were. They were able to walk in both worlds. The monarchy of that time period was fluent both in the Hawaiian and the Western world. I tell the kids, "We want you to be like that. You can travel the globe, speak the language of the world, but yet, still have your own language." And it's not easy. I always tell

them, “It’s not easy because now you have to educate yourself in two worlds. When we were in school, they didn’t teach us the Hawaiian side, everything was westernized for us.” So I give them credit and I always tell them that more power will come to them when they get to that point. (Text units 433-448)

Keani described a desire to have her culture take its place in the mainstream again, through the everyday use of the Hawaiian language in the community.

I want to be able to freely write my checks in Hawaiian and still not have someone saying, “I can’t read this. You can’t give this check to me.” ‘Cause I’m in Hawai‘i. I want to be able to be free to do that, because I still feel like, “Oh No.” I can tell by their actions that they’re going to ask me that question. I want to be able to be comfortable in my own land and I want people to understand that it’s okay to learn in Hawaiian. A lot of people think Hawaiian is a foreign language or a fad. It’s not a fad. (Text Units 670-677)

Challenges to the Dream

The sixth and final theme, *Challenges to the Dream*, included what the HLCB educators in this study perceived as six major obstacles to achieving the dream of a restored language and culture through education. The content for this theme emerged from a specific question I asked about the challenges faced by the participants, their goals and hopes for the students, and in response to a question about advice they would give to prospective HLCB educators.

Lack of Specialized Teaching Materials, Curriculum and Resources

Several participants stated that one of their biggest challenges was a lack of specialized teaching materials, curriculum, and resources. In 14 of the 20 interviews participants identified a lack of pre-made materials and curricula that matched their desired pedagogical practices. They also stated a need for materials written in both Hawaiian and English that reflected their cultural values and beliefs. A perceived lack of time to make materials and resources was also included as one aspect of this element. For example, Maile, a focus group participant and O‘ahu high school teacher wanted books written in Hawaiian and from a Hawaiian perspective. When I asked her what materials she would put into her classroom given an unlimited budget, she responded:

I guess for me, a set of books to read and kind of get them into, especially dealing with historical things, and especially Hawaiian history. The thing is, there are no books really written for kids, especially intermediate, dealing with Hawaiian true history. You know, everything is written from the American perspective. (Text Units 499-503)

Some key informants stated that they wished they had the Montessori materials. Kanani, who was a math specialist at an HLVB elementary school thought that Montessori materials would be helpful because they were designed to be self-explanatory and thus, no translations were necessary.

I think that Montessori can work [because] the materials don't have to be in Hawaiian, I mean because there's a lot of pictures that you can use. And to me that was valuable, because I didn't have all the books and everything to translate

all the materials. We could use puzzles, a lot of puzzles, a lot of matching things that could be made up really quickly. (Text Units 985-990)

Kealohilani also said that she wanted Montessori materials for her classroom. In addition, she said she wanted culturally-congruent materials. “What I need is an angel to make materials and more importantly, very importantly, I would say, to make Hawaiian books that are Hawaiian stories” (Text units 558-56). When I commented that I was surprised to see so many English books in her Hawaiian language immersion classroom she replied,

Gotta have books, and what are you supposed to do, you know? We did an author study with Eric Carle just because we’ve translated a lot of his work into Hawaiian, but even just cutting and pasting the stuff. I mean, that’s hours and hours and hours And then, what’s the value really of translating? That’s not a Hawaiian story. That has no Hawaiian meaning. So it would be nice to have those stories that we know of, you know, put into books. It’s really unfortunate, especially at the first grade level where it’s all about reading. It’s just ridiculous not to have them. (Text units 558-580).

While many participants mentioned the need for books written in Hawaiian, not all the educators were looking for written materials. Kai, for example, wanted materials for hands-on, nature-based teaching. “What do we need? Hmm I guess for me, it would be tools. Maybe not the necessities like a hammer, rake, shovels, picks, but wheelbarrows, tillers, stuff like that” (Text units, 625-628).

Lack of Specialized Training and Teachers

The need for specialized training and teachers, mentioned in 12 of the 20 interviews included: (a) the lack of a comprehensive training model appropriate for the

kind of teaching pedagogies the HLCB educators wanted to employ, (b) the need for more teachers who both spoke Hawaiian and were trained to implement and use pedagogical methods and strategies that were congruent with HLCB beliefs and values, (c) specific training in the Montessori approach, and finally, (d) a lack of a cohesive or standardized philosophy and training among the various HLCB schools that included materials, training, models, and time to learn this different way of teaching before being expected to do it. The HLCB educators in Hawaiian language immersions settings had a dual challenge because they were looking both for teachers trained in the pedagogical practices they were interested in utilizing, and who spoke fluent Hawaiian.

Montessori teachers have access to a fully developed model, complete with training programs, well-developed and easily available materials, and a formal apprenticeship where students intern in an approved Montessori school for an entire academic year. HLCB teachers, on the other hand, had few mature models for what they were trying to implement. Kaponu, a new HLCB educator articulated his need for training in the pedagogical practices that were unfamiliar to him.

For me, I've got choke [a lot of] challenges because I'm a new teacher. I was brought up in that old school way of "You sit down, you shut-up, you do this; you do that." I know this other stuff works, but I don't know how to do it because it hasn't been modeled to me It's all a learning experience because I didn't graduate with a College of Ed. degree. I have a Hawaiian Studies degree. My training is all on the job experience. (Text units 515-525)

His sentiment was echoed by Maile who saw multi-age teaching as a challenge for her; something she had not been prepared for.

I have a hard time doing the multi-age things I can't hit every single one [standard] to make sure that it's correct because of their level, so to me that's hard. If it was ninth and tenth, and eleventh and twelfth, that wouldn't be too bad, but because I have the four together it's really hard. (Text units 232-242)

Kamaka, the administrator at Maile's school, added that for him, the challenge was to design a system that worked for, "us as indigenous people" (text unit 605). He felt that with a stronger system, including systemic training, they wouldn't have to rely on individual teachers as much. As he ended the conversation, he added, "There's not necessarily somebody I can look up in the phone book to go come and do this training for us. Because we are in uncharted territory" (Text units 639-640).

One of the focus group participants, Eric wondered whether HLCB educators could borrow a framework from the Montessori approach. "Perhaps [the] Montessori . . . model [has] a parallel with situations of a colonized culture trying to revitalize itself." (Text Units 641-642).

Koalani, a key informant and teacher in that same school, agreed on the need for a cohesive philosophy. She stated,

In the classroom we don't have a cohesive philosophy, you know. We're not like a Montessori school. We don't have one cohesive something that's holding all of the instruction together. It's like a whole lot of, like the way Eric describes it, it's eclectic, yeah? It's a whole bunch of little pieces stacked on top of each other.

Great ideas stacked on top of each other. (Text Units 395-399)

Some participants suggested that even when the books and materials were in Hawaiian, there was still a problem with how the books and materials were used. Evalani,

a key informant, enrolled her children in an HLCB public school. In her interview, she shared her frustration in the lack of hands-on materials that are culturally congruent. She described a meeting of parents and teachers at her child's HLCB school where this issue was expressed by parents.

It's just kind of sad because it's just that feeling that it's [the HLCB program her children attend] losing it because a lot of the materials in there are just regular DOE [public school] teaching materials and they hardly ever get out of the classroom. I mean, they have a good music and hula program but that's kind of it. (Text units 542-545)

When she re-read this section of the paper, she emailed me with further comments that she wanted me to include.

The DOE red tape makes it hard for the children to get out and learn what's around them. It seems like Hawaiian has to change and fit into the [state] DOE system instead of the DOE fitting into the Hawaiian system. The point is that we parents are tired of having to modify our program to fit the already failing DOE system. (Personal communication, E. Palakiko, December 5, 2005)

Some of the key informants felt that it was a challenge that not all the teachers they worked with had Montessori training. For example, Keomailani, a school director, described an experience when the teachers did not understand the function of the "pink tower" a piece of didactic material found in a Montessori classroom. According to Keomailani,

The difficult part too, is that I have the training and no one else here did. So, for example I can explain to the rest of the staff the importance of the pink tower

[being in one piece] with all the parts in order. But, it's not standing. I saw it this morning. It's kind of in pieces on a shelf. And I remember saying to one of the staff the other day, "No, stand it up so that they can see how it goes from the small one to the big one. Let them see that." But I saw it again today on the shelf, kind of in a little bit here and a little bit there And to help everyone else to understand the significance of each activity, whether truly it's a Montessori piece or it's something that I created from that training. Some of the things they're blown away with and they really like. And then I'll go into the classroom and see them using it in a totally different way. That's kind of . . . disappointing. (Text units, 1022-1045)

I could see what Keomailani and the others were talking about as I observed the classrooms and schools of the key informants and focus group participants. Many of the standard Montessori materials were absent to some degree in all of the classrooms of the key informants, except one on Maui, where they had received Montessori materials from a school that had closed.

When asked what she would most like to have if she could have anything, Kapuanani answered that she would like a comprehensive training that included materials along with their belief system.

A comprehensive training program. I mean right now, we're eclectic in what we do and we take the best practices from the different models that we see. I think most of our concepts are matched with Montessori model, but [we need] to come up with a comprehensive training program that incorporates everything that we believe. To have that, then to be able to train our teachers in that, then to have the

curriculum and the materials that will support that, that's really what we need and are working on. (Text units 571-579)

Conversely, Wailani wanted the teachers at the Montessori school where she now works to be trained like an HLCB educator she was working with at the school. When I asked about her goals for the Montessori school, she replied, "Our ultimate goal would be to get everyone like, the same training like Koa, who has the cultural, the Montessori, everything" (Text units 424-425).

Academic Issues

Participants were also concerned about students' academic achievement and about their ability to meet the NCLB standards. This was mentioned in 10 of the 20 interviews. Keomailani discussed this issue in the context of parents not necessarily understanding the original goals of the school, which were to incorporate the Hawaiian cultural perspective first, and then academics.

We have to teach from our place and if we're going to be academically rigorous, and also culturally based, we have to know about all of that The first few years we spent really getting a cultural base for all of our students And now we're in our fifth year and starting last year, we're really pushing the academic side. We cannot say we're academically rigorous if we're not. So now we're becoming more academically rigorous. (Text Units 756-775)

Kapuanani, a key informant, said she had incorporated a Montessori approach to the HLCB preschool where she had once worked. She felt that the Montessori approach had helped to establish academic standards. "It helps to validate that you can still teach in the language and in the culture and not compromise academics and preparing your child

for the world.” (Text units 94-95) Her inability to incorporate a similar approach at her current school was frustrating to her.

Some participants stated that a related challenge was that many students struggled in other schools prior to enrolling in an HLCB program. As Eric noted, “Our students didn’t do well in regular schools Most of our kids didn’t like or succeed in DOE [public] schools” (Text units 483-484). Related to this was that many of the students in the HLCB schools struggled with traditional forms of testing. Kamaka, an administrator, was considering the use of portfolios as an assessment instrument. “I think [we should] incorporate portfolios . . . and actually show the work the kids are doing Because these kids are smart. It’s just a matter of showing it” (Text units, 470-482)

The need to meet state standards, including standardized testing was also stated as a challenge. Several of the participants stated that the standards did not necessarily align with their goals and values as HLCB educators and they found this to be frustrating. For example, Liko, a key informant teaching in a Hawaiian immersion public school, said that the current political climate of accountability contrasted with his training and his values.

It’s far more difficult, okay? There are these standards now that we have to cover. With Montessori it was all about . . . let them develop at their own pace. Well, now the federal government says that if they’re this old, they need to be able to do this, this, this, and this. (Text units 293-295)

Liko didn’t feel he had the curriculum or preparatory materials needed to meet NCLB requirements.

So, I think the biggest challenge is in having to develop the curriculum with No Child Left Behind. [The state standardized testing is] a huge, huge test. We don't have the curriculum to teach to the standards of No Child Left Behind It really makes me laugh sometimes, you know, when it doesn't make me cry. (Text units 548-562)

Lack of Funding

In 9 out of the 20 interviews, including all five of the focus groups, participants mentioned funding as a challenge. Funding issues focused on a general lack of money to offer quality programs. The issues included money (a) to purchase materials and supplies, (b) to hire a curriculum specialist to help create the particular materials needed and (c) for appropriate physical space. As Lanakila, a focus group participant put it,

I think the lack of resources is a problem. We have a lot of resources in the community, but it's about getting out there, finding them, and having people actually want to help you. You know, a lot of the time you have to go and prove to them and beg people to "Please help us. We really mean well and it's really going to pay off at the end." There are not a lot of people that know or understand what kind of school the Hawaiian culturally-based schools are. So yeah, I think lack of resources is a big problem for us. (Text units 304-312)

Lehua, a teacher's assistant in the same focus group, added, "Yeah. A lot of these teachers take out of their own pockets just to make their classroom happen. So that's what we lack, lack of money and materials." (Text units 353-355)

Family and Student Challenges

Mentioned in 8 of the 20 interviews, including three of the five focus groups, one of the challenges for HLCB schools was students with especially difficult circumstances. Participants said some had few resources and parents held multiple jobs just to make ends meet. Others' families dealt with stressors such as divorce, death, drugs and other illegal activities. Finally, some students had learning challenges that were hard to address. One issue mentioned in three of the focus groups was that families had such busy work lives that there was little time left over for helping their children or for supporting the school goals. Kanani focused on the busy lives of the families in her school.

We highly encourage the families to you know enroll in Hawaiian, although with our families now they there's no traditional family where mom holds one job and dad holds one job. We're looking at two or three, four jobs. And then with that there are no hours for anything else. (Text Units 126-128)

Kapa'a brought up the subject of drugs as he discussed the emphasis placed on testing and test scores by the Hawai'i State Department of Education.

In Hawai'i the drug problem is so bad that I think a lot of them come from families [that have drug problems]. The social issues here [that the kids deal with in Hawai'i] are kind of covered up. The real issues aren't brought up, it's kind of all covered up, and everybody's worried about all these other things [test scores] that aren't really that important. (Text Units 462-464)

Finally, several teachers expressed that many students had special learning challenges. Koalani, for example, told me that five out of the eight students in one of her middle school math classes had special needs.

Yeah It's eighty percent of the class. So, they need a lot more one on one.

And that's why they are the smallest group. . . . What I want is somebody to just be able to sit with them and help them out and kind of guide them through it without it having to be teacher, you know? (Text units 128-139)

The younger Keomailani, a Grade 1-2 focus group participant, said she felt overwhelmed by not having the resources to handle those needs. Her ending statement was representative of many of the respondents. "It was overwhelming to me, because it was obvious that many of these students were students that weren't making it anywhere else." (Text Units 194-195)

Lack of Commitment by Students and Parents

The final set of challenges included students and family members who did not understand the HLCB philosophy or methods, (i.e., multi-age grouping and independent learning) or did not hold same goals or values as educators. This was also mentioned in eight of the 20 interviews. This was a challenge mentioned by three of the focus groups as well as five of the key informants. Kanani was one of the key informants who spoke about the difficulty of getting parents to be involved at the immersion charter school where she worked.

I'm not sure that the families believe in the goals of our schools. And like a typical DOE school (and I'm saying that these are my thoughts), some families just drop their kids off and expect the teachers to do all that. We want them to be involved because how can a child be successful if the parents cannot help them in their studies? If they bring home homework, and they need to write in Hawaiian, and the parents can't help them in Hawaiian? (Text units 115-120)

Koalani, who worked in an English language charter school, said that sometimes HLCB students did not hold the same goals and values as educators. This sometimes occurred when students transferred to her middle school from conventional schools, and did not have experience with a project-based curriculum where students were expected to take responsibility for their own learning.

“My goal is to try and get an independent cooperative learning group. But no. They’re so not normalized to that. . . . These guys, they’re not used to having that kind of freedom. So it’s been a struggle. (Text units 109-126)

Two Linkages

As described above, the data revealed six themes, each with its own set of elements. Through the process of axial coding, two linkages that connected themes and their respective elements with one another also emerged. The first linked together the four themes of similarity and the second linked together the theme of similar pedagogical practices, *A Way of Teaching*, the theme of challenges, *Challenges to the Dream* and the theme of differences, *Nuanced Distinctions*.

Linked Together Through Similarities

The first linkage was what appeared to be a taxonomical hierarchy tying together the four themes of similarity. I used the metaphor of three intertwined trees to articulate the linkages. (See Figure 1.) The roots and trunks of the three trees symbolized the theme, *A Way of Knowing* with the trunk of each tree representing a separate element within that theme. The branches of the three trees symbolized the theme, *A Way of Being*, with each limb representing a different element within that theme. The values and beliefs articulated by the participants but not noted by Montessori are symbolized as limbs

The second linkage was what appeared to be a cause and effect relationship tying together elements within *Challenges to the Dream, A Way of Teaching*, and the *Nuanced Distinctions* I noted in my observations. HLCB educators were not always able to manifest the values and beliefs they stated as both valued and similar to the Montessori approach. They were not always able to utilize pedagogical practices they stated as congruent with their values and beliefs. In this linkage, each challenge represented a threat to the implementation of pedagogical practices. Seen this way, it appeared that at least some of the nuanced distinctions found in particular pedagogical practices could be due to the challenges experienced by the participants rather than fundamental differences in core or underlying values and beliefs.

Lack of materials, training, and funding challenges. One set of challenges focused on things the participants perceived as lacking from their programs. They included a lack of funding, a lack of specialized materials, and a lack of specialized training. A lack of materials and training threatened implementation of the kinds of innovative and culturally congruent practices desired by participants. It is possible that this type of threat led to the differences I noted in the “look” of the two approaches and to at least some of the including the need for special services. This particular set of challenges was shared by both kinds of educators.

Family and student challenges. Another set of challenges included the lack of buy-in by parents and students, as well as other student and family challenges, including the need for special services. This particular set of challenges was shared by both kinds of educators. Even if one had specialized materials, training and enough funding, a lack of

buy-in or special services to help with family and learning challenges threatened the continued growth and success of a program. Families who did not understand the goals and methods used may have demanded that teachers revert back to more familiar ways of teaching, regardless of whether outcomes were shown to be optimal. This occurred in Montessori public magnet and charter schools in other parts of the U.S. (Schapiro, 2005). Additionally, children who had special needs couldn't take full advantage of the specialized curriculum and may have caused energy to be expended in helping to solve their challenges instead of on curriculum development for the group as a whole.

Academic challenges. Finally, even if one had specialized materials and training, committed parents, and healthy children whose needs were being met, there were two other challenges related to issues of academic excellence. As stated by the participants, it took time for the results of innovative practices to manifest themselves on standardized tests. The second, also articulated by participants, was that the goals of the school and the child might not be the same as those being tested in the state test. While public Montessori programs in the U.S. felt the strain of the NCLB requirements (Schapiro, 2005), in general, the Montessori approach had the luxury of growing unimpeded by such requirements for the past 45 years in the private sector. The HLCB educators in this study stated that they felt pressure to produce high scores on standardized tests because if they did not, they faced being taken over by outside forces. These kinds of challenges threatened the integrity of the programs and may have led to unwanted changes in both the curriculum focus and the pedagogical practices employed

CHAPTER FIVE

Discussion

Summary

Eight years ago in 1998, a small exchange in a HLCB preschool sparked a quest to investigate the apparent attraction by some HLCB educators to the Montessori approach. Over the course of the year I that actively collected data, I visited and talked with HLCB educators on three islands. They shared their stories, their values, their hopes and dreams for their students, and their reasons for being educators. They also shared their frustrations and challenges. And they shared what they saw in the Montessori approach that led them to perceive a match between the two approaches. The matches were noted by both the Montessori trained educators, and most surprising to me, the educators in the focus groups, as well.

The original idea for the study came from those HLCB educators who had been exposed to the Montessori approach, and had stated informally that they felt the approach was, in many ways, a good fit for their values and goals. These educators, it is important to note, took Montessori training solely because, for a window of time between 1994 and 2001, it was their only option for an advanced degree in early childhood education in the State of Hawai'i. For many, Montessori was not an approach or model they purposely set out to learn about.

In conducting exploratory research on the topic, I learned of other indigenous educators who stated that the Montessori approach was a good fit for their immersion or culture-based programs (Pease-Pretty on Top, 2002), but I could not find any studies that documented specifically *why* this approach was seen as a good fit, or specifically which

elements of the approach were particularly appealing. For this reason, I thought that delineating the features of the Montessori approach that HLCB educators saw as a good fit could perhaps also be of use to other indigenous educators.

I thought it was important to document the perspective of HLCB educators who had found what they thought was a framework congruent with their own values and goals. Since culturally specific and locally situated pedagogical models are a component of the theoretical foundation upon which this study rests, I wanted to find out which aspects of the approach they saw as congruent. I also especially wanted the participants' voices to be heard, particularly with regard to their goals and values, their favored teaching strategies, and the values and beliefs they felt were important and relevant to their work as educators.

In this final chapter, I first present the grounded theory that ties the themes together. Following, I present possible contributions to sociocultural learning theory and Bandura's concept of self-efficacy. I also consider possible implications for the school reform movement, for those who advocate for place-based education and for conventional educators attempting to meet the needs of diverse learners. I conclude with a statement of the study's limitations and recommendations for further research.

A Grounded Theory

This study applied ground theory methodology. As noted by Strauss and Corbin (1998), one of the goals of grounded theory methodology is that systematically organized data will lead, through a process of inductive logic, to a theory that explains the meaning of at least one of the datasets. It is a perspective-based methodology, and the emergent

theme that best ties the phenomena described by data into a coherent whole, into a story with a beginning, middle and end, becomes the grounded theory.

A Way of Knowing. The three elements within the theme, *A Way of Knowing*, comprise the grounded theory for this study. They provide the best interpretation of the results; through the two linkages described in Chapter 5 they connect the other themes together into a coherent whole in a way that appears to explain the apparent tie between the Montessori approach and the HLCB educators, one purpose of this study (Strauss & Corbin, 1998).

To explain further, both Montessori and HLCB educators write and speak of relationships as timeless, interconnected, and conscious. They speak of the earth as an elder sibling that needs to be taken care of, and as living. They view children as having a unique spiritual essence or energy that is connected intimately to both the past and the future. They speak of the interconnected nature of the universe, and of the role of the child in continuing this interconnected whole from the past to the future. It is out of those views of reality that the values and beliefs of the HLCB educators unfold. From those values and beliefs come the pedagogical practices and lifestyle choices perceived as congruent with their preferred cultural practices.

According to Hawaiian psychologist, Rezendes (1996), the traditional Hawaiian perception of life and the world includes a holistic perspective with a timeless past, present, and future. In common with many indigenous peoples, there is a spiritual essence to all aspects of time, and all actions and things are considered to be relevant. Children are “full of mana that must not be toned down but rather must be placed in an

environment to expend it” (p. 98). Rezendes maintains that the past extends to the beginning of time, to *‘Io* or God. It is from God that all Hawaiians are descended. All decisions made today come from knowledge of the past, the stories of the past, the genealogy that ties all Hawaiians together. Not knowing one’s history or past means not being able to know one’s future because the two are intimately interconnected in a timeless way. Hawaiian historian, Osorio (2002) describes the nature of time as articulated by the Hawaiian language.

Ka w_ mamua and *ka w_ mahope* are the Hawaiian terms for the past and the future, respectively. But note that *ka w_ mamua* (past) means the time before, in front, or forward. *Ka w_ mahope* (future) means the time after or behind. These terms do not merely describe time, but the Hawaiians’ orientation to it. (p. 7)

These Hawaiian perspectives suggest that the basic essence of the universe is found in dimensions beyond what we can physically see or experience and that time has a non-linear aspect to it with the past able to affect the future, and the future able to affect the past.

Meyer (2003), a Hawaiian educational scholar, shows the connection between past, present, and future, as she describes a traditional morning chant.

We stop, finally, and see the day for what it has become. We are all a part of creation and this vehicle of culture, this chant, has become the medium for this intimate knowing. Profound and exhilarating, simple and direct. We have helped the sun to rise; we have become a link in our own history. The experience of culture found in

the integrity of action and ritual; peoples lives enriched, deepened, changed forever (p. 36)

This notion of timeless interconnectedness allows for a view of the spirit of the child as coming from both the past and the future simultaneously, and as both unique to, and in relationship with, the cosmos. It is a perspective that is common to many indigenous peoples, and many indigenous methods of education (Cajete, 1994; Greymorning, 2004; Setee, 2000).

It was also Montessori's view of reality, a reality that suggests humans are an intimate part of the universe and the earth. In her earliest lectures, she spoke of the spiritual embryo (Montessori, 1956) and in her last writings, wrote of the earth as a living entity (Maier, 2002) and of the cosmic plan, whereby all creatures are both interconnected and in creation to serve a specific purpose. She wrote of the constant interaction between people and the environment, and stated that harmonious interactions, what she called the "intelligence of love," (Montessori, 1966, p. 103) was the intended way for humans to interact with life and the environment around them.

For Montessori, as for others who subscribe to this view of reality, the child's own center and the center of the universe are the same. As she put it, "We shall walk together on this path of life, for all things are part of the universe, and are connected with each other to form one whole unity." (Montessori, 1948/1991, p. 9)

The grounded theory to emerge from this study then, suggests that the lens of timeless interconnectedness can provide one answer for why some HLCB educators working in Hawai'i in the 21st century share a similar world view with an Italian

physician who lived in the 19th and 20th century. Both may view reality through this lens, a lens that provides a bridge between two kinds of educators separated in other ways by time and cultural circumstances. This lens may also provide a possible explanation for why so many participants overlooked what seemed, to me to be obvious physical differences between the two approaches. The differences may not have been so much differences of world-view, as differences along a continuum of similar values or pragmatic differences due to lack of access to desired materials and training. In like manner, the shared challenges are at least partially explained by this shared world view as well.

Contribution to Theory

The findings of this study support those who assert that researchers interested in knowing about how people learn must take into account the underlying world view of both the research paradigm and the participants involved (Meyer, 2003; Smith, 1999). They also suggest that culturally congruent education can have a positive effect on academic self-efficacy, a component of social cognitive learning theory.

Sociocultural learning theory. Denzin (1994) suggests that all researchers today operate out of essentially four different paradigms that serve to impose order on the data. These four are positivist, post-positivist, constructivist, and critical. Sociocultural learning has often been associated with constructivism, both as a research paradigm, and in terms of practical suggestions for effective classroom learning strategies (Denzin, 1994; Rogoff, Matsusov, & White, 1996).

The world view expressed by some of the participants in this study has not, on the other hand, generally been associated with constructivism, nor has it been associated with any of the other three research paradigms listed above. Although this world view is a way of understanding the world that may be common to many indigenous peoples, including many Hawaiians (Meyer, 2003; Smith, 1999), it is generally outside of the mainstream as a research paradigm. That it is outside of the mainstream suggests it is possible that the voice and perspective of those who subscribe to such alternative world-views may be misunderstood and misrepresented.

The results of this study suggest that researchers who use the sociocultural perspective on learning as their theoretical framework and who work with indigenous peoples, should include the possibility of such an alternative world view when designing research studies. Such a research paradigm may provide a useful context for understanding the culturally situated activities and events of participants who with this alternative world view. In addition, those who work with pre service teachers and teacher education programs that focus on serving predominantly Hawaiian or HLCB school settings could possibly benefit from knowledge of this alternative perspective, as they continue to refine models and methods for culturally congruent approaches to teaching and learning. This study suggests that when underlying world views are congruent, or understood and taken into account, teachers and students may have an easier time understanding each other, thus lessening the chances of a home-school mismatch.

Self-efficacy and culturally congruent educational practice. Related to the above is the notion that self-efficacy may be increased when culturally congruent curriculum and teaching strategies consistent with the world view of those involved, are

implemented. As described earlier, self efficacy is defined as “people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances” (Bandura, 1986, p. 391). High academic self-efficacy is considered to be one factor in successful school outcomes. The findings and grounded theory to emerge from this study support the notion that culturally congruent teaching strategies, including an understanding of the world view of both teachers and learners, can enhance this process.

According to participants, students who learn that their culture matters and are able to experience success in an academic setting that incorporates aspects of their culture, experience an increased sense of pride and academic capability. In some cases, this may lead to increased self-efficacy on the part of the entire family. This was a phenomenon described by Bandura (2002), who noted that just as individuals’ self-efficacy is influenced by the group, the collective self-efficacy beliefs of the group are influenced by individuals. He further suggested that in group oriented cultures a high sense of personal self-efficacy is important for the optimal functioning of the group. An example was given in Chapter 4 by Lani, a focus group participant and teacher’s assistant at the middle school level.

As noted earlier, Lani described her nephew when he first entered his culture-based school as one who “would always look to the ground” when at school. Within eight weeks, she described an increase in her nephew’s self-efficacy as evidenced by both his demeanor and his willingness to participate in school life. In an example of Bandura’s assertion that in group oriented cultures a high sense of personal self-efficacy is

important for the entire group, Lani also stated that her nephew's increased self-efficacy would lead to an increase in the self-efficacy of the whole family.

This is consistent with the world-view described by the grounded theory where the past and the future are intertwined. A new, more positive future may be created through participation in culturally congruent activities, through students' learning the language of their ancestors, incorporating a place-based curriculum, and honoring and utilizing historical ways of teaching and learning.

Contribution to Practice

The results of this study indicate that school reform efforts should address the needs and values of the participants. They also indicate that place-based education could be further developed as a focus for both Montessori and HLCB educators. Finally, conventional educators attempting to better meet the needs of their culturally diverse students might consider place-based education within the science curriculum as a potentially useful pedagogical strategy.

School reform. According to participants in this study, access to culturally congruent models, materials, and pedagogical practices is imperative to educators attempting to provide an alternative to conventional or mainstream school experiences. They want materials and structural support to be ongoing and appropriate. Participants articulated many challenges regarding the acquisition of culturally congruent materials and pedagogy. Even if the participants expressed a belief in and desire to implement more innovative methods, such enactment was often hampered by a lack of materials and other support.

For example, a number of key informants who had exposure to Montessori training, and wanted to implement the approach, were still unable to implement many of its key components. As detailed in Chapter 4, the educational setting in which many participants worked lacked a critical mass, necessary specialized materials, the age-specific training and optimal adult-child ratios. Like other teachers attempting to provide an alternative to mainstream practice, many participants experienced pressure to teach to state-mandated standards, and to focus on the required state tests. This may have distracted them from their desired emphasis on culturally congruent education or Montessori based practices.

The frustration over a lack of materials, training, and ongoing support expressed by the participants, as well as the lack of implementation of practices stated as desired is consistent with a growing body of research literature suggesting that school reform must be comprehensive, culturally congruent, and generated from within the communities, schools, and other stakeholders (Datnow, Stringfield, & Costello; Tharp & Gallimore, 1991). Teachers, administrators, parents, and members of the community want to create their own models with the appropriate supporting materials, culturally congruent pedagogical practices, and ongoing training. Pedagogical strategies that are a good fit for the learning needs of students must be available. Structural support that facilitates culturally congruent and preferred pedagogical methods and strategies must be provided and ongoing staff development must be offered (Buielenberg, 2000; Caine & Caine, 1997; Goldenberg & Gallimore, 1991; Noddings, 1992).

According to Datnow, Stringfield, and Costello (2005), simply inserting a new set of strategies into an old model is not enough. Instead, they suggest that the aim of school

reform ought to “challenge broader social constructs of ability, race, and language (p. 198). While challenging these broader constructs is what HLCB educators in this study stated they are attempting to do, they experience challenges in the implementation of their desired strategies. They don’t have easy access to models or approaches that are a good fit for their goals and values as educators. They don’t have easy access to materials they can purchase and they don’t have easy access to ongoing in-service training and support. Many of the participants in this study advocate for a school reform model that seeks deep change. They need the tools, the tools that they identify, to do so.

Place-based education—schools with permeable margins. One of the most surprising findings for me was that the educational strategies employed by HLCB and other indigenous educators were congruent with many aspects of the *Erdkinder* model, Montessori’s approach to working with adolescents. For many HLCB educators, teaching children where they came from and teaching them to know in a three dimensional way, through touching, smelling, seeing and experiencing, the names of the plant, animals, geological forms, and other aspects of the physical environment, was a key to teaching children who they were as a people and as individuals. Without this connection to the land, to a particular land area, HLCB teachers did not feel that children could know who they were, as a people, or as individuals. As Young (2005) states, the base of Hawaiian spirituality is the land, with a “sibling relationship” between the land and the Hawaiian people. As stated earlier in Chapter 4, one of the participants articulated this relationship quite clearly.

Because the whole world is part of who we are as people And it is like our elder sibling, the heavens and all the plants and animals, because they came before you. (Text units 760-763)

One of the possible challenges to Hawaiian children is what has been called a home-school mismatch (Au & Jordan, 1981; Boggs, 1985; Gallimore, Boggs, & Jordon, 1974; Tharp & Gallimore, 1988). Smith (2002) suggests that a curriculum that incorporates a sense of place can adapt to the unique characteristics of that place, thus helping to overcome the mismatch between home and school. Application to real-life settings is a key to this type of educational experience and may help students to internalize abstract concepts. As he describes it, the aim of place-based education is to “ground learning in local phenomena and students’ lived experience” (p. 2).

Although Montessori was only able to outline her vision for the *Erdkinder* model, others such as Kahn and Ewart-Krocker (2000) have been developing this approach to working with adolescents since the 1950s. Like HLCB and other indigenous educators, Montessori recognized the importance of promoting a connection with the land for adolescents. In many of her schools, Montessori developed what Chawla (2002) called “schools with permeable margins” (p. 138), that is, schools that extended beyond the schoolroom doors. For example, in her first preschool, Montessori considered the garden to be as much a part of the “school” as academic subjects (Montessori, 1912/1964). Later, in India, she conducted most of the lessons outdoors (Kahn, 1998). A key component of the *Erdkinder* model is the connection of adolescents with the land.

While Montessori did not articulate the importance of a sense of place as understood by the HLCB educators in this study, other Montessori educators and students

have begun to do so (Kahn, 2001). Adolescents in some *Erdkinder* schools, for example, have articulated that feeling connected to a particular piece of land is often tied to a deepening understanding of both the interconnectedness of all things and their role in the community as they work on the land. A sense of place roots adolescents in a community they both belong and contribute to. Being on and working the land allows adolescents to engage with the community, the mind, and the body (Kahn & Ewert-Krocker, 2000).

Montessori educators may find this study useful, as their approach and worldview regarding the academic needs of adolescents is very similar to those of the HLCB and other indigenous programs (Feinstein, 2004; Kahn, 2001; Settee, 2000). Given such a shared vision, more Montessori educators may choose to adopt the “pedagogy of place” (Kahn & Ewert-Krocker, 2000) described by participants as a core aspect of their instruction. Adopting such a perspective may help to mitigate the risk of Montessori programs sinking into the morass of competition, testing, and stratification of children so prevalent in mainstream education today. Private Montessori schools feel pressure from parents to focus on academic goals such as getting their children into top colleges. Public Montessori schools feel pressure from the mandates of NCLB and other state requirements. Both kinds of pressures may push Montessori schools and teachers away from Montessori’s original vision of following the child, of education for the world, and of a deep sense of connectedness with the universe. Place based education could perhaps provide an antidote to such pressures.

Another possibility for the incorporation of place-based education, as articulated by participants in this study, is in the science curricula of conventional schools attempting

to better serve indigenous students. Most children of Hawaiian ancestry are not in HLCB schools. Instead, they are found in conventional schools where teachers may not understand the culture and values of students' families and community. Adopting a place-based curriculum through the science content could possibly provide an avenue for better understanding between such students and their teachers. According to Rothstein-Fisch, Greenfield, and Trumbull (1999) when teachers in conventional school settings understood the values and goals of the community, they were better able to understand how to teach children in their classrooms and communicate effectively with families.

According to the participants in the study, place-based education responds to Hawaiian cultural values. Place-based science programs could easily incorporate Hawaiian culture into the content, helping to make schooling more meaningful for many children living in Hawai'i, and especially for children of Hawaiian ancestry. A Hawaiian culture and place-based curriculum located within the science content of conventional school settings could also provide an alternative to the Western view of science and place that is more typically presented in conventional school settings. This curriculum could be instituted in conventional school settings as well as in HLCB schools.

One example of such place-based science program found in a conventional school setting in Hawai'i was aimed at Hawaiian youth (Yamauchi, 2003) attending a large public high school. Using the core principles of the Center for Research on Education, Diversity and Excellence (CREDE) instructors and students in this program experienced positive outcomes including higher student motivation, retention, civic responsibility, and a greater sense of belonging by students. Such place-based programs are compatible with

many of the goals of HLCB and other indigenous educators. They are also compatible with those embracing a world view where all is interconnected.

Finally, the related themes of school reform rooted within the community and place-based education rooted within the sciences could serve as the basis for an ongoing dialog among Montessori educators, Hawaiian language and culture based educators, and conventional educators. Sharing pedagogical strategies that work, sharing experiences of working with students in this context, and sharing the impact of this approach on families and the community could provide opportunities for ongoing dialog and the creation of what Wells (2000) called a shared intersubjectivity with regard to alternative methods and approaches to education that work.

Limitations

The limitations of this study based on trustworthiness were discussed in Chapter 3. Other limitations include those based on (a) the use of the snow-ball technique in recruiting participants, (b) the use of focus group interview techniques, (c) what may have been my own perceptions of the categories that emerged, and finally (d) the generalizability and application of the findings.

Limitations Due to the Use of the Snow-Ball Technique

I used a modified version of snowball sampling because I attempted to create baseline information on a topic with no previous data. In accordance with grounded theory methodology, I attempted to include as broad a sample of HLCB educators as possible. However, it is possible that this study includes only a particular stratum of HLCB educators who share a common set of goals and values. Sampling bias is likely and the results may generalize to other settings or people.

Limitations Associated with Focus Groups

Although I attempted to allow the voice of each participant to be heard in the focus groups, I cannot be sure that one voice or personality did not override other feelings and responses (Puchta & Potter, 2004). As an outsider to the focus groups, I was not fully aware of any potential dynamics that could have influenced the responses I received. In addition, focus group interviews are by nature an open ended process. I may have had somewhat less control over the direction and potential outcome of the interview than might have been possible with other methods.

Another limitation associated with focus groups is the danger that either the participants may have misunderstood my questions, or I may have misunderstood or misinterpreted the answers they gave, or the interactions I was observing (Puchta & Potter, 2004).

Limitations Associated with Grounded Theory Methods

Utilizing grounded theory methods for the analysis of the data meant that both my creativity and my experience as a researcher were necessary factors in the outcomes and the eventual themes that emerged (Patton, 2002; Strauss & Corbin, 1994). While I attempted to take into account my biases and blind spots, the limits of my own experience and the lenses through which I view the world have inevitably shaped the outcome of this paper. Theories are, as described by Corbin and Strauss (1994) “embedded in history—historical epochs, eras, and moments.” (p. 280). This too, is a limitation of the study. It is grounded in a particular time, place, and researcher.

Limitations on the Applicability of the Findings

Finally, the applicability of the findings may be limited due to both the general lack of generalizability inherent in qualitative research (Marshall & Rossman, 1989), and

the integrated structure of the Montessori approach. An attempt was made to mitigate the limitation of a lack of generalizability through the use of multiple cases and triangulation of data. In addition, the relationship of the theoretical framework to the results was articulated, in a further attempt to mitigate this limitation.

A limitation for those who may want to incorporate only one particular strategy or aspect of the Montessori approach is that a partial implementation may not achieve the hoped for results. The Montessori model is a system with interlocking design elements that do not necessarily transfer well, piecemeal (Schapiro, 2005). Taking a part from what was designed as a whole may be counter-productive or result in unpredictable outcomes. This particular limitation has been debated but not well documented by Montessori educators and researchers (Chattin-McNichols, 1992).

Recommendations for Future Research

Research for the Development of Sustainable HLCB Models of Education

At a conference in 2001 entitled “Developing a New Research Agenda for American Indian and Alaska Native Education (*Developing a new research agenda for American Indian and Alaska Native Education*, 2000) participants drafted an extensive list of research questions pertinent to current issues of indigenous education. One question that seems pertinent to this study was, “What are localized, culturally specific expressions of knowing, teaching, and doing that can be translated into frameworks or models?” The findings from this study could provide the beginnings of answer for indigenous educators in Hawai‘i. It would be valuable to extend this work to find out if the expressions articulated by the participants could be translated into a framework or model unique to their own world-view. The participants in this study were clear about

their values, beliefs, and preferred pedagogical strategies once presented with something which with to compare them. Their challenges were in the implementation of those practices in the absence of models in a modern and more formal school setting.

Research on Teacher Preparation Programs

Another set of research directions has to do with teacher preparation programs. A necessary focus on state-mandated requirements, driven by federal mandates and standardized testing requirements may dampen the ability of teacher education programs to offer alternative models or approaches that may not appear to focus on such outcomes. One other question from the conference mentioned above was, “How can teacher training institutions become more effective in preparing teachers to teach Indian children?” A similar question could be asked of teacher education programs in Hawai‘i. While there are a small number of programs that are designed for educators who want to work in HLCB programs, the need for teachers and proven pedagogies remains, as does the need for research on these approaches.

Research on the Effectiveness of the Practices Seen as Desirable

Finally, it would be useful to conduct longitudinal and comparative research on the effectiveness of the pedagogical practices delineated by this study. The participants identified a number of specific practices they felt were compatible with a Hawaiian approach to education. For example, they felt that the practice of mixed-age grouping was a good fit for them. They also felt that the two approaches shared a focus on the natural world. These are all areas for further research.

APPENDIX A

The Six Components of the Prepared Environment

Freedom with Responsibility

The first component of the prepared environment is freedom with responsibility. Montessori teachers encourage the children to choose activities that they are interested in, rather than deciding for the child what they must learn and when it is to be learned. The environment and activities are designed to encourage the child to choose what they are interested in, while at the same time, respecting the rights of his friends.

Structure and Order

The second component is structure and order. The structure and order of the universe must be reflected in the classroom, so children can build their own mental order and intelligence. Materials and activities are always put in a particular place, and the order to the day does not change willy-nilly. Children know where to find the job they want to do and feel secure in the knowledge that the job will be there tomorrow, as well. This frees them to grow in other areas. Children quickly come to understand that everything has its own place. When a child takes a job off the shelf when he or she is done they put it back exactly where they found it.

Reality and Nature

The third component is an emphasis on reality and nature. Most Montessori schools try to use natural materials, such as wood and baskets as much as possible. There is a conscious attempt to include life in the classroom, ranging from plants, to aquariums, to rabbits and mice. There is a focus on the outdoors and on an understanding of the role of nature in our lives. There is also the conscious development of a sense of stewardship.

Beauty and Aesthetics

Beauty and aesthetics is the fourth component. The classroom colors and arrangement of the furniture and materials are arranged so as to promote a sense of peace and beauty, and color is used judiciously to help set the mood and tone for the environment. Artwork is arranged around the room, both at the children's eye level, and at adult height. The materials are beautifully and aesthetically made as well. Even teachers are to present themselves in a well-groomed and aesthetically pleasing manner.

Montessori Materials

The fifth component is the inclusion of both Montessori didactic materials, and teacher-made materials that meet the following criteria.

- The materials are meaningful to the child
- Materials have isolation of difficulty
- Sequence goes from simple to complex
- Materials include both a direct and an indirect purpose
- Materials have a built-in control of error.
- Materials are child-sized

Development of Community Life

The last component is the development of community life. Most Montessori environments include a three-year age span with the children freely interacting for most of the day. Having a mixed age group really helps the younger ones become more independent and helps build up their self esteem. The older ones are role models for the younger ones.

APPENDIX B

Agreement to Participate in a Research Study

Informed Consent Form

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This is a study that involves research. The purpose of the research is to complete a component of a dissertation for a PhD through (a) investigating and documenting the ways in which the Montessori approach is congruent with the values and goals of teachers in Hawaiian language and/or culture-based programs and (b) determining what, if any, of the Montessori approach's salient features are used by teachers in Hawaiian language and/or culture-based classrooms who have received training in the Montessori approach.

The expected duration of your participation in this research will be approximately two to three hours. The procedures to be followed include your participation in either a one-on-one initial semi-structured interview or a focus group, with a possible two hour follow-up classroom visit/observation and/or follow-up interview to discover the extent to which the Montessori approach is being used in your classroom and/or to clarify questions that have come up since the initial interview. It is anticipated that the initial interviews, focus groups and classroom visits will take place between the months of December, 2004 and February, 2005. Follow-up interviews are anticipated to take place between the months of January, 2005 and March, 2005. The time of the interviews will

be at your convenience. It is anticipated that, in addition to the researcher, there will be a total of approximately 35 participants in this study.

There are no experimental procedures connected with this research. The reasonably foreseeable risks or discomforts to you might include apprehension at the thought of an “outsider” visiting your classroom; the benefits might include the opportunity to talk about your teaching practice in a setting outside of your usual experience.

The confidentiality of records that could identify you or your school will be rigorously maintained to the extent allowed by law. Agencies with research oversight, such as the UH Committee on Human Subjects, have the authority to review research data. Your identity in my private data (including field notes) and in any published material will be recorded in such a manner that you cannot be identified either directly or through identifiers linked to you, however, if you wish to be identified, you may give me permission in writing. These data will be stored on discs and kept in a locked cabinet for the duration of the study. The original tapes once transcribed will be destroyed and all personal information will be destroyed upon completion of the research project. None of the children in your classroom or school will be the focus of this study or of the classroom observations.

There is no compensation for your participation in this research, other than the satisfaction of knowing that you have had an important part in adding to the literature on this topic. Your participation is voluntary and your refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled, and you may discontinue

participation at any time without penalty or loss of benefits to which you are otherwise entitled.

If you have questions about the research, you should contact Nanette Schonleber by phone at (808) 373 4113 or by email at schonleb@hawaii.edu. If you have any questions about your rights as a research participant, please contact the UH Committee on Human Studies at (808) 956 5007

I certify that this form was read to me, that I have had a chance to ask questions about my participation in the study, and that I received a thorough oral briefing by the researcher, especially regarding any potential risks and loss of privacy. Additionally, either my legally authorized representative or I have had an adequate opportunity to read this agreement before signing

Name: _____

Date: _____

APPENDIX C

Key Informant Interview Questions

(Original Questions)

These are the original interview questions for the key informants. They were first developed based on informal conversations with two key informants and were refined after the first interviews.

1. What is your background? (continue with probes as appropriate)
2. How did you come to be involved in the Hawaiian education program you are in?
What drew you to it?
3. How long have you been teaching in this program?
4. What were your experiences as an educator before you came to Chaminade?
5. What are you trying to accomplish in your teaching and in the program you are in?
(continue with probes to cover the different aspects such as academic goals and social goals)
6. What would you say are your biggest challenges as an educator in a Hawaiian culture-based program?
7. Are there aspects of the Montessori training/approach that you have found to be useful or that seem to be a match for your beliefs about how children should learn and be taught?
8. Are there aspects of the Montessori training/approach that have not been a match for your beliefs about how children should learn and be taught, or have not been useful?
9. In what ways is the approach a match for the goals and values of your school and the people in your school? In what ways is it not a match?

10. How does your knowledge of Montessori philosophy/pedagogy affect your work as a teacher in a Hawaiian preschool? Why?
11. What are some things that are different or that don't seem to be transferable?
12. (If applicable) How have you gone about implementing the Montessori approach?
13. (If applicable) What have been the barriers to implementing aspects of the approach?
14. Is there anything else you would like to add?
15. Have you considered using (or why do you use) multi-age classrooms? Why or why not?
16. How do you use observation, if at all, as a method for teaching? Why or why not?
17. How would you describe the values and goals of teachers in the Hawaiian culture-based programs? Do you share those values and goals, personally?
18. How do you use hands-on materials, if at all, in your program? Why?
19. How would you describe your use of the Montessori methods you learned at Chaminade in your school and classrooms?
20. What is the role of the cosmic curriculum as described by Montessori, in your school or classroom? Why or why not?
21. What is your understanding of the cosmic curriculum?
22. How important is the notion of community to your school or program? Why or why not?
23. Do you consciously try to incorporate a sense of community; if so, how and where?
24. How would you describe the role of the teacher? Is this congruent with the role ascribed to teachers by the school you work for? With Montessori's ideas? Why or how?

25. Is there anything else you would like to add?

Key Informant Interview Questions

(Revised Questions)

These are the revised interview questions for the key informants

1. Can you tell me your name?
2. How old are you, if you don't mind?
3. What is your background?
4. How did you come to be involved in the Hawaiian education program you are in?
What drew you to it?
5. How long have you been teaching in this program?
6. What were your experiences as an educator before you came to this program?
7. What is your formal educational background?
8. How would you describe the values and goals of teachers in the Hawaiian culture-based programs? Do you share those values and goals, personally?
9. What is the focus of your curriculum-what are the overall themes? Why?
10. How important is the notion of community to your school or program? Why or why not?
11. Do you consciously try to incorporate a sense of community; if so, how and where?
12. How would you describe the role of the teacher? Is this congruent with the role ascribed to teachers by the school you work for? With Montessori's ideas? Why or how?

13. What is your understanding of the cosmic curriculum? Are there aspects that are a fit with your curriculum goals?
14. What would you say are your biggest challenges as an educator in a Hawaiian culture-based program?
15. Did you see aspects of the Montessori pedagogy (that is, the way children are taught) that you think might be useful and/or a match for your beliefs about how children should learn and be taught?
16. Are there aspects of the Montessori pedagogy that have not been a match for your beliefs about how children should learn and be taught, or have not been useful?
17. Which of the pedagogical practices and beliefs of the Montessori approach have you considered using (or now do use)
18. What advice do you have for people considering entering the field and becoming Hawaiian culture-based educators?
19. Is there anything else you would like to add?

APPENDIX D

Workshop Lecture

This was the workshop I gave the participants in each of the five focus groups.

Introduction

I first thanked the participants for their willingness to participate.

Thank you so much for being here today and helping with my project. I really appreciate your willingness to be here and to take time from your busy schedules to talk with me. I know how busy you all are, and I hope you will enjoy being here and will feel that it has been worth your time. I think it is important that your story be told, and that is one of the reasons I am here.

Statement of credibility

I then introduced myself with an intention to establish credibility and rapport, both important when presenting workshops.

My name is Nanette Schonleber and I am an associate professor of education at Chaminade University of Honolulu. I have been there for eleven years teaching Early Childhood and Elementary Ed Methods and Theory classes. Specifically, for most of that time, I have taught the language arts and the integrated curriculum classes along with the ECE seminars and field supervision of ECE students. Prior to working at Chaminade I was the director of a Montessori preschool; prior to that I worked for the Healthy Start program as their statewide training coordinator. In my earlier years, I worked as both an early childhood classroom teacher, and as an elementary teacher.

Creation of Rapport

I then tried to lighten the atmosphere and again, created rapport, by joking a little about the “mandatory dose” of Montessori that all students received at Chaminade.

When I was hired by Chaminade, it was to teach Montessori classes to a combination of both Montessori-bound and non-Montessori bound students. The way our program was designed, all students, like it or not, got a “dose” of Montessori with three of the classes—two that I happened to teach—having a strong Montessori content in terms of methods and philosophy. For the Montessori students it was expected; on the other hand, for the elementary ed students who were going into conventional classroom, it was irritating. With those students, I quickly learned how to speak “their language” with regard to helping them to see how the ideas could be adapted to a conventional classroom. But there was a third group of students who were not Montessori, and who told me over and over again how much they liked what they were learning and how they thought the methods being taught and the classroom design, were a good fit for their values and goals as educators. This group of students was the Aha Punana Leo students, first, and later, the Hawaiian culture-based educators. This started about eight years ago with one Punana Leo student who went back and told her fellow teachers.

Signing of Disclosure and Confidentiality Form

At this point I usually got nods of assent, or comments of agreement. Many in the focus groups knew these students. I then described my project and their role as focus

group participants by explaining and having them sign the disclosure and confidentiality form.

So my dissertation is an investigation and documentation of why, in at least some cases, the Montessori approach has been seen as a good fit for Hawaiian culture-based or immersion teachers. For the investigation I am interviewing at least 10 culture-based educators who have also had the Montessori training, and also, just to make sure I am not biasing the study because most of them were my students (many would laugh at this point), I am also doing 5 focus groups with between 3 and 6 people per group. The focus groups are made up HLCB educators who have NOT had at least 135 hours of Montessori training. This is one of those focus groups. In each focus group I first give a _ hour overview of Montessori's life, how the approach got started, and its basic components, and then show one or two videos that are standard in the Montessori community. The videos have been designed for schools to use in parent education and are readily available. I'll need you to sign the consent form which I will read to you, and then we can begin.

Body of the Lecture

I then read the consent form and waited for them to sign and return them to me. The next step was to give the lecture. I always started by telling them about the cult-like aspect of Montessori to acknowledge up-front, one of the criticisms of the approach, and to let them know that I am not a zealot when it comes to the approach.

Ok. Is everyone ready? Good. I am now going to tell you about the woman who began what is known as "Montessori." To some people it can seem very cult-like, and for some "Montessorians" it does become a way of life. In fact, I was once

teaching an *Intro to Montessori* class in a Montessori off-campus and it happened that in the classroom where I was teaching there was a Peace Corner, a part of the environment that often found in Montessori schools. It's a place where children can go to talk out their problems and often has some symbol of peace like a rose or a candle. This particular peace corner had a picture of Maria Montessori resting on a doily, with a candle and a flower sitting in front. One of the students later told me it was a really freaky to her to see what looked like an altar to this woman. So yes, Montessori teachers can be zealous about their method and approach.

Then I described Montessori's early background, describing a little of her personality and early career choice.

The Montessori approach, which was begun in Italy almost 100 years ago, serves children of differing socioeconomic backgrounds, cultures, and ages and includes principles and a belief system that are closely aligned with both the progressive/holistic educational movement of the past 100 years and the socio-cultural approach to teaching and learning. It was begun by a woman named Maria Montessori who became the first medical doctor in Italy. She was born in 1870, the same year that Italy became a nation. Montessori was an only child who was intelligent, determined, and a deeply reflective thinker. Even though women weren't allowed to go to medical school in those days, when she finally decided that she wished to become a doctor, she convinced not only her father who was against it, but the officials in the university of Rome to let her attend. By all accounts it was not an easy experience, but she persevered and at age 26,

graduated with honors. In fact she did so well in medical school that upon her graduation was invited to stay on as a member of the staff at the University of Rome. As a medical doctor with a pediatric specialty, one of the things young Montessori focused on was children who had mental disorders and learning disabilities.

At this point I shifted gears a bit, bringing the topic to them personally.

Now, what happens when you go to the doctor? What does the doctor do? He or she examines you, right? And what happens if you try to get your prescription filled by phone-never happens, right? The doctor always wants to see you, always wants to be able to look you over-to do a diagnosis by observing you.

At this point there were nods of agreement and discussion. Then I pointed out the genesis of the Montessori approach.

Because Montessori had been trained as a clinical doctor, she was used to observing, then diagnosing and finally, prescribing. It is from this habit of first observation and then diagnostic prescription, that the approach was born. As a pediatric specialist some of her patients were children that we would now consider to have special needs, these needs being physical or emotional, or mental. Sadly, in those days, children with mental or emotional disorders were often put into insane asylums, along with criminals and adults with mental and emotional disorders. The story goes that she was making her rounds as a pediatric doctor in one of the asylums when the warden derisively noted that one of the children was so stupid that he was playing with crumbs of food.”

Here, I paused dramatically.

But young Montessori saw something different. She saw a human being starved for sensory experience; starved for something to do. This started her on a career that was to span 50 years and many countries. She began to read the research of other doctors who had worked with such children and came upon the works of Itard and Seguin who had both worked with children who were deaf, and /or cognitively challenged. They were convinced that the development of the senses through the use of specialized materials and an individualized approach to education could help such children to achieve their full potential and developed specialized materials for the development of the senses. Montessori took their ideas and through a process of observation, and trial and error, devised her own versions of these materials and methods. When some of the children she was working with (she considered herself to be conducting scientific research) did so well with these methods that at the age of six, were able to pass the state exams for 1st grade, she began to wonder if these same methods would help normally developing children. She got an opportunity to try out her ideas in 1904 when she was given a room, 50 children ranging in age from two to seven, and one untrained assistant in a slum area of San Lorenzo, Italy. She happily accepted this challenge and her work was so successful that the school became world-renowned. This is the beginning of the approach, the method, AND her views on learning and development. It was here, where she could do her research as a participant-observer, that the insights that were to become the backbone of the

approach were developed. I am going to share with you now some of the key ideas that she developed at that time. Are there any questions so far?

Here, again, I paused to let people ask questions and to shift gears as we finally began to actually discuss the key aspects of the approach. I thought a great deal about what to include, given that it takes an entire training course of over 360 hours and a year's internship to be considered a Montessori teacher. I wondered at first what could possibly be included that would portray the key aspects of the approach in the 15 or so minutes I had left. I finally decided to go Montessori's own writings for the answer and focused finally, on (a) the principle of work and its relationship to love (b) the notion of the spiritual embryo, (c) the discovery of sensitive periods, (d) the idea of self-directed, independent learning, (e) the related notion of hands-on learning with objects and didactic materials and apparatus (f) the role of the teacher, (g) the notion of community, and mixed age classrooms, (h) the planes of development, (i) the importance of movement to cognitive development, and (j) the cosmic curriculum, and subsequent cosmology that were developed in her years in India.

The Principle of Work and its Relationship to Love

Through the use of participant-observation and experimentation Montessori came to believe that children learn to love themselves and later, the world around them, through work. Through providing children with their physical and cognitive needs, and through providing them with an opportunity to work at the things that they were spontaneously drawn to, she discovered what she considered to be a spiritual phenomenon: what she called the normalized child. This was a child who was content,

was able to work independently in a community of mixed-age learners, on work of his or her own choosing.

The Spiritual Embryo

She came to further believe, through witnessing this normalization process over and over, that at within each child was what she called the “*spiritual embryo*” that part of the human that was unique to that particular person, the full flowering of which was dependent on the right conditions and experiences to fully manifest itself. She called it the “secret of childhood” and considered it to be one of the most important of her discoveries (Montessori, 1967/1995).

Sensitive Periods

As she observed the change in behavior when the children were allowed to freely choose the materials and activities they were most interested in, she saw an analogy to what in biology is called a “sensitive period” a phase in development where the organism is irresistibly drawn toward some particular growth activity, that, if not attended to during this sensitive period, is never fully developed. She began to believe that the children were exhibiting signs of “sensitive” periods similar to those in other animals. She believed, based on her observations, for example, that children had a sensitive period for the development of language that occurred between birth and the age of six, with the height from six months to three and a half years.

The Notion of Community and Mixed-Age Classrooms

She also believed that with the freedom to explore and learn the things one was “called” to learn, came a responsibility to the larger community. This came from her world view, to be sure, but also, again, from her observations of the living environment.

She noticed that children enjoyed being in community with one another, and noticed, early on, that the mixed-age grouping that happened first out of no choice, was actually preferred by the children. The younger children looked up to the older children and learned by observing them, and conversely, the older children enjoyed showing the younger children how things were done. This multi-age grouping has become a standard feature in the Montessori environment.

Self-Directed Independent Learning

So in a Montessori environment (notice we don't call it a classroom) we have children doing independent work, or working in small, self-selected groups on similar tasks. They are free to choose their own work, but are responsible for the functioning of the whole, as well. As for grades, there are none. Because a child is working to achieve competence at a task he or she has freely chosen there is no need to grade the final outcome.

Hands-On Learning with Objects and Didactic Materials and Apparatus

Another important finding was that children can learn complex cognitive skills and concepts if given the use of objects or miniatures to help them to understand abstract ideas in a concrete form. From her early work with children with special needs she had already come to believe in the value of didactic materials, and now, as she was working with normally developing children, she observed that the development and learning of all children seemed to be enhanced when children were given miniature sized tools and objects to manipulate, and didactic materials to make concrete abstract concepts.

The Importance of Movement to Cognitive Development

Another concept or principle that came from her early work was the idea that movement is vitally important to learning and in fact, went as far as to state that without movement there could be no learning. As a pediatrician she knew that children were whole humans and that all their needs, physical, emotional and cognitive must be attended to, and one without the other led to an unbalanced child.

The Role of the Teacher

So what does this mean about the role of the teacher? The role of the teacher in the Montessori classroom, or environment is more the “guide on the side” rather than the “sage on the stage.” The teacher’s job is to carefully observe the children and notice what they are drawn to, what they stay away from; and to prepare activities and lessons for the children accordingly. He or she is truly to “follow the child.”

The Planes of Development

As she watched, experimented and observed, she eventually came up with her own theory of development that she called the “planes of development”.

Here I would show a copy of the Planes of Development.

These planes of development (called planes because they were shaped like plane figures-remember her interest in math) and were divided into four parts: the first was from birth to six; the second from six to twelve; the third from twelve to eighteen, and the last from eighteen to twenty-four. Each plane symbolized a different growth pattern, each with its own needs and sensitive periods. The first and third periods were considered to be “hot” periods, with much physical growth, emotional lability and a need to “find” one’s place in the family, in the case of the first plane, or one’s place in the larger

community, the family of one's peers, in the case of the third plane. The second and fourth planes she considered to be "cool" periods when the cognitive and intellect were at the fore, and when idealism, imagination and conceptual ideas could be readily understood. During these planes the young person learned the tools of the community, first at the practical level, and then, later, at the level of contributing in a more idealistic way, to the community. She felt that it was during the second plane, the elementary school years, where the children essentially learned to use and manipulate the tools of their culture, and their time. She felt that it was during the third plane that children learned to put to practical use in a community of their peers, working on the land, the concepts and skills they had learned during the previous plane. She also taught that the beginning three years of each plane were creation years, and the final three years were consolidation years. If we think of our own times, we know that the first through third grade years, the creation years of the second plane, are creation years, and that is exactly when we expect children to learn to read, write, and handle the academic tasks of our time. By fourth grade, it is expected, and indeed, children expect of themselves, that they have mastered the beginning skills and are consolidating, and deepening the abilities acquired. This is one reason it is such a disaster when a child reaches fourth grade not being able to do these things. Biology is saying the creation is over, and it is time to put to use what you have learned-but if the learning is incomplete, frustration ensues."

As I moved toward the finish, I concluded by saying,

So far what I have described is a summary of her early and middle work. In her late sixties, during World War II., things changed for Montessori when she and her son became exiles in Italy and were interned in India where they spent the

balance of the war years. It was in India that what started out as what she called “education as a help to life” deepened to become a cosmology and way of thinking about life itself. It became a way of being. While in India she was exposed to an Eastern way of thinking about time, and she was in the country with no materials, no schools with buildings, and she was in the company of the theosophists and Gandhi. It was during the time in India that she did some of her most profound writing and thinking. One of the outcomes of this time was the development of a curriculum for the elementary school child, and the outline of a curriculum for the adolescent, called the “*erdkinder*.”

The Cosmic Curriculum

The cosmic curriculum forms the core of the Montessori elementary and middle school curriculum. It has at its roots the notion that all things in the cosmos are connected and have a cosmic or divine purpose and place. This curriculum is based on reality and respect for the cosmos, the earth, and all its creatures. Language arts, math, and the arts are the gifts of humans in this cosmology, and as such, are not studied as separate subjects. Instead, they are intertwined with the study of geology, botany, the migration of people, and the history of the universe. All these topics are introduced through the use of stories told orally to each new group of children by the teacher and older children in the mixed age classroom.

Conclusion

I concluded the workshop by saying where Montessori died, quoting her citizen of the universe statement and providing some statistics about Montessori schools today.

Montessori was able to leave India after the war, settling in Amsterdam. She died in 1952. She was active in the peace movement during the war years, and came to see herself, as she stated it, as a citizen of the universe. As of 2003 there were over 6,000 Montessori schools in the world, 4,000 of which are in the United States and that Montessori schools now run the range of infant and toddler programs to high school programs, and can be found in public settings via magnet and charter schools, and in private settings. This concludes my talk today. Next we will be seeing two videos on the Montessori approach. They are geared for parents who might be interested in Montessori, or who might be considering whether or not to keep their child in Montessori for the next level.”

APPENDIX E

Focus Group Interview Questions

(Original Questions)

These are the original interview questions for the key informants. They were first developed based on informal conversations with two key informants and were refined after the first interviews. These are the interview questions I used for the focus groups. I asked each person in a round robin fashion the beginning questions, and then people answered later, as they were comfortable. I attempted to get the voice of each participant.

1. Can you tell me your name?
2. How old are you, if you don't mind?
1. What is your background?
2. How did you come to be involved in the Hawaiian education program you are in?
What drew you to it?
3. How long have you been teaching in this program?
4. What were your experiences as an educator before you came to this program?
5. What is your formal educational background?
6. How would you describe the values and goals of teachers in the Hawaiian culture-based programs? Do you share those values and goals, personally?
7. What is the focus of your curriculum-what are the overall themes? Why?
8. How important is the notion of community to your school or program? Why or why not?

9. Do you consciously try to incorporate a sense of community; if so, how and where?
10. How would you describe the role of the teacher? Is this congruent with the role ascribed to teachers by the school you work for? With Montessori's ideas? Why or how?
11. What would you say are your biggest challenges as an educator in a Hawaiian culture-based program?
12. Did you see aspects of the Montessori pedagogy (that is, the way children are taught) that you think might be useful and/or a match for your beliefs about how children should learn and be taught?
13. Are there aspects of the Montessori pedagogy that have not been a match for your beliefs about how children should learn and be taught, or have not been useful?
14. In what ways is the approach a match for your beliefs about how children and people in general should treat each other and should behave? Why?
15. In what ways does it not seem to be a match? Why?
16. How do you think Montessori's world view is similar to a Hawaiian world view (how the world is organized/how things are)? Why?
17. How do you think it is different? Why?
18. What do you think would be easy to implement from what you have seen today? Why?
19. What aspects of the approach would it be difficult to implement?
20. These are some specific pedagogical practices and beliefs of the Montessori approach. Which of these have you considered using (or now do use)

- a. Multi-age classrooms
- b. Observation as a method for knowing what to teach.
- c. Hands-on learning: learning by doing
- d. Teaching of lessons of grace and courtesy
- e. Each child is free to choose his/her own activities “work”
- f. Teacher as mentor/ guide on the side rather than sage on the stage
- g. Knowing development is a key. All children are in a particular developmental stage. This fundamentally drives curriculum goals. (Planes of Development Chart)
- h. Tone in the classroom is quiet; respectful
- i. Materials are used for a particular purpose
- j. A child’s work is important to the functioning of the whole
- k. Children work with an activity until they are finished/ complete/have competence. The child determines that point in time.
- l. Lessons are taught synthesis /analysis/synthesis (whole/part/whole)
- m. Lessons are demonstrated silently, children watching until they understand what to do. Talking comes later, after the first lesson, and is in the nature of clarification of the lesson.
- n. Children love work, and through work, come to love the world/the earth/ others and themselves.
- o. Learning about the cosmos is the proper venue for the elementary-age child; they should go out into the world.
- p. Telling stories and knowing history is a key to learning

- q. All creatures, including all people have a cosmic task-a part to play in
the whole

21. Is there anything else you would like to add?

Focus Group Interview Questions

(Revised Questions)

1. Can you tell me your name?
2. How old are you, if you don't mind?
3. What is your background?
4. How did you come to be involved in the Hawaiian education program you are in?
What drew you to it?
5. How long have you been teaching in this program?
6. What were your experiences as an educator before you came to this program?
7. What is your formal educational background?
8. How would you describe the values and goals of teachers in the Hawaiian culture-based programs? Do you share those values and goals, personally?
9. What is the focus of your curriculum-what are the overall themes? Why?
10. How important is the notion of community to your school or program? Why or why not?
11. How would you describe the role of the teacher?
12. What would you say are your biggest challenges as an educator in a Hawaiian culture-based program?

13. When looking at the videos or during the workshop did you notice aspects of the Montessori pedagogy (that is, the way children are taught) that you seem to be similar to those in your own school?
14. What did not seem to be a very good match, or seemed to be very dissimilar?
15. Is there anything else you would like to add?

APPENDIX F

Materials Checklist

Practical Life Care-of-Self washing hands dress frames food prep washing clothesCare of Environment Activities mopping dusting sweeping scrubbing and washing activities polishing plant care animal careCoordination Activities pouring sorting transferring (scoop, spoon, tweezers) sponge squeezing twisting pinching*Sensorial Activities* matching/visual perception knobbed cylinders pink tower broad stair red rods knobless cylinders color box 1 color boxes 2, and 3 geometric solids and bases mystery bag geometric cabinets and cards constructive triangles binomial cube trinomial cube rough and smooth boards weight activities fabric box sound cylinder

_____ stringing

_____ folding

_____ line walking with bean bags

_____ puzzles

_____ blocks

Art

_____ cutting sequence

_____ pasting sequence

_____ painting

_____ clay or play dough

_____ chalks/crayons/markers

Music Equipment

_____ rhythm instruments

_____ bells

Language Arts

_____ classification

_____ metal insets

_____ sandpaper letters

Mathematics

_____ red and blue rods and numeral

_____ sandpaper numerals

_____ spindle boxes

_____ cards and counters

_____ mystery game

_____ snake game

_____ golden bead material -decimal

and operations (+, x, -, /)

_____ presentation tray

_____ crisis-of-nine tray

_____ nine tray for layout

_____ Birds Eye View (45 layout)

_____ large wooden numeral

_____ Sequin boards

_____ 100 board

_____ 100 and 1,000 chain with tags

Cosmic Studies

_____ land and water globes

_____ land and water forms

_____ world map and control

- | | |
|---|---|
| <input type="checkbox"/> chalkboard sequence | <input type="checkbox"/> Hawaii map and control |
| <input type="checkbox"/> writing sequences | <input type="checkbox"/> cultural unit |
| <input type="checkbox"/> ring cards | <input type="checkbox"/> part of flower, leaf, root, tree
(puzzle and cards) |
| <input type="checkbox"/> games to reinforce sounds
(middle, end , beginning) | <input type="checkbox"/> part of fish, bird, reptile,
amphibian, and mammal |
| <input type="checkbox"/> moveable alphabet | <input type="checkbox"/> live animals/live plants |
| <input type="checkbox"/> short vowel cards | <input type="checkbox"/> basic science activities |
| <input type="checkbox"/> long vowel cards | <input type="checkbox"/> calendar |
| <input type="checkbox"/> blends | <input type="checkbox"/> clock |
| <input type="checkbox"/> phonogram work | <input type="checkbox"/> phonetic booklets |
| <input type="checkbox"/> phrase cards | <input type="checkbox"/> function of words activities |
| <input type="checkbox"/> sight words | |
| <input type="checkbox"/> naming words - example: environmental label | |
| <input type="checkbox"/> action words - example: command cards | |

book corner/library

Is there evidence of an integrated cosmic unit?

Yes

No

Comments:

Site: _____
Date: _____

APPENDIX G
Intern Checklist

Evidence of Philosophy:

- Approach to child _____
- Maintenance of environment _____
- Curriculum development initiative _____
- Response of children _____

General Appearance:

- Grooming _____
- Appropriate dress _____
- Body movement _____
- Facial expressions _____
- Tone of voice _____

Behavior:

- Respect for the child _____
- Active/passive _____
- Creativity and spontaneous involvement with children _____

- Gentleness and sensitivity _____
- Movement in classroom _____
- Moves to level of child _____
- Compatibility with other staff members _____

Materials:

- Handling of materials and furniture _____
- Understanding of materials _____
- Relevancy of materials presented _____
- Orderliness/precision of presentation _____
- Linking of child and materials _____
- Follow through _____

Classroom Management:

- Overview and response _____
- Balance of attention _____
- Consistency _____
- Choice of words and language _____

Group Situations:

- Preparedness _____
- Originality _____
- Involvement _____

■ Management

Line	_____
Silence	_____
Transitions	_____

Intern Responsibilities:

- Preparation of environment _____
- Record-keeping _____
- Group presentations _____
- Parent involvement _____
- Observations _____
- Practice sessions _____
- Attendance _____
- Academic assignments _____
- Professional outlook _____

Child-Teacher Relationship:

- Natural/comfortable _____
- Positive approach _____
- Appropriate intervention _____
- Observes/withdraws appropriately _____
- Recognizes/respects concentration _____

Notes:

Teacher: _____

Date: _____

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